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Conference Proceedings

ISATT 2011

Back to the Future: Legacies, Continuities and Changes in Educational Policy, Practice and Research

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1. About the Conference

Welcome to the 15th Biennial of the ISATT Conference at the University of Minho, in Braga, Portugal (5-8 July 2011). The aims of ISATT include promoting, presenting, discussing and disseminating research on teachers and teaching as well as contributing to theory building and knowledge creation to enhance the quality of education.

School and universities, teachers and teacher educators are facing a variety of challenges in a rapidly changing world. While the future should not be imprisoned in the past, the past potentially provides valuable lessons for constructing the future. The theme of the 15th Biennial ISATT conference, Back to the Future: Legacies, Continuities and Changes in Educational Policy, Practice and Research, focuses attention on a set of concerns that apply to efforts worldwide to meet such challenges through research which contribute to the improvement of the quality of teaching and learning at all levels of education.

The ISATT 2011 theme also resonates very well with the venue of the conference. The historic city of Braga is more than two thousand years old but with a dynamic and modern atmosphere. One of the most beautiful cities in Portugal, Braga is known for its Roman remains, its baroque churches and splendid 18th century houses. Whilst the old city is resplendent in its antiquity, industry and commerce have brought to it a vibrant life style, with its universities, modern neighbourhoods, bars and restaurants.

The University of Minho is a public university which was founded in 1973. It is renowned for the quality of its teaching, the quality of its students, for the public recognition given to its Alumni, and for its strong links with the local community and surrounding region. It has a student population of approximately 16.000, including 3.900 postgraduate students, and 1.200 teaching staff in 11 Faculties: Architecture, Psychology, Education, Arts and Human Sciences, Social Sciences, Economics and Management, Engineering, Law, Nursing, Sciences and Health Sciences.

This attractive venue, the wide range of topics included under the conference theme, as well as the social programme will ensure that your participation at ISATT conference 2011 will be most enjoyable, professionally rewarding and that you will return home with many memories to cherish.

Maria Assunção Flores, PhD
Chair of ISATT 2011

1.1. Main Theme and Subthemes

Back to the Future: Legacies, Continuities and Changes in Educational Policy, Practice and Research

Schools and teachers are facing various challenges in a rapidly changing world. In such circumstances, discussing and sharing concerns of mutual interest regarding policy, practice and research is crucial to creating more sophisticated understandings of the various challenges as a first step in the improvement of education. While the future should not be imprisoned in the past, the past does provide valuable lessons that will undergo new iterations in constructing the future. The future will be multi-faceted and complex and the following sub-themes are intended to provide appropriate 'bricolage' from which to build the future of education.

Sub-themes

1. Teacher Education and Professional Development

Recent changes in educational policy worldwide have affected teachers' work and life in all kinds of intended and unintended ways, while research evidence is conflicted regarding many of these influences. Evidence of this contested terrain has implications for teacher education, including initial preparation and continuing professional development understood as a lifelong continuum. What are the continuities and changes in teacher professionalism? To what extent have policies on teacher career and evaluation impacted upon teaching quality in schools and classrooms? What are the emerging tensions in terms of teacher morale, collaboration and sense of vocation, on the one hand, and performativity, accountability, individualism and compliance on the other? What lessons can be learned from the past in order to enhance teacher professional learning?

2. Educational Leadership in Context

Societal and cultural changes, locally, nationally and globally, impact in many ways upon educational leadership. What are the implications of these for policy, practice and research? How do school leaders cope with these changes in order to promote student learning and teacher commitment? What are the challenges that teachers as leaders face in school and classrooms? What is the role of school leaders, teachers and other stakeholders in improving education for all in contexts of increasing diversity?

3. Learning Communities and Networks

Networks and partnerships have been increasing in number and variety as a means of meeting new and emerging challenges to education professionals. In addressing these trends in contemporary societies, a sense of community and democracy emerges as possible responses to working in uncharted terrain, and as a means of building capacity and creating some situated certainty. What kind of partnerships in education may be built amongst universities, schools and working professional organizations? What kinds of links may be developed amongst teachers, parents and other educational professionals? What is the role of learning and practice communities for equity and inclusion? What is the contribution of other stakeholders? In what ways may these communities be created and nurtured?

4. Teaching in a Digital Culture

Information and Communication Technologies are increasingly a pervasive presence in society and in people's lives. Children and young people are more and more accustomed to digital culture as part of their lives at school, at home and in the community. What are the challenges for schools and teachers'

work? How are these technologies to be deployed for purposes of teaching and learning in classrooms? What is the impact of ICT on pedagogy and what is its unrealized potential? What teaching and learning possibilities are inherent in electronic games? What is the potential of e-learning in initial teacher education and ongoing professional learning across the lifespan?

5. Challenges in Higher Education

During the past decade in particular, Higher Education has been made more accessible to an increasing number of students. Such developments represent considerable challenges to established and traditional institutional structures, cultures, curricula and pedagogies. What are the significant policies and trends in Higher Education nationally and internationally? What has been the impact of teacher and student international mobility on educational practice and research? What is the role of teacher educators in this new scenario? How can the scholarship of teaching and learning be enhanced in Higher Education institutional environments, both virtual and real?

6. Research, Knowledge and Change

This sub theme will focus on the contributions of research in the policy and practice arenas and, within this, the role of researcher as distanced observer of events or active agent of change in the system. To what extent should researchers promote change? To what extent should researchers seek to add to knowledge and understandings whilst staying outside the action? What kinds of research impacts most on thinking and practice? How do we know? And, what is the role of the researcher in the formation and reform of policy priorities?

1.2. Committees

Organizing Committee

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2. FULL PAPERS

THEME 1
Teacher Education and Professional Development

2 - A Self-study Theoretical Framework for Teachers' Learning and Teaching of a Topic

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Abstract: This paper presents a teacher's theoretical framework/ model of conducting a self-study where the participant wants to learn a new topic and also evaluate the knowledge acquired. The model presented in this paper indicates how a teacher who finds it difficult to learn and understand a topic in science can learn and teach such a topic, and later evaluate herself. The first part of the model explains how a teacher can learn a topic and evaluates himself/ herself with the assistance of a mentor. I also argue that once a person is assisted by the mentor, there is no need to seek the mentor's assistance in future if all the items in the model are mastered. The self-study candidate can then utilize the self-assisted theoretical model to learn a topic different from the one learnt in the presence of a mentor.

Keywords: Self-study, concept map, learning, teaching

BACKGROUND AND INTRODUCTION

This paper presents a theoretical framework that school teachers can use to learn, prepare and teach a topic that is unfamiliar to them or any other topic that they find difficult to learn. The framework indicates a number of stages that the teacher should undergo before she is confident about teaching a topic. The stages include the involvement of a mentor/ peer at the beginning of the process, drawing of concept maps to track knowledge development of the teacher, the use of CoRes and PaPe-RS to help the teacher in understanding what to teach and what not to teach, and video-taped lessons to evaluate the lessons.

Most school teachers struggle to teach topics that they are not familiar with. These topics are either new in the school curriculum or they were never part of the teachers college curriculum during the particular teachers' training. Although some teachers have enough teaching experience, they still lack confidence because they lack subject matter knowledge. In some countries like South Africa, teachers undergo what is known as in-service-training workshops. These workshops equip teachers with some knowledge which is not enough to provide confidence to the teachers while they teach in their classrooms.

The theoretical framework discussed in this paper discusses in detail how a teacher learns and teaches a topic he was not familiar with or a difficult topic. The teacher's knowledge development in the new topic is evaluated using the concept map analysis at the end of the learning and teaching cycle. In most cases the first concept map will indicates less links between concepts. This is so because the teacher has not acquired/ learned enough to make such connection. After reading and discussing with the mentor, the teacher knowledge develops. This is usually confirmed by the concept maps that are drawn at later stages.

CoRes and PaPe-Rs focus the teacher on aspects of the lesson that are important for the students to know and also information that the students should not know at this stage. At the end of the learning and teaching process, the teacher goes back and evaluates each stage. This is done for the teacher to know how he learned and taught the topic so that he can remind himself while preparing to teach similar challenging topics. Such reflections also empower the teacher with enough knowledge to share with other teachers.

The skills acquired while learning and teaching a particular topic can be used to learn and teach any other topic they find challenging to teach. Teachers can also share their experiences with other teachers on how they empowered themselves with this framework. As a result, other teachers will follow the same procedure while learning and teaching topics that they find challenging.

Once a teacher has acquired the learning and teaching skills of dealing with difficult topics, she does not need to work with a mentor when learning and teaching different topics. Some aspects of this theoretical framework will now be embedded in the mind of the teacher. It is however advisable that the teacher draws concept maps throughout the process so that he can know whether his knowledge is developing or not.

This study is influenced by my interaction with teachers who were enrolled as Honours and Masters students. I supervised the two teachers while they were doing a self-study in teaching physics topics, i.e. self-study on

teaching electricity and magnetism, and self-study on teaching electromagnetic induction respectively. Although the structured theoretical framework is presented for the first time in this article, its items proved to be successful in the two teachers' self-study projects.

RELATED LITERATURE

Self-study
Teachers need strong Pedagogical Content Knowledge (PCK) in order for them to be best possible teachers (Shulman, 1986, 1987). If teachers' subject matter knowledge is poor, they can resort to self-study. Self-study has been found to be beneficial by different researchers. Amongst studies that discussed self-study are studies by Bullough and Pinnegar (2001) about quality in self-study research, Dadds (1993) about the nature of the learning climate, Feldman (2003) about validity and quality, Dinkelman (2003) about promoting reflective teaching, All and Havens (1997) about concept mapping as a teaching strategy, and Hamilton and Pinnegar (2000) about trustworthy and integrity. Self-study is used to promote reflective teaching (Dinkelman, 2003). This is so because when a teacher conducts a self-study the ultimate aim is to reflect on himself. There should first be a need or a reason and willingness for the teacher to want to reflect on himself. Dinkelman (2003) defines a self-study as an "intentional and systematic enquiry into one's own practice" (p. 8). Experiences gained in conducting one self-study about a particular topic can be used to learn other topics different from the initial one in future (Dinkelman, 2003). In this article, the discussion of self-study only relates to the study conducted by a particular teacher with the aim of developing new subject matter knowledge and pedagogical knowledge.

Concept map
Concept mapping is a classroom technique that can advance learning (Kinchin, Hay & Adams, 2000). If the concept map drawn has missing linkages, this then indicates that there is a need to acquire more new information (All & Havens, 1997). The amalgamation of all definitions of a concept map leads to Wandersee's assertion that 'to map is to know' (Kinchin et al., 2000).
Concept maps are a useful tool in the improvement of science education. For example, concept maps are useful as: a learning strategy, an instructional strategy and also a means of assessing students' understanding of science concepts (McClure, Sonak & Suen, 1999). Each concept map drawn by a particular teacher is unique and shows the teacher's "personal expression of meaning for the selected material or subject matter" (All & Havens, 1997, p. 1210). This article is however concerned with the first category, viz, concept mapping as a learning strategy for teachers who find it difficult to teach a particular science topic. Although several literature including McClure et al. (1999) indicate that concept mapping is a viable tool for investigating students' misunderstandings, this article discusses concept mapping as one of the tools that teachers use to learn about the content unfamiliar to them.
Similar to what concept mapping does for students, it can also assist in moving the teachers "away from rote learning modes toward meaningful learning" (All & Havens, 1997, p. 1210). Learning development can be traced by evaluating the concept maps drawn. If concepts are learned by a teacher, he will be able to connect those with linking words in a concept map. Meaningful learning would occur when the teacher seeks relationships and integration of new knowledge with prior knowledge. This is dependent on the extent which the teacher is motivated to integrate new knowledge with old knowledge (All &Havens, 1999).

Concept map evaluation
There is usually a need to evaluate a concept map to see if the was some new knowledge acquisition. At initial stages of the learning process and drawing up of concept maps, the mentor would examine the content and the structure of the concept map (McClure et al., 1999) to see if there is some evidence of new knowledge. The evaluators of the concept maps should have variations in the content knowledge of the particular topic. The evaluator should be able to say something at the end of the evaluation about the teacher's content knowledge about the topic covered. If the procedure of drawing a concept map is complex, there would be greater chance that teachers' focus about mapping processes may affect the quality of their maps (McClure et al., 1999).

CoRes and PaP-eRs
Teachers possess knowledge and skills of teaching that they cannot easily impart to other teachers. Some of the causes of this are "the demands of time, curricula and student achievement" (p. 371) (Loughran, Mulhall & Berry, 2004). For example if they can be asked to narrate how they teach a particular topic they might find

doing that to be difficult. Because of this reason, Loughran, Milroy, Berry, Gunstone and Mulhall (2001) provided ways in which knowledge can be captured articulated and potrayed to others. If well documented, this knowledge will then be useful to other teachers who would like to know the strategies to follow in teaching a specific topic. Loughran et al. developed what they called Content Representations (CoRes) for articulation and portrayal of a certain topic under consideration and (Pedagogical and Professional experience Repertoire) PaP-eRs to eliminate certain aspects of the CoRe. I will explain how a teacher can make use of the CoRes to facilitate his learning and also assist those teachers who might want to acquire some knowledge on how to teach a particular topic. Besides helping other teachers, the teacher also benefits from CoRes and PaP-eRs by himself since these can remind him of how he prepares and teaches the topic.

TEACHERS' LEARNING SELF-STUDY MODEL

In this section, I explain how the two models assist teachers to: acquire 'science' knowledge from different sources, explain how they will teach a lesson, draw concept maps, design lesson plans, teach a topic they regarded as difficult to teach, and finally evaluate if they indeed acquired some knowledge. In Figure 1, the mentor plays an important role of making sure that the teacher is assisted in drawing the first concept map. I recommend that the teacher draws the first concept map before he interacts/discusses with the mentor. However, this might not be possible if the teacher does not know how to draw a concept map. It is therefore important for the mentor to also give a detailed lecture on how to draw a concept map. In a situation where the teacher is meeting the topic for the first time, the concept map will lack concepts to be linked and linking words. This shows that the teachers' knowledge has not developed yet.

In order o make sure that some learning start to take place, the mentor should give an introductory lecture about the topic to be learned. However, the lecture about the topic under consideration should not be a thorough one since it can confuse the teacher. This should then be followed by a lecture offered y the mentor. The second concept map should be drawn after the mentor's lecture. This will allow the teacher to acquire some concepts that could be added and linked to other concepts that appear in the first concept map. In a case where the teacher is struggling to understand the topic under consideration, the second concept map might not be that different from the first one. If that happens, the teachers should not be worried because the mentor can still provide extra classes until he is satisfied that the teacher is confident about the content or subject matter. The process of drawing concept maps can continue until a stage where the teacher is ready to draw a lesson plan to teach to his students.

It is however advisable that before embarking on drawing a lesson plan (although not compulsory), the teacher can also read literature related to the topic to supplement knowledge acquired through interaction with the mentor. This literature might include journal articles and books. Such literature will also assist the teacher in drawing meaningful concept maps. The teacher can draw as many concept maps as he possibly can. After all lessons related to the topic have been presented to students in class, the teacher can then draw the last concept map.

The evaluation of concept maps should only take place after the last concept map has been drawn. This is to make sure that the teacher and the mentor can be able to compare all the concept maps and see if there was some knowledge development through the process.

The teacher should then prepare a lesson plan, which he should present in front of the mentor. In a situation where there are some audiences, they can assist in listening and thereafter commenting on how the teacher's lesson plan and presentation style can be modified. The teacher should make the necessary change as suggested by the mentor and the audience. Thereafter, the lesson can be presented again to the mentor and/or the audience for the second and final time before it is presented to the students in class.

The CoRes and PaP-eRs are necessary in reminding the teacher about important and not so important aspects of the lesson that should and should not be treated in class respectively. For example, a question like 'what is it that you think is not important to mention to the students in the topic you will teach today?' reminds the teacher about important aspects of the lesson. Prompting of such knowledge makes sure that the teacher does not teach everything related to the topic, but concentrates on the 'big ideas'. As can be seen in both Figures 1 and 2, the teacher who is aware of CoRes and PaP-eRs related to a topic under consideration will develop or has already developed enough content/subject matter knowledge about that particular topic. The knowledge of a topic's CoRes and PaP-eRs differentiates the science teacher from a scientist. This is so because a scientist might not know what aspects of the topic like electromagnetic are important for students to know at a particular stage, whereas for teachers such is easy to remember.

The evaluation of the whole self-study project should be done right at the end. This allows both the teacher (Figures 1 and 2) and the mentor (Figure 1) to assess the overall development of the teacher's knowledge

about the topic that the teacher is learning. However, it is not compulsory to evaluate all aspects of self-study at the end.

I recommend the use of these self-study models for both research and personal development of teachers.
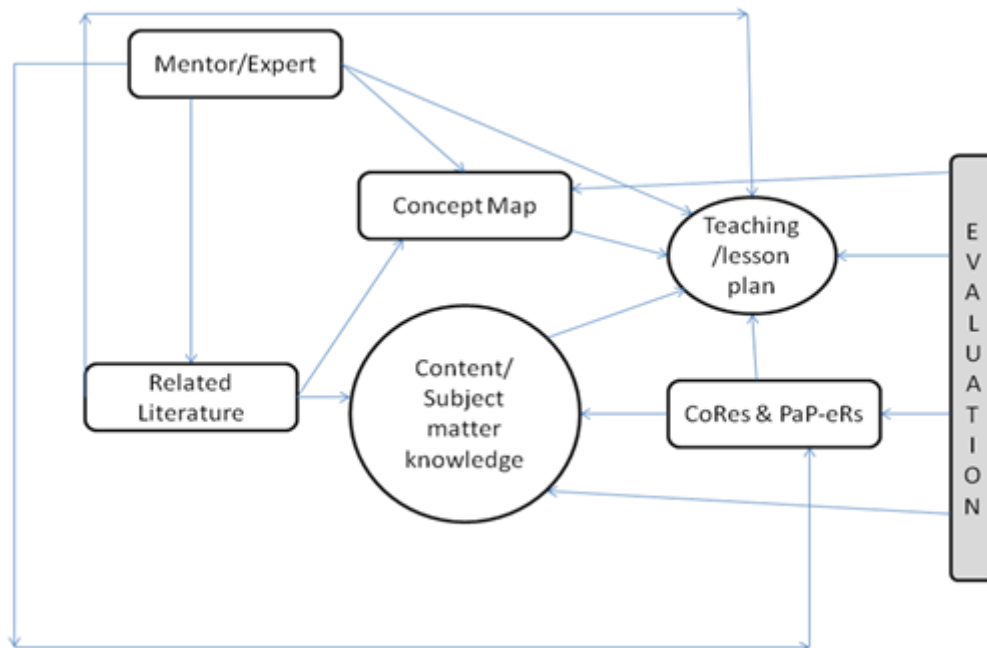
Figure 1: Mentor-assisted teachers' self study model
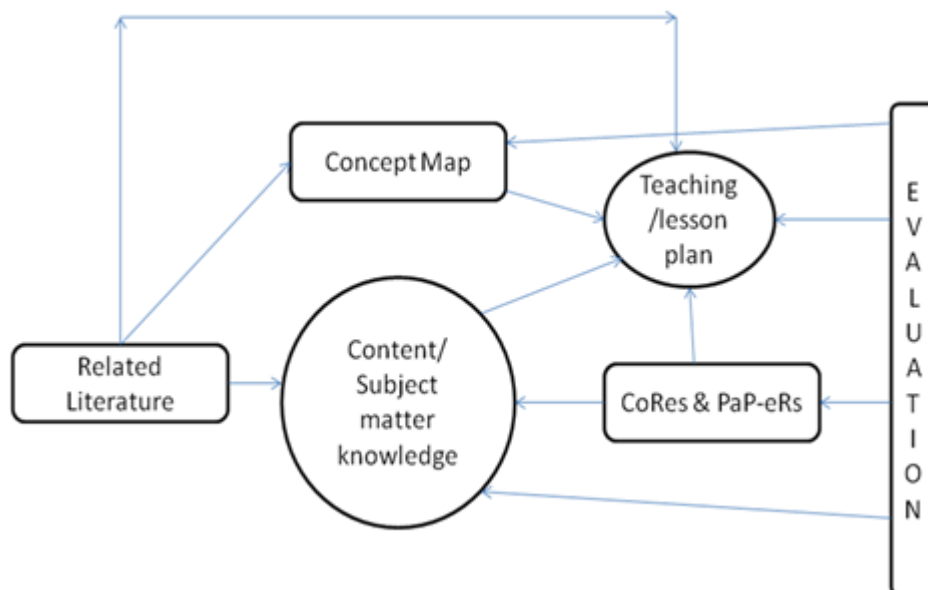
Figure 2: Self-assisted teachers' self-study model

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8 - Induction Workshops as Reflective Support Groups for Beginning Teachers

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Abstract: The purpose of this paper is to explore the operation and contribution of induction workshops operated as reflective practice groups for new teachers. The context was the Israeli induction program which consists of in-school mentoring, workshops, and evaluation. Data were obtained from 378 new teachers and 29 workshop leaders using questionnaires, from 16 new teachers and 14 workshop leaders who were interviewed, and from observation of 20 workshop meetings. Findings showed that workshop discussions focused primarily on coping with discipline problems, building self-confidence, and providing emotional support. Topics discussed generally derived from participants' concerns to which workshop leaders contributed theoretical foundations. The contribution of the workshops was rated only as moderate. Its main contribution was affective: the provision of emotional support during the initial transition to teaching. However, findings imply that well-implemented workshops can meet the diverse needs of new teachers and contribute to their professional development.

Keywords: teacher induction, reflective workshops, learning communities

INTRODUCTION

Terms such as "reality shock" (Veenman, 1984) or "praxis shock" (Kelchtermans & Ballet, 2002) have been used to describe the emotional reactions of new teachers when confronted with the realities and responsibilities of being a teacher. Being a new teacher is not just about anxiety, stress, and frustration, rather it is also an important learning stage in which fledgling teachers expand their content-specific repertoire of teaching strategies, acquire important practical knowledge related to school norms, and policies, and mold their professional identities. In order to help new teachers both cope and develop, induction programs are being implemented in many countries around the world (e.g., Feiman-Nemser, Schwille, Carver & Yusko, 1999; Howe, 2006; Ingersoll, 2007; Moskowitz & Stephens, 1997).

Research on induction tends to focus on in-school mentoring (e.g., Ingersoll, 2007; Ingersoll & Smith, 2004; Wong, 2004). Little is known about the use of other induction strategies. This paper explores the operation and contribution of induction workshops operated as reflective-practice groups in the context of the Israeli induction program for new teachers. While professional learning communities and reflective practice groups have been studied (e.g., Wood, 2007), their use as an induction strategy has received little attention. The few studies which have been conducted indicate that shared reflective practice builds the knowledge base for beginning teachers, contributes to their sense of efficacy, and leads to empowerment (Cady, 1998; Chase, Germundsen, Brownstein, & Distad, 2001; Herrington, Herrington, Kervin & Ferry, 2006). The present study aims to contribute to the paucity of knowledge in this area.

THE RESEARCH CONTEXT

The induction program in Israel was gradually introduced over a period of several years and is now a prerequisite for obtaining a permanent teaching license. The program is intended to increase the professional status of teachers as well as to ease their entry into the profession (Israeli Ministry of Education, 1999). The program is financed and operated by the Ministry of Education with the cooperation of the higher education institutions and the public school system.

Three components make up the induction program: in-school mentoring, workshops, and evaluation of new teachers. Workshops which are the focus of this study are operated by teacher training institutions and serve as professional frameworks within which new teachers are expected to share their experiences with others in a nonthreatening and supportive environment. Workshops are intended to help participants conceptualize their experiences, connect practice to theory, and develop their professional identities. Approximately 15-17 new teachers participate in a workshop. Workshops take place in the teacher training institutions, and workshop leaders are pedagogic specialists who teach in teacher training programs. Workshops take place

weekly or bi-monthly throughout one school year. Participating in a workshop is required of every new teacher and they begin attending an induction workshop once they receive a teaching assignment in one of the schools.

Data for this paper were collected as part of a comprehensive evaluation of the induction program in Israel. For more information about the program, see Fresko and Nasser-Abu Alhija (2009).

METHOD

Participants

Quantitative data were obtained from a sample of 378 new teachers and 29 workshop leaders. One workshop was randomly selected from each academic teacher training institution in the country. Both the new teachers and the workshop leaders in these workshops participated in the study. The new teachers in the sample were mainly female (80%), who were distributed equally between elementary schools (49%) and secondary schools (51%). With respect to subjects taught in school they were distributed in the following way: 27% taught sciences and/or mathematics, 20% taught humanities and/or social sciences, 18% taught languages, and 35% taught some combination of subjects from unrelated fields (e.g., mathematics and language). Workshop leaders in the sample were mainly female (83%), 71% had MA degrees, and on the average they had 19 years of teaching experience.

In addition qualitative data were collected by means of observations of workshop sessions as well as semi-structured interviews with 16 new teachers and 14 workshop leaders. For this phase of the study, five teacher training institutions were selected taking into account their geographical region and the type (state secular and religious schools), and level (elementary, junior high school, and senior high school) of the schools with which they work. Two workshop groups from each of the five institutions were selected at random for observation. New teachers were selected for interviewing from these institutions so as to maintain the balance among region, school type, and school level, and an attempt was made to interview their workshop leaders.

Research instruments

Collection of quantitative data was carried out by means of two questionnaires which were presented to new teachers and workshop leaders, respectively. The questionnaire for the new teachers included information about personal background, their training as teachers, employment during the first year of teaching, their mentoring experience within the induction program, the induction workshop, the evaluation process, and their attitudes towards the induction program and towards their socialization into the school. The questionnaire for workshop leaders addressed professional and demographic data, workshop characteristics, workshop content, training received prior to becoming a workshop leader, and attitudes towards the importance of the workshop as part of the induction program.

Semi-structured interviews with new teachers included questions about various aspects of the induction program. Questions which focused specifically on the induction workshop related to four dimensions: organization, content, contribution, and evaluation. Interviews with their workshop leaders addressed leaders' professional background, perceptions of their role as workshop leader, information about the content, organization, and operation of the workshops as well as their attitudes regarding the need to train workshop leaders and their evaluation of the induction program as a whole.

Procedure

The induction coordinator at each of the teacher training institutions administered the questionnaires to the new teachers and the workshop leaders in one of the workshop meetings which took place towards the end of the school year. The questionnaires were completed on-site and returned in a sealed envelope to the coordinator, who forwarded them on to the researchers.

The interviews were conducted face-to-face in a setting which was convenient for the interviewees. Interviews which lasted on the average about 45 minutes were taped and later transcribed. Two field observations of entire workshop meetings were conducted by a researcher in each of the 10 workshops selected for the sample. Overall 20 observations were made.

FINDINGS

Findings related to both the operation of workshop groups and their contribution to the new teachers.

Workshop operation

Two main aspects of operation were examined: the operation of the workshop groups and the content of workshop sessions.

Group dynamics are expected to be an important aspect of effective workshops which means that groups should be stable and made up of participants with common concerns. Data showed that this was often not the case. Most workshops (97%) opened between August and October. However, many workshop leaders (34%) reported that new teachers joined on-going workshops as late as December or January, disrupting the stability of the group.

As can be seen from Table 1, half of the workshops were homogeneous in make-up with respect to subject matter and grade level taught by the new teachers, whereas the others were heterogeneous, composed of new teachers who taught different school subjects and different grade levels.

Table 1: Distribution of workshops by composition of new teachers (N=29)

Composition of workshop	%
By teacher training program	32.1
By subject matter specialization in training	3.6
By school level taught	7.1
By subject matter taught	3.6
By institutional considerations	7.1
By new teacher considerations	46.4

Workshop leaders were presented in the questionnaire with a list of activities, issues, and concerns that could be addressed in the workshops. They rated the extent to which their workshops provided support to the new teachers in each area on a scale from 1 (*not at all*) to 5 (*to a very great extent*). Factor analysis of the items yielded three domains: emotional, ecological, and didactic. Means and standards deviations of their ratings on each item and in each domain are presented in the left-hand column of the data in Table 2.

As can be seen from Table 2, workshops focused on providing new teachers with emotional support. More specifically, they focused heavily on coping with discipline problems, building self-confidence, coping with frustrations, and dealing with pupils' personal problems. According to the workshop leaders, workshops rarely addressed didactic issues. However, it should be noted that within this category, moderate attention was given to learner assessment, adapting teaching materials and strategies to pupils' needs, and time management.

Table 2: Content of the workshops and its contribution to new teachers (scale:1-5)

Domains & Items	Content of workshops (29 workshop leaders)		Contribution of workshops (379 new teacher)	
	Mean	SD	Mean	SD
Emotional Support	**4.18**	**0.38**	**3.20**	**1.05**
Coping with frustration	4.50	0.64	3.59	1.22
Strengthening self-confidence	4.46	0.64	3.34	1.31
Coping with discipline problems	4.75	0.65	3.47	1.19
Creating a positive classroom climate	3.82	0.91	3.02	1.36
Motivating pupils	3.75	0.84	3.01	1.23
Dealing with pupils' personal problems	4.21	0.57	3.30	1.29
Promoting motivation to teach	3.93	0.94	3.15	1.34
Dealing with parents	3.96	0.94	2.68	1.34
Ecological Support	**3.49**	**0.62**	**2.43**	**1.09**
Familiarity with school rules and regulations	3.50	0.84	2.48	1.38
Becoming part of the school team	3.89	0.79	2.67	1.30
Relationships with school personnel	3.64	1.06	2.66	1.31
Organization of non-teaching activities	3.14	1.01	2.23	1.31
Carrying out additional duties	3.11	1.05	2.12	1.27

Table 2: Content of the workshops and its contribution to new teachers (scale:1-5)(cont.)

Domains & Items	Content of workshops (29 workshop leaders)		Contribution of workshops (379 new teacher)	
	Mean	SD	Mean	SD
Didactic Support	**2.65**	**0.64**	**2.15**	**0.95**
Adapting teaching materials and strategies to pupils' needs	2.89	1.03	2.11	1.14
Preparing teaching materials	1.96	0.96	1.84	1.09
Coping with emergent didactic problems	2.89	0.93	2.88	1.35
Mastering subject matter	2.11	0.92	1.94	1.22
Learner assessment	3.18	0.86	2.50	1.34
Time management	2.89	0.96	2.28	1.29
Use of instructional aids	1.96	0.90	2.00	1.24

Information from the interviews and observations enrich these findings. Analysis of the observation data yielded two main types of activities: firstly, discussions of various topics which were raised by the new teachers and derived from their experiences in school, and secondly, topics raised by the workshop leaders with the intention of connecting the new teachers' experiences to relevant theories. New teachers tended to focus on their difficulties, deliberations, and dilemmas in school and in the classroom. The workshop leaders coordinated the discussion so as to encourage the new teachers to reflect on their experiences, gain insight into their practice, and help one another.

Who tends to determine the workshop content? Information obtained from the workshop leaders indicated that topics raised spontaneously by the new teacher were most dominant in the workshop meetings. Least dominant were topics considered to be important by the workshop leaders that were presented frontally. Often group discussions were planned in advance around topics selected by the new teachers or initiated by the workshop leaders.

The topics discussed in the workshops changed over time. In the beginning workshop sessions focused on difficulties in the classroom, difficulties adjusting to the rules and norms of the school, and dealing with parents. As the year progressed other concerns emerged, such as motivating pupils, assessing learning, and the emerging professional identity of the new teacher.

Contribution of the workshops

The new teachers received the same list of activities, issues, and concerns which had been presented to the workshop leaders when they indicated workshop content. The teachers were asked to rate on a 5-point scale to what extent the induction workshop contributed to them in each area. Summary scores were also calculated for their responses in each of the three domains mentioned above. The data are presented in Table 2.

As can be seen from the means presented in Table 2, the contribution of the workshops was rated, at best, as only moderate. However, the new teachers' responses were highly diverse as reflected in the relatively large values of the standard deviations. It is worth noting that contribution was greatest with regard to emotional support, followed by ecological support, and was least in the area of didactic support. This pattern corresponds to the emphasis put on these domains as reported by workshop leaders.

Analysis of data from the interviews and observations indicated that the atmosphere in the workshops encouraged new teachers to be open and frank without fear of judgment. As one workshop leader said, "Here they can discuss any difficulty or any problem and get support without being judged. Here it is okay if things are difficult. Every feeling is legitimate and the new teacher knows she is never alone." In this same vein, new teachers referred to the workshop as a safety zone that allows professional frankness.

In contrast to the low rating given to didactic support, the new teachers were seen in the observation of workshop sessions to engage in reflective dialogue with their peers about alternative didactic approaches. In addition, they were observed to share both successes and failures in the classroom.

Both new teachers and workshop leaders were asked to recommend based on their experience the desired period of time for having induction workshops. Responses varied. Many new teachers found the workshops very useful as they were (42%) and some even wanted to extend them beyond one year (8%), while others thought that they were necessary only for the first 4-5 months of the school year (35%), or that they should be eliminated from the induction program altogether (15%). Workshop leaders were of another opinion: 86% felt that the workshops should meet throughout one school year, while 14% recommended extending the workshop for a second year.

SUMMARY AND DISCUSSION

The transition from *learning to teach* to *teaching to learn* takes place in the first years of teaching. Since this transition is not easy for most new teachers, induction programs have been developed. Studies of induction programs tend to concentrate on the mentoring component of such programs, ignoring other aspects. In the present study a different component of induction has been examined in the context of the Israeli induction program: year-long workshops for new teachers. The workshops were examined in order to understand their operation as well as their contribution to easing the entry of new teachers into the teaching profession.

Findings revealed some major issues related to the operation of the induction workshops. The first issue related to the organization and composition of the workshop groups. One would expect workshop groups to be made up of new teachers who are teaching similar school subjects and similar grade levels. While many issues are probably common to all beginning teachers (e.g., motivating and disciplining pupils), it is likely that discussions aimed at searching for solutions to these problems would be more relevant to all when the new teachers in the group have similar teaching assignments. Moreover, discussions focusing on didactic issues are likely to be more effective if all participants have similar teaching assignments. The fact that only half of the workshops were organized along these lines indicates that there are practical considerations which unfortunately did not make homogeneous groups always possible. Both institutional (e.g., budget constraints) and personal considerations (e.g., convenient scheduling of workshops) could not be ignored. Moreover, these constraints often led to new teachers joining workshops 3-4 months after they had gotten underway. Perhaps had more groups been homogeneous and all members of the groups had started out together, the contribution of the workshops would have been perceived more positively.

Based on the observations and interviews, workshops in this induction program seemed to serve as both reflective-practice groups and a place where the new teachers could express their feelings, frustrations, and deliberations in a safe and supportive environment. However, when rating the contribution of the workshops, the new teachers emphasized the emotional side, tending to see them more as a place for venting emotions and difficulties, as opposed to a place for discussing didactic approaches in teaching. It should be noted that findings of earlier studies (Cady, 1998; Herrington et al., 2006) emphasized the contribution of induction workshops to building professional knowledge. The emotional aspect of becoming a new teacher was not mentioned. However the results here suggest that the emotional adjustment of becoming a teacher cannot be ignored and that workshops can contribute to easing the tensions surrounding this transition. The workshops which were held in a teacher training institution enabled the new teachers to distance themselves from school, pupils, and colleagues, with whom they interact daily and provided them with a professional outlet for openly discussing difficulties and frustrations with others who are experiencing similar feelings. In this respect induction workshops have an advantage over in-school mentoring where the mentor is part of the work context and often one of the school personnel who will later evaluate the new teacher. This is not to say that one should replace the other, but that they are complementary. Each in its own way can help new teachers adjust to teaching and continue their professional development.

In conclusion, since the Israeli Ministry of Education allows much leeway in running induction workshops, they differ greatly with respect to composition, content, and operation. The result is great variation in participants' evaluations. However, the findings imply that well-implemented workshops can meet the diverse needs of new teachers, ease their tensions, and contribute to their professional development. Clearly, further research is required in order to better understand the dynamics of induction workshops and their possible benefits for new teachers.

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10 - The Fuzziness of Failing Student Teachers – Indicators and Procedures

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Abstract: In this recently started Swedish project we aim to study teachers' professional competence and quality from a slightly different perspective. We want to raise questions regarding teacher education and its function of "gatekeeping" i.e. the practice of failing students in the school based periods of teacher education. What is regarded as *not* enough quality – or not enough competence? Which procedures for quality control regarding the students practical knowing operate within teacher education and which indicators are decisive when the educators decide to fail a student? The specific research questions are:

How is attention drawn to a student that fails to meet the standards for proper quality? Which procedures are set at work when it is noticed that a student risks failing? Which procedures follow a decision to fail a student?

Which criteria are seen as decisive when a student is assessed as risking failure and need to be forced to either discontinue his/her education or given extra assistance? How do different actors in teacher education, i.e. teachers from the university and supervisors from schools, answer the question: Who is not competent enough to become a teacher?

The practice of failing in teacher education, especially in the school based phase of the education, is an area that has received very little attention in educational research. The small number of studies in the area shows that teacher educators do argue that shortcomings in the students' academic and practical knowledge are fairly easy to discover, but at the same time difficult and problematic to manage. Decisions to force student to discontinue his or her education become prolonged processes that are felt to take much time and effort from those involved.

Since the accumulated knowledge of this area may be considered as shallow, this study has an explorative and inductive nature with a theory-generating and flexible design. A pilot study, in form of an e-mail survey to Swedish teaching practice coordinators, has been conducted. The result indicates that we are entering a somewhat dim area. Actual numbers of failed students seem hard to present distinctly, and several of the respondents express that the question in the e-mail has drawn their attention to the problematic character of the area. "This needs to be enlightened", seem to be the overall opinion. To widen the empirical foundation, face-to-face interviews with those responsible for school-based training and records from cases within the practices of failing will be collected. From the analysis of data, typified cases will be constructed and presented as examples to form a foundation for discussion in focus groups where the examiners, both from universities and schools, can debate the strategies that were carried out in the actual cases as well as those that are possible. Finally, in a contrasting study, interviews will also be conducted with those responsible for the practice element at law-enforcement and nursing-training programmes.

The project is in an initial phase, looking for possible international collaboration.

Keywords: assessment, teacher students, teacher education, failing.

Issues regarding the quality of education are prominent on international as well as national agendas. Two recent studies, Hattie's (2008) wide-ranging meta-study of influences on achievement in school-aged students and McKinsey's study of successful school systems in the industrialised world (Barber & Mourshed, 2007), have earned much attention in this area. These studies point to that a decisive factor, positively related to student performance, is the quality of the teachers. Signals that results in Swedish schools are deteriorating when compared to international results have prompted the Swedish Ministry of Education and Research (2006) and The Swedish National Audit Office (2005) to stress the importance of enforcing and clarifying the standards of teacher competence. One may naturally question the relevance of international comparisons of student achievement, but it is obvious that they have led to the pursuit of definitions and criteria regarding high competence and excellence in teaching (OECD, 2005). The report "Legitimation och skärpta behörighetsregler" ("Authorization and sharpened rules of qualification": Swedish Ministry of Education and Research, 2008:52) may be seen as a response to this pursuit. Here, it is suggested

that it is necessary to "develop and establish a national competency profile" (p. 186 – *our translation*) for Swedish teachers.

What is a competent teacher then? How do you decide who is eligible? In both the political and everyday discussions regarding teacher quality, there are a multitude of opinions, not only varied but often contradictory, on how this phenomenon can be measured or predicted. These ideas, however, all appear to define teachers' education and assessment of teachers as processes of *inputs*, such as knowledge about instructional methods, pedagogical– or subject knowledge, or on teacher *outputs*, i.e. teaching performance or pupils' achievement.

The results from research that aim to establish predictors for the relationship between teacher education and teaching quality may in the same way be divided between those that focus on inputs and those that focus on outputs (Goodwin & Oyler, 2008). These studies either focus on the knowledge and skills student teachers possess or need to possess *before* graduation (inputs) or how teachers realize this competence *after* graduation (outputs) (Zumwalt & Craig, 2005). In this project, we intend to explore teacher quality as an input value. Thus, we focus our attention on teacher education, the stage where prospective teachers are located before they graduate and which should function as a "gatekeeper", that is, the stage that has the authority to ensure quality and to monitor who is qualified enough to pass the gate.

The research questions

We want to examine a particular part of the phenomenon teaching quality as input. The aim is to make visible, describe and understand the particular practice – the practice of failing – which appears as a crucial part of the quality control of teacher education. In doing so, we intend to address the following basic research questions:

- Which procedures for quality control regarding the student's teaching competence operate within teacher education?
- Which indicators of teacher competence are decisive when the educators decide to fail a student?

Teacher education can be roughly divided into the academic phase and the school-based practice phase (verksamhetsförlagd utbildning, VFU). It is in relation to the latter phase that we want to generate knowledge regarding the function of teacher education as gatekeeper. The specific research questions focus the assessment of student performance during their school-based practice. The specific problems that this project aims to address are therefore:

Procedures
- How is attention drawn to a student that fails to meet the standards for proper quality?
- Which procedures are set at work when it is noticed that a student risks failing?
- Which procedures follow a decision to fail a student?

Indicators
- Which criteria are seen as decisive when a student is assessed as risking failure and need to be forced to either discontinue their education or given extra assistance.
- How do different actors in teacher education, i.e. teachers from the university and supervisors from schools, answer the question: Who is not competent enough to become a teacher?
- How do these arguments agree with the formal assessment criteria for school-based practice (VFU) at the university in question?

In addition to this, we are, from a quantitative perspective, interested in the effects of the practice of failing in teacher education. A pilot study, in form of an e-mail survey to VFU coordinators at all teacher education programmes in Sweden has been conducted. At a glance, the results indicate that we are entering a somewhat dim area. Actual numbers of failed students seem hard to present distinctly, and several of the respondents express that the question in the e-mail has drawn their attention to the problematic character of the area. "This needs to be enlightened", seem to be the overall opinion. The following questions must therefore be addressed and more thoroughly studied:

- How many students are failed after their school-based practice?
- How many of them are actually forced to discontinue their education?

Data and research used in teacher policy formulation is to a large degree self-referential (OECD, 2005). To help provide a perspective on trends and findings in regard to teachers – as well as ideas for change – there is a need for comparative information from other areas of professional education and work. Consequently, as complement and with the intention of seeking contrasts against which the results can be reflected and discussed, we aim to make studies of empirical stages outside Swedish teacher education. This will be done by bringing our questions into two other arenas. Firstly into the education of two parallel human service professions (comparable regarding length of education, professional status, public function and whose vocational training, in Sweden, fairly recently became academic) - law enforcement and nursing. Secondly, into teacher education programs outside Sweden. We are therefore searching for international partners to the project.

BACKGROUND

Up until the 1960s, entry to teacher education was the "needle's eye" to prospective Swedish teachers. The assessment included the fulfilment by the applicants of a set of optimum requirements that were believed to describe the best raw material for shaping a good teacher. Here assessment was built upon validating normative characteristics. Since then, the system has been reversed and the entry demands are now based on a set of minimum requirements. In other words, the standards have taken on a negative rather than a positive character (Sjöberg, 2006). However, there are signs that the situation might revert back. For example, the most recent report regarding a new teacher education programme suggests that the possibility of arranging suitability tests in connection with the application process should be explored (Swedish Ministry of Education and Research, 2008).

Goodwin and Oyler (2008) note that the act of failing - especially in the practice based phase of teacher education - is an area that has received very little attention in educational research. Their own studies show that teacher educators do argue that shortcomings in the students' academic and practical knowledge are fairly easy to discover, but at the same time difficult and problematic to manage. The safeguards that are set in place often become vague and local and the management of them is further muddled by the fact that poor performance often is connected with students' diagnosed learning disabilities. The laws issued with the intention of furthering equal rights for students and counteracting discrimination (for example SFS 2001:1286 regarding the equal rights of students in higher education) help making the practice of failing into a delicate question for those involved (Goodwin & Oyler, 2008). In a noted series of article in the Swedish newspaper Dagens Nyheter, Zaremba (2008) writes about a number of incidents when teachers were reported for criticising students and how these incidents have led to teachers being very careful before bringing up the shortcomings of a student. Decisions to force student to discontinue his or her education become prolonged processes that are felt to take much time and effort from those involved. "For one student with a problem, it could take 50–100 hours to resolve" (Goodwin & Oyler, 2008, p. 478).

The assessment of student performance, and its relationship to teacher training, has both a *summative* function that rests on the demand that a government institution is required to estimate the quality of future teachers, and a *formative* function that is based on the educational intention that all educational institutions must support the development of the students. Raths and Lyman (2003) as well as Hegender (2010a; 2010b) show that feedback within teacher education often have a formative function. Feedback is rarely used summative, as a tool to fail or make students discontinue their education.

Goodwin and Oyler (2008) also show that teacher educators, when they make their assessments, put great emphasis on the student's attitude. Thus, issues and abilities such as flexibility, reflexion, and openness to teaching as well as intercultural understanding are perceived as central to becoming a good teacher. However, such attitudes are difficult to measure. Because of this, the hurdles that are set up become fluid. If students fail, they are given multiple opportunities to develop the required knowledge and several alternative assessment procedures are offered. The designs of these procedures mirror a way of viewing the road to become a teacher as a complex process (which it probably is). However, as regards to the function of keeping certain students outside the profession and/or the education, these types of hurdles are relatively ineffective (Goodwin & Oyler, 2008).

Research that describes cases where student performance during school practice are assessed as unsatisfactory and cases when students are asked to discontinue their training or redo their school practice are, as mentioned above, rare. However, Raths and Lyman (2003) have developed a classification chart that describes the performance of students during school practice. The chart consists of a continuum that moves from the negative pole – criminality – to the positive pole – teaching with best practices. Knudsen and Turley (2000) have investigated how students that risk failing their school practice are identified. The study shows that it is often the supervisor who "raises the red flag" and that the reasons why students are believed to risk

failing varies depending on how far into their training they have come. Decisions to ask students to discontinue their education seems to be easier to make the closer to the negative pole (see Raths & Lyman, 2003) the student is located. According to Sudzina and Knowles (1993), such behaviour is fortunately rare. It is more common that those responsible for the education intervene when students perform unsatisfactory in a more ambiguous way. In these cases, the solution is often to provide the student with one – or several – new school practice placements. In the mean time, teacher trainers often attempt to "council out" the student, that is, they recommend that the student leave the programme by suggesting alternative roads and possibilities. Goodwin and Oyler (2008) state that the function of teacher education as gatekeeper is to a large degree dependent on students' placement during school practice and how well the university and the schools where the practice takes place communicate. It appears to be rare that the academy has any control over who becomes a supervisor and even rarer that supervisors are handpicked to match the needs of individual students. They furthermore argue that the lack of such control has implications for how those in charge of controlling quality can use the information coming from the field and how great an importance school practice can have as a gatekeeper. "(S)chool partners are not at the place where they truly see themselves as gatekeepers" (Goodwin & Oyler, 2008, p. 480). Edwards and Protheroe (2004) mean that student teachers during school practice are treated as stand-in teachers that should be able to deliver teaching, rather than as students involved in education. Slick (1997) and Knudsen and Turley (2000) show that there is a problem related to the double and shared responsibility for student teachers that teacher educators and supervisors are expected to assume during school practice. The problems concern the maintenance of balances – between supervising and grading students, between – as a teacher educator from university – maintaining a good relationship with supervisors in schools while at the same time acting as a gatekeeper on behalf of the teacher education programme, and between the expectations on the supervisor of being able to support the students' learning of a practical, professional knowledge and the demand that teacher educators should represent the perspective of critical scrutiny of the professional knowledge of teachers (Slick,1997; Knudsen & Turley, 2000).

Finally, we want to mention that our own studies show that the criteria for grading students in school based training are vague and constitute a jumble of theoretical and practical knowledge forms (Hegender 2007). They also show that the student-teaching conferences are characterized by unclear roles and a relatively uncertain understanding of what is actually being assessed, and that these discussions are of a counselling nature rather than attempting to finally assess the student.

DESCRIPTION OF THE PROJECT

Since the accumulated knowledge of this area may be considered as shallow, this study has an explorative and inductive nature. However, the two research problems that concern the procedures and the indicators of the practice of failing prompt the introduction of theoretical perspectives that can give a direction to the analysis. The procedures for quality assurance can be related to theories regarding the transformed forms of control and regulation of the public sector in general that have taken place during the past 20 years (see, for example, Apple, 2007). New models used to manage and organize work, influenced by the market – what has been referred to as "New Public Management" (Busch et al., 2001) are now being introduced and new forms of inspection become generally accepted. National test systems are introduced, quality indicators appear, the results of educational programmes are published and compared and the evaluation of educational programmes becomes increasingly aggressive. These new forms of inspection build on the idea that individuals and organisations can be made responsible by demanding that they account for what they do. Occupations are now forced to open up and appear as more transparent so that they can be made public and reviewed. What could previously be settled with the help of experience and between "four eyes", in this case between the teacher educator and the municipal supervisor, must now become explicit and stand for public review. As education becomes increasingly identified with a market commodity, the demands of the customers on quality and predictability also increase, which means that those who produce the commodity must be exposed to new forms of inspection where the demands on accountability are increased and where quality, responsibility and blame are clearly connected (Lindqvist, Nordänger & Landahl, 2009). If a student teacher fails to reach the required quality, which arguments can then be used to support the failing of this student, how do these arguments stand up to an external review and who can be blamed for the failure to meet the desired results?

When it comes to indicators of teacher quality, these can be related to theoretical perspectives on, and research regarding, the knowledge of teachers. A rough division that allows this phenomenon to be more easily studied and realised can be accomplished by dividing the knowledge into theoretical knowledge and practical skills (Fenstermacher, 1994; Munby, Russell & Martin, 2001; Hegender, 2007). Such a division can

be expressed with the help of the concepts propositional knowledge and procedural knowledge (ibid). The foremost quality of propositional knowledge is that it is context independent; it can consist of knowledge *of* the practical field but then in more scholastic terms. In contrast, procedural knowledge is situated and personal. It consists of knowledge *in* the practical field, tied to what is done in the authentic school practice and it is only possible to develop and stage in this setting (Lindqvist & Nordänger, 2010). Student teachers may have knowledge about procedures and claim that they know how to do things, but that does not mean that they have procedural knowledge. Such knowledge only manifests itself in immediate connection with a certain action. It is because of this, as Hegender (2010b) has shown, that for example assessment discussions between teacher educators and students supervisors, without prior observation of the student, function as a blunt tool when measuring the procedural knowledge.

The focus of the study that regards the indicators of the assessment of teacher quality should also be related to theoretical models for assessing knowledge. Reynolds and Salters (1995) offer such a model that includes three assessment strategies. The first two are behavioural in nature. Activities are here assessed in relation to previously established professional task and assessment criteria. What separates them is that in the latter, the effects of the activity are also included in the assessment. The two strategies can be connected to research on teachers' competence and quality that measures the relationship between variables, so called effect studies. The main question for this type of research is to try to identify which behaviours, notions and expectations of the teachers that can be correlated to the learning results of the pupils. An example of such a study is McKinsey's previously mentioned study, in which so called "best-performing school systems" identified by the OECD PISA survey, have been analysed.

The third strategy of Reynolds and Salter's theoretical model describes the assessment of professional knowledge as a more complex phenomenon. To properly assess a student, this strategy demands that the reviewers have professional experience of the work related situations that are being assessed. What the student did during the situations that occurred must be assessed within this specific context. When using this strategy, prefabricated answers to a given situation are of limited value. A particular action may become meaningful because it is characterized by the values and ideals that the novice wishes to maintain. Because of this, it is difficult to assess knowledge simply through observation. The third strategy can be related to research that try to understand what teachers, from their previous experience, actually can do and know. This type of research starts with the individual and the conditions of the practice (see, for instance, Elbaz, 1983; Lindqvist & Nordänger, 2007).

The explorative and inductive character of the study calls for a theory-generating and flexible design (Robson, 2007). The theoretical perspectives mentioned should only be perceived as starting points and not as deductive models for the analysis of data. The collection of data is constructed round a combination of methods. Concerning the more general questions regarding procedures and indicators, as well as quantitative measures, surveys will be conducted, in the fall 2011, with follow up interviews using e-meeting technology. These will be aimed at those responsible for school-based education at all Swedish institutions of higher education that has a teacher education programme. To widen the empirical foundation concerning the procedures, face-to-face interviews with those responsible for school-based practice will be conducted. Should the initial interviews suggest that there are several interesting or relevant differences in the procedures, it will be possible to follow up these through additional on-site conversations.

To deepen the understanding of the phenomenon further, the methodology used when performing *case studies* is brought into play. Through initial interviews with those responsible for school-based practice at different universities, we are currently trying to identify different "cases" within the practice of failing with our focus directed on common as well as divergent aspects. As far as the selection of cases is concerned, we are trying to strive towards what has been termed contrasting cases. From the analysis of this data typified cases will be constructed (with the intention of not revealing identities), be presented as examples and form a foundation for discussion in focus groups where the examiners, both from universities and schools, can debate the strategies that were carried out in the actual cases as well as those that are possible.

The first stages of our study suggests that the practice of failing is accompanied by extensive records, formal and public as well as informal and private. To the extent that it can be made available, it will be collected. The analysis of both interviews and records will be made both inductively with the help of open coding (Glaser & Strauss, 1967), and deductively, that is, in relation to the theoretical starting points of the study. We will also compare the analysis of data with the official assessment criteria of each university (see Hegender, 2007).

However, during the empirical work we will consciously stay away from one perspective, namely the students'. Since this area may be perceived as ethically sensitive, we have chosen to complete refrain from data collections where the identity of the students can be revealed. The study concerns how an educational

assignment is managed by a professional institution and not about how single individuals fail in their educational ambitions.

DISCUSSION

The study should be perceived as an attempt to further penetrate, and add a new perspective to, the research area of teachers' professional knowledge and how this is valued and assessed. Sudzina and Knowles (1993) suggest that one of the reasons for the lack of research on teacher knowledge – observed from the negative pole - is that it may be difficult to make educators talk about "failures" since these are perceived as unwelcome and difficult. However, we think that it is of great importance that educational science sheds light on the zone that exists between entering a training programme and exiting it to become a professional. A decisive reason is that empirical data from the field creates an opportunity to study the question of professional competence from a slightly different perspective. To ask questions of the practice of failing regarding what is *not* perceived as professional quality may create space for alternative explanations and definitions of the phenomenon. The results from the study can in this way be applied in more general terms concerning several types of vocational education.

Results from the research project may also contribute to making the function of teacher education as gatekeeper clearer so that it can either be extended or reduced. More knowledge is needed on which safeguards that can be established to increase teacher quality. Knowledge must also be developed on how teacher educators measure, recognize and amend a lack of teacher quality and which factors they consider when a decision is taken on who is ready to be included in the teaching profession.

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26 - TPACK: Challenges for Teacher Education in the 21st Century

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Abstract: In this paper we reflect on the impact of ICT in educational systems, and the importance of preparing Portuguese teachers to the challenges of the learning society. In order to contribute for the definition of a national program for the professional development of teachers in ICT, we present some international programs for the professional development of teachers in ICT discussing results on current implementation. We then present the recently launched Portuguese Plan of ICT Competences for teachers that define levels of digital literacy and certification. In order to add new insights into current discussion on the topic we present a review of literature on a theoretical framework that has shown effective for the integration of ICT into the classroom: the TPACK. Examples of successful experiences in different curricular areas already implemented and tested with will be presented and discussed in order to help Portuguese teacher educators in the design of activities to be carried out in education programs for in service teachers.

Keywords: Teachers training, Information and Communications Technologies, Technological Pedagogical Content Knowledge.

INTRODUCTION

Teachers can't stay indifferent to changes happening in the educational panorama, driven by the developments in Information and Communication Technologies (ICT's). We need to rethink pedagogical practices, methods and strategies, in a way that contributes to classroom innovation, and that presupposes curricular integration of ICT's.

The importance of curricular integration of ICT's is a recurring question in the educational policies level, both on a national and international scale. On this matter, many international organizations, namely the European Commission and the Unesco (in the Education domain), became aware of the need to answer the advent of the Information Society. As Silva (2001) tells us, Unesco, on the "Education, a treasure to discover. International Committee for Education on the 21 Century report for Unesco", coordinated by Jacques Delors, drew attention to the impact that ICT's may have in renovating the Educational System, as to the response they must provide to the multiple challenges of the Information Society, recommending that "educational systems must provide an answer to the multiple challenges of information societies, in a continuous enrichment of knowledge and the exercise of a citizenship adapted to the demands of our time perspective" (Unesco, 1996).

In June, 2008, a report was published by *The International Society for Technology in Education*, where the new National Standards in Educational Technology, aimed at teachers, were presented. (ISTE, 2008a) In that document, new recommendations are made to teachers, in the manner as to make them accountable for their part as creators of pedagogical experiences involving the use of technologies to learn and teach.

Although teachers recognize the value of ICT's in education, there are still some barriers for its effective use. Thus, in 2006, in the Report on the Impact of ICT's in European Schools (Europeen Schoolnet, 2006), these barriers were identified, being divided in three categories: i) teacher level barriers – meaning those that are related directly with the approach and attitude relating to ICT's by the teacher; ii) school level barriers – the absence and low quality of infrastructures, the limited access to technological equipment, low levels of participation in technological projects by the school and the absence of ICT's integration in school strategies; and iii) educational system level barriers – strict structure of the traditional school system and the existence of rigid curricula (Europeen Schoolnet, 2006).

In this paper we reflect on the impact of ICT in educational systems, and the importance of preparing Portuguese teachers to the challenges of the learning society. In order to contribute for the definition of a national program for the professional development of teachers in ICT, we present some international programs for the professional development of teachers in ICT discussing results on current implementation.

We then present the recently launched Portuguese Plan of ICT Competences for teachers that define different levels of teacher digital literacy and ways to get a certification. In order to add new insights into current discussion on this topic, we present a review of literature on a theoretical framework that has shown effective for the integration of ICT into the classroom: the TPACK. Examples of successful experiences in different curricular areas already implemented and tested will be presented and discussed in order to help Portuguese teacher educators in the design of teaching activities to be carried out in education programs for in service teachers.

INTERNATIONAL PROGRAMS FOR TEACHER EDUCATION ON ICT

With the objective of trying to overcome the existing barriers in School, and facing the importance of developing and certifying teachers competences in ICT, many international organizations have produced standards that became the base for the teacher's formation and certification processes.

The European Computer Driving Licence (ECDL Portugal, 2010) is an ICT competences certification model, for many users, allowing the identification of competences and knowledge of each user, in the efficient use of the main computer applications. The qualification is acquired by passing an exam created around the contents of seven formative modules: introduction to computers, computer use and file management, text processor, spreadsheets, databases, presentations, and Internet and e-mail. Although this model "simplifies the certification, and internationalizes it, the detachment from the teacher's professional situation, from the national reality, are some of the critical points in this model" (GEPE, 2008).

The International Society for Technology in Education (ISTE, 2008b) has produced a generic standard and a group of specific standards for teacher's formation and competences on use of ICT certification programs. This project arose from the analysis of a questionnaire given in the USA about what should teachers know about ICT and what should they be capable of doing with them, so they could improve efficiently the learning of their pupils. This standard is organized in five dimensions: i) Facilitate and Inspire Student Learning and Creativity; ii) Design and Develop Digital-Age Learning Experiences and Assessments; iii) Model Digital-Age Work and Learning; iv) Promote and Model Digital Citizenship and Responsibility; v) Engage in Professional Growth and Leadership. This standard allows integration of both technical and pedagogical competences, allowing for change and autonomy in the building of knowledge, as for creativity from both teachers and students.

The project ICT Competency Standards for Teachers (UNESCO, 2008), is based in the assumption that the use of ICT in education will contribute to the improvement in education, thus being presented as a central factor in educational, social and political progress. This project incorporates the educational principles in de ISTE developed standard, arguing that teachers are responsible for developing ICT competences in students as well as access, selection and organization of information and communication, also being capable of solving problems and act creatively. This standard is constituted as an array of ICT competences: political vision, curricula and evaluation, pedagogy, ICT, organization, administration and professional development of teachers. This standard aims to be the basis for benchmarks and specific indicators in three approaches: i) digital literacy approach, ii) knowledge increase approach, iii) knowledge creation approach. It also attributes ICT with the role of changing the educational practices, because of their educational, curricular and administrative integration within schools.

Finally, the Smart Classrooms Professional Development Framework (Queensland Government, 2009) is part of a government plan to improve student, teacher and schools learning, from Queensland Government, in Australia. This standard has a common objective: serve as a standard for teacher's work, in order to achieve improvement in learning results and social improvement, acting as an impetus to the development of teacher's skills, so he can be an agent in the transformation of the teaching and learning process, in all levels of education. It also encourages the use of new methods, integrating ICT and pedagogy, with the objective of improving learning and student results. This standard has three levels of certification: ICT Certificate, Digital Pedagogy Licence and Digital Pedagogy Licence Advanced. ICT Certificate recognizes basic teacher skills in a learning context. Digital Pedagogy Licence recognizes the digital skills of teachers that use ICT in a way to improve the teaching and learning process. Digital Pedagogy Licence Advanced certifies the digital skills of teachers who are leading the transformation of the learning process through use of ICT.

Although many strong points have been found in both these standards, contextual reasons advise against adoption of any of these standards to the Portuguese reality. These reasons go from the educational models and teacher training reasons to questions of institutional, administrative and political order. The PTE proposal is based on the international view of the role of ICT, the teacher's role as a user of digital technologies in a responsible and educational interesting way, the objectives proposed for the PTE, as well as the situation in which schools work in our country (GEPE, 2008).

THE PORTUGUESE PLAN OF ICT COMPETENCES FOR PORTUGUESE TEACHERS

The "ICT Skills" project is the "cornerstone of the strategy for teacher training in innovating their educational practices with the help of information and communication technologies", developing a training and certification system in ICT skills, in order to recognize ICT skills of at least 90% of teachers (GEPE, 2008).

In the Implementation Study for the "ICT Skills" Project (GEPE, 2008), and so that teachers acquire the skills of Teacher of the 21st Century, as defined in the study, a continuous formation model was proposed, taking into account the regulations that govern the professional activity of teachers. In order to enable the application of skills this formation ensues, some recommendations were defined: i) the need to integrate ICT through all school life, so as they are naturally perceived, ii) the need to ICT are a part of all subject areas, iii) the need for quality resources, diversified, and adequate to the development of curricula, iv) the need for adequate infrastructure, fit for the demands of teaching work with ICT, v) the need for the direction of school boards to develop a clear leadership, encouraging the use of ICT.

Through Decree No. 731/2009, of July, 7, the Portuguese Government creates the normative conditions to execute the teacher ICT skills training and certification program, with the objective of: i) promote the generalization of digital and educational skills with the use of ICT, ii) provide ICT training in a coherent and articulate manner, iii) recognize ICT skills acquired outside the continuous teacher training framework.

Thus, the ICT skills training courses were organized in three levels: level 1 – digital skills training; level 2 – educational and professional skills with ICT training; and level 3 – advanced ICT skills in education training. The training course in digital skills (level 1) is composed by one of three alternative courses defined in the Decree. The training course in educational and professional skills with ICT (level 2) is composed by two mandatory training courses and two optional training courses. Finally, the advanced ICT skills in education training course (level 3) is composed by master and doctorate programs, run by higher education institutions.

In parallel with these training courses, three ICT Skills certificates where created, so the knowledge acquired by teachers could be certified: i) Digital skills certificate – this certificate recognizes the knowledge acquired by the teacher that allow him to use ICT in teaching and learning processes, being assigned by the recognition of acquired skills, namely by validation of professional or associated skills, or by recognition of his formative history; ii) Educational and professional skills with ICT certificate – certifies the acquired knowledge of teachers that incorporate ICT in their practices, exploring them as an educational and pedagogical resource, and mobilizing them to developing new teaching strategies. Assigned through recognition of formative paths and in sequence of a positive evaluation of the teacher's digital portfolio; iii) Advanced ICT skill in education certificate – recognizes the acquired knowledge that enables the teacher to innovate in his educational practices, manage and think about his experiences, in an investigative manner and with the objective of sharing and cooperation with the educative community. Assigned to teachers who have a masters or doctorate degree in the Educational Sciences area.

Issuing of these certificates is responsibility of the director of the training centre from the schools association, after application from the teacher, submitted to the director of the school group where he is working.

Although the ICT Skills Plan defines a basic framework for teacher ICT certification, there still much to do to establish what will be the practice of training in the field. In fact, more important than certifying is to make sure teachers actually use ICT as real educational tools in the classroom, capable of helping students building knowledge (Jonassen, 2007). Also, as suggested by Baylor and Ritchie (2002), continuous formation of teachers in the ICT level should enable teachers with "the opportunity to learn and observe new teaching with ICT methods, share questions and problems with others, and explore new ideas with experts and peers" (Baylor & Ritchie, 2002, p. 410). This same idea of importance in the sharing of experiences and worries with the peers, meaning what we could call a "cooperation culture" between teachers, constitutes a professional development strategy that encourages teachers to think about the practices, to a peer shared learning that promotes multiple skills and a genuine desire for change (Hargreaves, 1998).

On the other hand, integrating technology in the classroom is more effective when the learning is significative, that is, when teachers are capable of linking contents with teaching processes, in a way that promotes the learning from students in the content itself (Jonassen, Howland, Marra & Crismond, 2008). TPACK is a very recent theoretical standard that arose from the need to answer efficiently the question of how to integrate ICT in the curricula as an efficient learning tool. It seems to us important and timely to present this theoretical standard and what investigation shows about its implementation in the educational field; it will be a way to give some practical clues to the implementation of an ICT skills standard and contribute for Portuguese teachers definitively integrate ICT in their curricula.

THE TPACK MODEL

The Technological Pedagogical Content Knowledge, TPACK for short, has revealed itself as the theoretical standard of excellence for an effective integration of ICT in the teaching and learning processes (Graham, Burgoyne & Borup, 2010). The basic premise where it stands assumes that the teacher's attitude when it comes to technologies is multi-purpose and that an optimal combination for its integration in the curricula results of a balanced mix of scientific (or content) knowledge, educational knowledge and technical knowledge (Koehler & Mishra, 2008).

Shulman (1986) developed a theoretical framework for teacher education by introducing the concept of pedagogical content knowledge (PCK). Shulman argued that a distinctive form of teacher-practitioners' professional knowledge, which he referred to as PCK, exists and this knowledge builds upon, but is different from, subject matter knowledge. In Shulman's view, PCK is a form of practical knowledge that is used by teacher practitioners to guide their actions in highly contextualized classroom settings. This form of practical knowledge involves for one hand an understanding of how to structure and present the subject matter to be learned, on the other hand an understanding of the common conceptions, misconceptions, and difficulties that learners encounter when learning particular subject matter, and finally knowledge of the instructional strategies that are effective at addressing students' learning needs in particular classroom circumstances. According to Shulman, PCK builds on disciplinary knowledge and is, therefore, a critical constitutive element in the knowledge base of teaching within a specific discipline.

Mishra & Koehler (2006), enhancing Shulman's (1986) theoretical standard, added Technology as an integrated component of teacher's knowledge as to teach in a more effective way, so creating the above described TPACK. In this new standard, the combination of content, education and technology forms "an integrated whole, a 'Total PACKage' as it was, for helping teachers take advantage of technology to improve student learning" (Thompson & Mishra, 2008, p. 38).

Figure I, adapted from Koehler & Mishra (2008) represents the concept of TPACK in a graphical way as being the result of intersecting the teachers' knowledge in three levels: curricula and content knowledge, education methods knowledge, and technological skills.
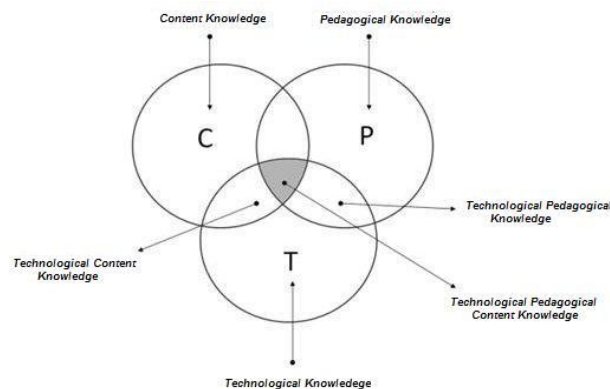
Figure I: TPACK Model

In theoretical terms and according to Koehler and Mishra (2006, 2008), TPACK results of the intersection of three different types of knowledge:

- Pedagogical Content Knowledge: meaning the ability to teach some curricula content;
- Technological Content Knowledge: meaning the ability to select the most adequate technological resources to communicate some curricula content;
- Technological Pedagogical Knowledge: meaning knowing how to use those resources in the teaching and learning process.

The TPACK concept, for Harris and Hoffer (2009) is an amplification of the pedagogical content knowledge concept presented by Shulman in 1986, and one that, in a way, revolutionizes the form as, today, the professional development of a teacher that is a competent one in his teaching area is processed.

The accelerated advance of computer and Internet use as support tools for the teaching and learning process require the need for a framework that supports those what must be the skills for a teacher that uses ICT as educational tools in the classroom, as stated by Jonassen (2007).

According to Koehler and Mishra (2008), TPACK is the basis for effective use of technology in teaching, and a condition for efficiently inserting ICT in the learning activities. Deep understanding and mastery of teaching techniques are needed so that technology is used to build knowledge by the student and not as support for the teacher to teach. This way, according to the same authors, teacher training must be steered to development of TPACK in a gradually and spiraling way, starting with the simpler technologies that teachers already know (and for which they may already have skills in the TPACK level), in the way to ever more complex and sophisticated applications. The main objective is that the teacher is enabled to make informed decisions in the planning of his teaching with technologies activities, which implies:

- Choosing teaching objectives;
- Decision making in the pedagogical level, taking into account the learning experience;
- Selecting and sequencing the teaching activities;
- Selecting the formative and summative evaluation strategies adequate to the adopted pedagogical strategy;
- Selecting the best resources and tools to help students benefit from the planned learning activities.

DEVELOPMENT OF TPACK IN EDUCATIONAL SCENARIOS

Use of TPACK as a theoretical framework has increased in the last few years, as it proposes a structured approach to the complex nature of ICT and teaching (Cox, 2008). In the last few years we saw the emergence of several studies, which want to investigate the development of TPACK in educational scenarios.

The investigation developed by Figg and Jaipal (2009) disassembles TPACK, focusing in the Technological Knowledge components: Technological Knowledge, Technological Content Knowledge and Technological Pedagogical Knowledge, so that it provides the operational definitions of those components. Furthermore, concrete examples are presented, that may be used to obtain effective integration of technology in the classroom context, as well as to highlight the influence that Technological Pedagogical Knowledge has in the successful implementation of technology in the educational practice of future teachers.

In 2006, Norway performed a curricula reformulation – The Knowledge Promotion – using TPACK as basis for the project, where teachers cooperated with other teachers, the school administration and students. This reform arrived from the need to alter the way the majority of teachers used ICT, through intensive training processes, in a way to enhance their TPACK. The main objective was that students acquired basic digital literacy skills, so they could actively participate in the knowledge society, including the capacity for ICT use (Engelien et al., 2009). In the end of these processes and modifications, they came to the conclusion that digital literacy must be implemented in all curricula, thus being considered as important as reading and writing (Krumsvik, 2008 cit. Engelien & Stundal, 2010). "They went from being primarily digitally illiterate to being representatives for good teaching with technology" (Engelien & Stundal, 2010). Although the final objective is the development of a system or organization, the participants are people, driving to that a personal mastery is need to change practice, among school directors, teachers and students. Teachers' TPACK is vital so that the proposed objectives are achieved, among them digital literacy, one of five basic skills.

Engelien, et al. (2009) analyzed this reform, using the TPACK model to explain how complex objectives may be segmented, worked on thoroughly and again reunited. In the analysis they concluded that this reform allowed thinking and development of knowledge about the use of technology in school. Also concluding that TPACK has a useful framework that helps to understand the complexity of the demands made to teachers.

Other investigations were performed in more specific curricula. In the Geography area, Doering & Veletsianos (2009) designed three educational online environments to help students and teachers on effectively using geospatial technologies in the classroom context. These environments are built to help teachers with a limited formation in teaching Geography through technology, using TPACK as basis for their investigation. In Mathematics, use of TPACK has been the target for some studies. Niess (2008) does an analysis on the efforts taken by other investigators directed to the preparation of Mathematics teachers on teaching with technologies. This study concludes that, to the majority of teachers, teaching in a work context gives them the opportunity of teaching in the 21st century, because if education must adapt and prepare their students to live and work in the 21st century, teachers need to be prepared to integrate emerging technologies as learning tools. New programs and training must guide them in learning about ICT, training them in teaching new curricula, at the same time using technology, and guiding the development of student understanding. "This in-service education needs to focus on developing and extending the knowledge, skills and dispositions described in TPACK (Niess, 2008). Schmidt, Seymour, Sahin & Thompson (2008) have also reflected about TPACK development in PreK-6 Teachers. To these investigators, TPACK acts like a new form of knowledge that requires teachers not only to understand the complexity of relations between

technology, pedagogy and content, but also propose solutions for their practices. Also Bauer (2010) reflects on the use of TPACK with Music teachers, since, and taking into account the use of technology theme has been a very interesting topic among music teachers, they still don't use the technology in the classroom intensively. This investigator proposes a research-base conceptual framework for pre-service and in-service music educators. He concludes that music teachers should be open to new ideas and ways of doing things, and demonstrate the will to use a convergence between technology and musical pedagogy.

With the advance in the various investigations, some activities to bring closer the integration of technology in education have been presented. Hofer et al. (2009) developed and executed six activities to the K-6 literacy, secondary English, foreign language, mathematics, science and social studies areas, showing who they can help teachers develop student knowledge by integrating technology. These activities focus in raising awareness for all possibilities of technology support in specific curricula. At the same time, they aim to help teachers in choosing and combining different learning activities so that students are helped to acquire the basic skills in the matter, taking into account the learning needs and preferences of the students. This investigation suggests that, only when teachers are familiar with a full range of learning activities types inside a specific content, they can wisely choose and execute in an effective way the adequate activity. The six learning activity types introduced represent the effort of the authors to identify the different types of learning activity in the diverse curricula areas, so that educational technology may be used as support for teaching and learning

The investigation made by Harris and Hofer (2009) also presents diverse activities for the use of ICT, based on TPACK. These activities work as conceptual planning for teachers. "Each activity type captures what is most essential about the structure of a particular kind of learning action as it relates to what students do when engaged in that particular learning-related activity" (Harris & Hofer, 2009). Thus, they propose a taxonomy, from their studies. They divide these activities in seven types:

i) knowledge building activity types – example given: read text, view presentation, group discussion, field trip, etc.;

ii) convergent knowledge activity types – answer questions, create a timeline, a map, complete charts, take a test, etc.;

iii) written divergent knowledge expression activity types – write an essay, a report, craft a poem or a diary, etc.;

iv) visual divergent knowledge activity types – create a picture or a mural, an illustrated map or draw a cartoon;

v) conceptual divergent knowledge expression activity types – develop a knowledge Web, generate questions or develop a metaphor;

vi) product-oriented divergent knowledge expression activity types – produce an artifact, build a model, create a newspaper, etc.;

vii) participatory divergent knowledge expression activity types – do a presentation, do a performance, engage in historic play or engage in civic action.

In the knowledge building activity types, teachers have a variety of activities that allow to enable students in the social studies content building and process knowledge. Through expressions of knowledge analysis, teachers can determine what students learnt. These activities may be combined so plans can be created for use in a specific class. When teachers are familiar with these activities, they can choose, combine and use effectively these activities to develop learning situations, thus building their TPACK in a practical way (Harris & Hofer, 2009).

FINAL REMARKS

In this paper we presented a review of the research that intends to give new insights in the process of the implementation of a national program for the professional development of teachers in Portugal. After discussing several European programs that were recently developed we present the framework that was created for the certification of Portuguese teachers in ICT.

However, if certification is important, even more important is to design effective programs that prepare teachers to empower students with the advantages that technology can bring to any citizen of our global society. This requires teachers that integrate the technologies as cognitive tools in the daily classroom routines. The TPACK model as shown to be one of the most relevant theoretical frameworks for the design of effective training programs for teachers in ICT, because it faces an holistic development of teacher knowledge – content, pedagogy and technology – that is crucial for the integration of the technologies into the curriculum.

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28 - The BeTeBaS-Questionnaire: an Instrument to Explore the Basic Skills of Beginning Secondary Teachers

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Abstract: Society has become more complex in recent decades, and this has increased the demands placed on the educational system and the teaching profession. This study focuses on the development and validation of an instrument that explores the basic skills of beginning teachers. The instrument was developed according to scientific knowledge on teacher skills and their legal context as described by the Flemish government. Teacher competencies are measured along three dimensions: behaviour, capability and beliefs. Construct validation took place in two rounds, using data obtained from a survey of beginning secondary teachers that was conducted in September 2008 and June 2009. Exploratory factor analyses with oblique rotation resulted in 12 reliable scales, containing a total of 60 items. The instrument can be used in teacher-training institutes to explore the basic skills of graduating students and in schools to initiate a process of reflection amongst beginning teachers.

Keywords: teacher professionalisation, beginning teachers, teacher competences

INTRODUCTION

Researchers, policy makers and teacher educators all recognise that the process of becoming a teacher should involve lifelong learning (Tichenor & Tichenor, 2004; Wong, Britton, & Ganser, 2005). The educational system is confronted with increasing and constantly changing requirements, which affect the day-to-day work of teachers in the classroom. Becoming a teacher is thus a permanent learning process, a succession of formal and informal learning experiences (Clement & Staessens, 1993). In accordance with Clement and Vandenberghe (2000), the professional development of teachers is actually related to helping teachers gain more control of their own behaviour. It improves their ability to respond to changing circumstances and to justify their professional behaviour.

The development of teacher professionalism does not end when students complete their teacher-training programmes; it continues after graduation. Teacher training obviously does impart a number of key competences or basic skills. The training courses should ensure that each graduate has at least the minimum competences necessary to enter the teaching profession. Thereafter, induction programmes in schools and additional training (in-school and external) help both experienced and beginning teachers to achieve full competency (Feiman-Nemser, 2001; Morberg & Eisenschmidt, 2009).

This view on the professional development of teachers justifies a distinction between expectations that apply to newly-trained or beginning teachers and those that apply to more experienced teachers. A level of professionalism appropriate to an experienced teacher cannot be expected at the beginning of a teaching career (Schepens, Aelterman, & Van Keer, 2007). In Flanders (Belgium), there is a legal distinction between the basic skills required of beginning teachers and those required of more experienced teachers. The list of basic skills specifies a clear set of knowledge, skills and attitudes that graduates of teacher-training programmes should possess in order to function properly as a beginning teacher (Ministry of the Flemish Community, Department of Education, 2007). Similar to the vocational profile of an experienced teacher, the list of basic skills provides a clear and current description of what the government expects of a teacher; the skills are derived from policy objectives and the needs of society.

To date, there are no validated instruments to measure the basic skills of beginning teachers. The aim of this research is to develop and validate such an instrument. The instrument is based on contemporary scientific knowledge on teacher competences, and it draws upon the Flemish government's description of teacher competences.

THEORETICAL FRAMEWORK

The basic skills of beginning teachers in Flanders (Belgium)
In 1998, the Flemish government ordered the development of a vocational profile and a list of basic skills to serve as quality standards for teacher-training programmes. These profiles were updated in 2007 (Ministry of the Flemish Community, Department of Education 2007). The competences included in the vocational profile and the related basic skills are categorised into ten functional roles that teachers perform. These roles are grouped into three clusters of responsibilities (Ministry of the Flemish community, Department of Education, 2007).
The first cluster includes the responsibilities of teachers with regard to their students. Five roles can be distinguished in this cluster: (1) source of support for processes of learning and development; (2) educator; (3) content expert; (4) organiser and (5) innovator and researcher. The second cluster comprises the responsibilities of teachers with regard to the school and the educational community. The teacher's roles within this cluster are as follows: (6) partner of parents or guardians; (7) member of the school team; (8) partner of external entities and (9) member of the educational community. The final cluster involves the responsibility of teachers with regard to society. This responsibility is included within the following role: (10) member of society.
The vocational profile and the basic skills that are derived from it assume a comprehensive and extended professional orientation to teaching: a teacher's task is not limited to activities in the classroom; it also incorporates responsibilities with regard to the school and society in general. Cooperation and a strong commitment to interdisciplinary and extra-curricular activities in the school are considered important aspects of teaching. Classroom activities should also be adapted to school policy and related to new educational insights and recent developments in society (Jongmans, Biemans, Sleegers, & De Jong, 1998).

Measuring competencies
Each role in the list of basic skills is described in detail using a series of competences ('*the teacher can ...*'). For each competence, the underlying knowledge base (i.e. *what the teacher has to know in order to achieve this competence*) is also explicitly mentioned. In addition to the ten roles, eight teaching attitudes are distinguished: decision-making ability, relational orientation, critical attitude, desire to learn, organisational ability, sense of cooperation, accountability and flexibility. After profound study of the detailed list of skills, knowledge elements and attitudes, we concluded that they were not suitable for inclusion in a questionnaire in their current form. The list was too detailed, and the artificial unravelling of the teacher's tasks had led to overlaps between the different roles in some cases. In addition, the relatively general and often theoretical formulation of the basic skills and the attitudes made them less suitable for inclusion in a questionnaire. Selection and a more specific operationalisation appeared necessary. To find ideas for performing this task, we consulted literature on the concerns (e.g. Watzke, 2007), self-efficacy (e.g. Skaalvik & Skaalvik, 2007) and well-being (e.g. Veenman, 1984) of teachers, as well as literature on reasons for leaving the teaching profession (e.g. Kersaint, Lewis, Potter, & Meisels, 2007). Each of these lines of scientific research indicates a limited set of key skills that beginning teachers need to master in order to manage themselves in educational settings, to feel qualified as teachers and to stay motivated. This yielded a classification comprising 10 relevant areas of interest: lesson preparation, lesson implementation, differentiation, evaluation of students, the teacher as an educator, classroom management, the teacher as a member of the school team, the teacher as a member of society, use of communication/language and professional development. Specific items were formulated for each of these areas of interest.
After identifying this limited set of areas, we determined the form in which the items should be presented to teachers, with the goal of attaining a thorough assessment of their competence in each area of interest. According to Miller (1990), who studied the competences of medical students and how to evaluate them, a competence has been mastered when the practitioner *applies* it in daily practice. In order to reach this level of performance, individuals must attain a set of knowledge and skills that will allow them to use this knowledge. Corresponding to Miller, the competence model of Korthagen (2004) also considers a person's behaviour in daily life as the highest expression of a competence. Various elements underlying an individual's behaviour become apparent, much like the layers of an onion. The *behaviour* of individuals is partly determined by their *skills*, which are subsequently influenced by their *beliefs*. People's beliefs are then determined by their *identity*. Individual *involvement* is at the centre of the competence model. Korthagen (2004) defines involvement as the personal mission that individuals pursue in their lives or their work. Finally, people's behaviour is affected by the context or environment in which they function. With regard to teacher competences, a specific school or classroom context influences whether or not a teacher's behaviour

is considered competent. Using the findings of Miller and Korthagen regarding the assessment of competences, we decided to have beginning teachers score items along three dimensions: behaviour, capability and beliefs.

METHODOLOGY

Construction of the research instrument
The questionnaire was developed into two stages. For each area of interest, six to twelve items were formulated. The first version of the questionnaire was discussed in three separate focus groups, one with beginning teachers (n = 7), one with tutors (n = 7) and one with lecturers (n = 3). The importance of the ten areas of interest was examined, as well as the clarity and relevance of the specific items and the coverage of the items in each area of interest. All of the focus-group participants considered the ten areas of interest important and sufficiently broad; 21 items were updated, 6 were added and 4 were removed. This produced a questionnaire consisting of 76 items. Each item was examined according to three aspects. *Behaviour* (a) refers to the actual performance of the item in daily practice; we consider behaviour as the highest expression of a competence. *Capability* (b) refers to the manner in which individuals consider themselves capable of carrying out the competence. *Beliefs* (c) refer to the degree to which individuals consider the competence important. These three different aspects are assessed using a Likert scale consisting of five response categories (see Table 1).

Table 1: Sample items and the response categories used

Varying objectives according to differences between students.				
I do this:	Almost never	□ □ □ □ □	Almost always □ n/a	(Beh)
I feel capable:	Not at all	□ □ □ □ □	Very much	(Cap)
I belief this is:	Not important	□ □ □ □ □	Very important	(Bel)
Choosing an appropriate working method for each subject.				
I do this:	Almost never	□ □ □ □ □	Almost always □ n/a	(Beh)
I feel capable:	Not at all	□ □ □ □ □	Very much	(Cap)
I belief this is:	Not important	□ □ □ □ □	Very important	(Bel)

n/a= not applicable

Data collection and respondents
The instrument was distributed electronically to beginning teachers in regular secondary schools in Flanders (Belgium). The coordinating directors of the 54 school communities (each of which includes multiples secondary schools) in Flanders were asked to participate in this study. After accepting the invitation, each school was asked to transmit a list of its beginning teachers. Beginning teachers were defined as individuals in their first year of teaching. This yielded a list of 815 teachers from 50 school communities. In September 2008, an e-mail was sent to the beginning teachers asking them to complete the questionnaire electronically. The questionnaire was ultimately completed by 559 teachers, representing an average of 11 (SD = 8.91) teachers from each school community (response rate for teachers: 69%, response rate for school communities: 100%). At the end of the same school year (June 2009), the beginning teachers were once again asked to complete a slightly revised instrument. This questionnaire was completed by 208 teachers, representing an average number of approximately 5 (SD = 3.69) teachers from each school community (response rate for teachers: 26%, response rate for school communities: 88%).

The dataset was screened before the analyses were started. Only data from teachers who indicated that they were in their first year of professional teaching were retained. In September, 108 participants indicated that they had been teaching for more than one year (e.g. in another school); these responses were deleted from the dataset. Of the 451 remaining respondents, 66% were women, and the average age was 26 years and one month (SD = 6.71). In June, 48 participants indicated that they were not beginning teachers. As with the previous sample, 66% of the 160 remaining respondents were women. The average age of respondents in the second sample was 27 years and five months (SD= 7.44).

Analyses
The construct validity of the questionnaire was tested in two rounds. The *first validation* was conducted on the data collected in September 2008 (sample size: n = 451). Given the size and complexity of the instrument (76 items, each assessed according to three aspects), we decided to divide the questionnaire into two groups of items and to validate the instrument successively for each aspect (i.e. *behaviour*, *capability*, *beliefs*). Based on the aforementioned literature on narrow and extended professional orientations of teachers, we grouped the 49 items referring to teaching and educational practice in the classroom during the initial factor

analysis. A second factor analysis was conducted on the remaining 27 items, which refer to interdisciplinary and reflective practice. Because dependency was assumed between the different areas, oblique rotation was used. The exploratory factor analyses were conducted on the dataset for the dimension of behaviour.

The selection of the number of factors was based both on the Eigenvalues-greater-than-one method (the Kaiser-Guttman rule) and on the interpretability and integration of the scales within the theoretical framework (Bandalos & Boehm-Kaufman, 2009). The retained items within a factor had to meet the following criteria: (1) factor loading equal to or higher than |.30|, and (2) meaningful content corresponding to the factor. Finally, the number of items in each factor was taken into account. As a rule, a factor should contain at least four items in order to reflect the complexity of the latent construct sufficiently and to become a scale. The item loadings for the aspects of *capability* and *beliefs* in the corresponding factors (in accordance with the aspect of *behaviour*) were subsequently investigated. To achieve adequate parallelism in the questionnaire, the retained items had to load sufficiently ($\geq |.30|$) on the relevant factor for the three aspects (*behaviour*, *capability* and *beliefs*).

Finally the reliability of the questionnaire was considered by analysing the Cronbach's alpha scores of the constructed scales. We considered reliability coefficients approaching .70 as sufficiently reliable (Schmitt, 1996). In this stage, items could still be removed if doing so would increase the reliability of the scale.

The second construct validation (using factor analysis with oblique rotation) was conducted on the data collected in June 2009 (sample size: n = 160). Because the first validation had led to a few adjustments of the questionnaire (see Results), a second validation was carried out to determine whether these changes increased the reliability and the usefulness of the scales. In the second round, we conducted a confirmatory factor analysis, taking the results of the first factor analyses into account.

RESULTS

A six-factor structure emerged as a result of the factor analysis with oblique rotation on the 49 items regarding teaching activities in the classroom. Each of these six factors contained at least four items with loadings of |.30| or higher. In terms of content, the six factors were well interpretable. Taken together, the six underlying factors described 44.87% of the total variance. The results of the factor analysis with oblique rotation on the 27 items regarding interdisciplinary and reflective practice for the aspect of behaviour initially produced an 8-factor structure. We nonetheless decided to preserve a six-factor structure, as one factor contained only two items and the content of another factor (3 items) was difficult to interpret. The six factors together explained 53.31% of the total item variance. We subsequently examined whether the retained items of the twelve factors also loaded significantly on the other two aspects (capability and beliefs), thus guaranteeing full parallelism in the questionnaire. Based on these analyses we concluded that, with one exception, the various items loaded at |.30| or higher on the relevant factor, for the aspect of capability as well as the aspect of beliefs. One item did not load high enough (.27) on the factor 'Involvement and flexibility' for the aspect of beliefs, and it was therefore removed.

To provide an adequate reflection of the complexity of the underlying concepts, we attempted to generate scales consisting of at least four items. We therefore decided to formulate one or two new items for each scale with less than 4 items. We also refined the wording of two items. For example, the item, '*Forming an opinion on educational topics in discussion with colleagues*' was revised to read, '*Forming an opinion on current educational issues*'. These additions and adjustments were intended to increase the cohesion between the items within the same scale. The second version of the instrument consisted of 63 items; 35 items refer to teaching and educational practice (6 scales) and 28 items (also 6 scales) describe interdisciplinary and reflective practice. The modifications that were made in the formulation of the items and the addition of nine new items regarding multidisciplinary and reflective practice required an additional validation. Confirmatory factor analysis with oblique rotation (using the underlying six-factor structure from the first validation round) showed that all six of the factors had an intrinsic value greater than one, together explaining 64.02% of the total variance in the data. At the item level, one item had a loading lower than |.30| and two items had loadings of |.30| or higher on more than one factor. These items were removed.

Table 2 shows the scales, the final number of items for each scale and the results of the reliability analyses for behaviour, capability and beliefs separately.

The scale '*Care for each student*' (6 items) describes the extent to which teachers attend to the welfare of their students, consider the cognitive potential and the personality of each student and invest in positive relationships with their students. The scale '*Involvement and flexibility*' (5 items) represents the extent to which teachers pay attention to motivating students by carefully determining the content and working format of the lessons. The items also describe the extent to which teachers handle their lesson preparations in a flexible manner (e.g. by creating possibilities for students to provide input). The scale '*Differentiation*' (5

items) describes the extent to which teachers differentiate in the classroom in terms of content and pace, thereby managing to challenge all students. The scale '*Incorporating current events and diversity*' (8 items) describes the extent to which teachers consider the interests and needs of their students when selecting content and teaching materials. The items also address the extent to which teachers include current events in their lessons. The scale '*Classroom discipline*' (5 items) describes the extent to which teachers manage to keep the classroom under control and are capable of intervening in situations involving disruptive behaviour. The items also describe the extent to which teachers teach their students values (e.g. responsibility and respect). The scale '*Evaluation*' (6 items) describes the extent to which teachers pay attention to evaluation, observe/track the progress of their students and provide them with feedback.

The scale '*Reflection on teaching*' (5 items) defines the extent to which teachers reflect on their own teaching. The scale '*Communication with parents*' (3 items) describes the way in which teachers communicate with parents and the extent to which they provide information about the children in a comprehensible manner. The scale '*Reflection with others*' (4 items) describes the extent to which teachers reflect on their teaching practice with others (e.g. colleagues). The scale '*Awareness and accountability*' contains four items, which describe the extent to which teachers act as members of the educational community. In other words, it describes the extent to which a teacher has developed a responsible teaching style by considering social issues and current events. The scale '*Innovation*' defines the extent to which teachers are open to innovation (e.g. by staying informed on innovations and incorporating them into the lessons). The final scale '*Member of the school team*' (4 items) addresses the extent to which teachers cooperate and confer with their colleagues and contribute to the group spirit within the teaching staff.

Reliability coefficients range from .72 to .86 for the aspect 'behaviour', from .72 to .88 for 'capability' and from .66 to .90 for 'beliefs'.

Table 2: BeTeBaS-instrument: scales, sample items, number of items and reliability coefficients (α) for behaviour (*Beh*), capability (*Cap*) and beliefs (*Bel*).

Scale	Sample item	Items	α		
			Beh	**Cap**	**Bel**
Care for each student	Taking the personality of each student into account.	6	.81	.84	.78
Involvement and flexibility	Allowing students to provide input during lessons	5	.74	.74	.67
Differentiation	Considering differences in tempo between the students	5	.79	.82	.80
Incorporating current events and diversity	Incorporating current events into my lessons	8	.72	.72	.68
Classroom discipline	Addressing disruptive behaviour from students	5	.76	.88	.71
Evaluation	Varying my methods of evaluation	6	.72	.76	.66
Reflection on teaching	Knowing after a lesson why some things worked and why others went less smoothly	5	.86	.88	.90
Communication with parents	Providing parents with coherent information about their children	3	.82	.81	.82
Reflection with others	Reflecting with others on my actions in the classroom	4	.82	.85	.82
Awareness and accountability	Forming an opinion on current social issues and developments	5	.74	.78	.71
Innovation	Experimenting with new insights in my teaching	4	.81	.79	.86
Member of the school team	Asking my colleagues for advice	4	.80	.83	.80

For a more detailed description of the successive factor analyses and a full version of the BeTeBaS-questionnaire we refer to Struyf, Adriaensens, and Meynen (in press).

CONCLUSION

Based on a study of beginning secondary teachers, we constructed a reliable and construct valid instrument to assess the basic skills of beginning teachers according to three aspects: behaviour, capability and beliefs. The BeTeBaS-instrument (BEginning TEachers' BAsic Skills) consists of 60 items, divided in 12 reliable scales that refer to teaching and educational practice and to interdisciplinary and reflective practice. The

reliability coefficients of the 12 scales approached or exceeded the value α = 70 (Schmitt, 1996), and this applies to the aspects of behaviour, capability and beliefs. In order to provide an adequate reflection of the complexity of the latent construct, all but one of the scales contain a minimum of four items.

The first six scales measure aspects related to teaching and educational practice in the classroom. The first scale, 'Care for each student' is consistent with the role of 'the teacher as educator' (Ministry of the Flemish Community, Department of Education, 2007). Teachers must develop the ability to create a positive classroom climate. The scale 'Involvement and flexibility' - representing the ability of teachers to motivate their students by using active and flexible teaching methods - corresponds to the role of 'the teacher as organiser', which represents the ability of teachers to create smooth and efficient lessons in a stimulating learning environment. The 'Differentiation' scale describes the extent to which teachers differentiate in terms of content and pace, thus managing to challenge all of their students. The ability to differentiate is mentioned in the role of 'supporting the learning and development processes'. The scale 'Incorporating current events and diversity' is closely related to the fourth scale. It describes the extent to which teachers take student diversity into account. The role of 'supporting processes of learning and development' also includes the ability to handle student diversity. Schools can be seen as miniature societies that reflect the larger society, which is increasingly confronted with diversity in terms of ethnicity culture and religion, as well as social and economic status. One aspect of the scale 'Incorporating current events and diversity' can also be found in the role of 'the teacher as an educator': teachers should incorporate actual social developments into their lessons. The 'Classroom discipline' scale describes the ability of teachers to manage their classrooms and control disruptive behaviour, as described in the role of 'the teacher as organiser'. The sixth scale, 'Evaluation' measures the ability of teachers to evaluate students, monitor student progress and provide feedback. This scale is closely related to the role of 'supporting processes of learning and development'.

The six scales related to the teaching and educational practice of beginning teachers correspond to the concerns of student teachers and beginning teachers with regard to the socio-emotional growth of students, dealing with the problems and needs of individual students, motivating students, managing the classroom and evaluating students' class work (Reeves & Kazelskis, 1985; Veenman, 1984; Watzke, 2007).

Six other scales describe the interdisciplinary and reflective practice of beginning teachers. The scale 'Reflection on teaching' and the scale 'Reflection with others' are related to the 'critical attitude' of teachers (Ministry of the Flemish Community, Department of Education, 2007). Louis, Kruse, and Bryk (1995) refer to such consideration and examination of educational practice in dialogue with other teachers as 'the reflective dialogue'. The importance of this competence is reflected in the concerns of student teachers and beginning teachers with regard to their ability to evaluate their own professional development (Reeves & Kazelskis, 1985; Watzke, 2007). Meetings with parents form another major concern for beginning teachers (Veenman, 1984). This competence is measured with the scale 'Communication with parents'. This scale is related to the role of 'the teacher as partner of the parents/caretakers', which emphasises the importance of discretion in dealing with student information, providing advice and taking the social background of parents into account. The 'Awareness and responsibility' scale measures the extent to which beginning teachers develop a responsible educational style, while taking social issues and current events into account. This scale relates to the role of 'the teacher as member of the education community'. The 'Innovation' scale is strongly linked to the role of 'the teacher as innovator and researcher'. The final scale in the BeTeBaS questionnaire 'Member of the school team' is included in the role of 'the teacher as member of the school team'.

The division of the scales into the teaching and educational practice cluster and the interdisciplinary and reflective practice cluster is consistent with the findings of Huberman (1989, 1993). This author suggests that the first stage in a teacher's career is characterised by two dominant experiences: discovering and surviving. In addition to discovering the pleasure of teaching and finally being able to practice their occupation, teachers also have the feeling of surviving within the multiplicity and complexity of tasks and expectations related to the teaching profession. Beginning teachers face challenges in the classroom, and, as members of the school, they must learn to cooperate with colleagues, school management, administrators and parents. They must find their place within a culture that has its own traditions, customs, sensitivities, views and subgroups.

The validation of the BeTeBaS questionnaire (Dutch version) was limited to construct validation. Construct validation took place in two rounds, using data obtained with a survey of 451 (in September 2008) and 160 (in June 2009) beginning secondary teachers. We attribute the lower response rate in the second round to the timing of the survey. The considerable time and effort required to complete the extensive questionnaire (60 items, each of which had to be scored according to three different aspects) was compounded by the many tasks that are associated with the busy period at the end of the school year. In addition, the BeTeBaS questionnaire was used in a broader study investigating relationships between the attainment of basic skills

and the induction programme for beginning teachers. The second presentation of the questionnaire constituted the final measurement within this extensive research, in which drop-out was increased for each measurement.

The BeTeBaS questionnaire is a self-evaluation instrument with which beginning teachers assess their own basic skills. Self-evaluation fits within the current views on learning and teaching where the learner takes an active role in his learning process and self directed learning is stimulated (Segers, Dochy, & Cascallar, 2003). Research shows that respondents develop a greater responsibility towards their own learning when using self-evaluation instruments (Boud, 1995). However, it is conceivable that the results are affected by overestimation, underestimation or social desirability bias. We attempted to minimise social desirability bias by giving respondents the opportunity to assess three aspects of their competences: behaviour, capability and beliefs. Respondents were therefore invited to provide a balanced picture: whether they actually apply a given behaviour into practice, the extent to which they feel competent to do so and the extent to which they find it important. Measuring these three aspects in one questionnaire makes the instrument one of its kind. To our knowledge no instrument exists where these aspects are measured simultaneously for the same set of items.

The instrument can be used in several ways. It can initiate a reflection process in order to stimulate the beginning teacher's further professional development. Becoming an expert implies the progressive accumulation of a set of knowledge and skills that are developed through experience (Dall 'Alba & Sandberg, 2006). Schools can use the instrument to shape their induction programmes, adapting it to the needs of each beginning teacher. Also schools can use the instrument to develop the competencies of the entire teaching staff. The competence profile the instrument generates for each teacher can be used to identify specific teachers' competencies. These can in turn be embedded in professionalization activities. In an ongoing study Struyf, Adriaensens and Meynen explore the differences between male and female beginning teachers on the scale 'Reflection on teaching' and 'Reflection with others' and examine to what extend schools can stimulate this competence in the first year of their professional career. Teacher-training institutes can use the instrument to explore the evolution and attainment of basic skills by graduating students. Graduating students themselves can use the information in order to choose elective courses in their teacher programme. We advise users to supplement the results obtained with the BeTeBaS questionnaire with findings from observations in classrooms in order to compensate for the limitations of a self-evaluation instrument.

Because the instrument aims to provide a tool for initiating and supporting professional development and growth, we do not recommend its use as a tool for summary evaluation. Although the basic skills are applicable to all educational levels (e.g. primary and secondary) future research must be conducted to determine whether the instrument is also adequate for beginning primary teachers. Because we assume that novice and experienced teachers' competences differ based on the stage in their careers, research with the contrasting groups method (Newble, Hoare, & Baxter, 1982) can verify to what extent the BeTeBaS questionnaire features these differences in competences.

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34 - Why Do Teachers Teach? A Phenomenological Insight Into Teachers' Philosophy

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Abstract: Using a phenomenological approach, this paper examines two Iranian teachers' conception of "whys" of teaching. In order to do so, the two teachers' personal beliefs of teaching were examined in the line with existing reflection on philosophy of teaching. In concert with Audi the data suggested that in the teachers' thinking there are two kinds of obligations running their teaching philosophy and thus their teaching activities: "*prima facie* obligations'" and "master obligations". In *prima facie* obligations "to each obligation (or duty), there corresponds a principle to the effect that we (morally) should fulfill it. The 'should', however, like 'duty' as Ross used it, does not designate the presence of a final, i.e., overriding, moral obligation. Master principles can support final moral obligation in a way no single *prima facie* can. On master principle theories, any *prima facie* principle owes its authority from the master principle.

Keywords: phronesis, teaching philosophy, neo-Aristotelian

INTRODUCTION

Peters (2009) distinguishes a "teaching philosophy" from a "philosophy of teaching arguing that:

> A 'teaching philosophy' is not a philosophy of teaching. It is a matter of personal belief, style and statement designed to encourage professional reflection without laying down universal principles or a substantive engagement with issues of teaching methodology…. Clearly, philosophy of teaching is a broader topic within philosophy of education whereas the personal statement wrongly referred as a 'teaching philosophy' is more to do with the demands that come from the university administration for improvements in the quality of university teaching. Where the former emanates from systematic reflection on the nature of teaching as a practice that has a long history the latter, it could be argued, springs from a business model of knowledge institutions based on the ideology of continuous improvement (p. 112).

In this way, a teacher's philosophy includes a teacher's personal conception of "Whats", "Hows", and particularly "Whys" of teaching activities. Stephen Brookfield (1990, as cited in Peters, 2009) suggested that a teaching philosophy is used personal and pedagogical purposes by which a teacher would have a clear vision of why she teaches and what effects she is going to have on students. A philosophy of teaching however deals with existing reflection on the moral and rational foundations of teaching from different perspectives. Based on this conceptual framework, this paper examines the following question: how do teachers' philosophies serve to contribute and develop the moral and rational foundations embedded in the philosophy of teaching? Drawing on empirical (Peters, 2009) data, this paper, thus, discusses the participating teachers' personal conceptions and reflections of teaching in relation to philosophical understanding embedded in neo-Aristotelian conception of practical reasoning.

TEACHING PHILOSOPHY FROM NEO-ARISTOTELIAN PERSPECTIVE

There is a critical question regarding to teaching: is teaching a "means" to bring about some isolated ends such as handing over specific subject matter, or it has, alongside conveying content, an "end" in itself? Reflection on this question can help us gain an insight into the philosophy of teaching. Alasdair McIntyre claims that:

> Teaching itself is not a practice, but a set of skills and habits put to the service of a variety of practices. The teacher should think of her or himself as a mathematician, a reader of poetry, an

historian or, whatever engaged, in communicating craft and knowledge to apprentices. It follows that you cannot train teachers well, until they have been educated into whatever discipline it is that they are to transmit….Teaching is never more that a means, that it has no point and purpose except for the point and purpose of the activities to which in introduces students. (McIntyre & Dunne, 2002, pp.6-9)

Josph Dunne, however, argues that "teaching *itself* is practice…since it [teaching] is an office that can define person's working life… and has its own specific goals realized in what you [McIntyre] have just called 'the development of its students power" (McIntyre & Dunne, 2002, p.7). Therefore, contrary to McIntyre, drawing from Aristotle, most neo-Aristotelian philosophers of education (e.g., Carr, 2004, 2005; Carr & Kemmis 1986; Dunne, 2003, 2005; Hamilton, 2005; Kemmis, 2005; Noddings, 2003; Schwandt, 2005) argue that teaching is a kind of practice closer in meaning to the Greek term *praxis* (i.e., it is practice that has internal good) and can be best understood within the conceptual framework of *phronesis* or practical reasoning. For Aristotle (1934), *phronesis* or prudence is concerned with human action or the matters of conduct. Thus, the rationality of *phronesis* in dealing with humans' conducts differs from scientific knowledge and technical skills. "It [phronesis] is not Science, because matters of conduct admit of variation; and not Art, because doing and making are generically different, since making aims at an end distinct from the act of making, whereas in doing the end cannot be other than the act itself: doing well is in itself the end…. It therefore follows that prudence [*phronesis*] is a truth attaining rational quality, concerned with action in relation to things that are good for human beings" (pp. 337-339).

From the same point of view some other educational researchers and philosophers of education (e.g., Hansen 2001; Richardson & Fenstermacher 2001; Fenstermacher 2001) believe that teaching is a moral and intellectual conduct, and thus teachers should have [good] "manner" to accomplish their educative purposes toward students. According to Hansen (2001), "teaching is not merely the enactment of a set of discrete skills or activities (or means) with an identity that exists apart from ends" (p.730). In this way all of teachers' activities should have an "end" in themselves. To conduct the teaching practice so and to be successful in cultivating the moral and intellectual properties of the students "the manner of the teacher is paramount…manner is defined as conduct expressive of dispositions or traits of character that fall into a category of moral goods Known as virtues" (Fenstermacher, 2001, p. 640). Such philosophical reflections on teaching from Aristotelian view, therefore, reject an instrumental or technical approach to teaching. However, the challenging question still is that how teachers themselves think about the nature of teaching as a moral or intellectual conduct. This paper, thus, is to gain an empirical insight into neo-Aristotelian philosophy of teaching by comparing with two teachers' teaching philosophy.

METHODS

Design and research strategy

The knowledge claim of this study (i.e., that teachers have their teaching philosophy was in accordance with assumptions embedded in "constructivist" paradigms and particularly social constructivism. According to this paradigm, individuals construct their knowledge within and in interaction with social contexts. They "seek understanding of the world in which they live and work; they develop subjective meanings of their experiences…these meanings are varied and multiple, leading the researcher to look for the complexity of views rather than narrowing meanings into a few categories or ideas; the goal of research, then, is to rely as much as possible on the participants' views of the situation being studied" (Creswell, 2003, p. 8). As discussed in introduction, a teacher philosophy refers to her personal beliefs on "whats", "Hows", and "Whys" of teaching activities that are supposed to develop throughout their experiential, social, and professional lives. Therefore, I espouse a qualitative approach with which to plumb the teachers' thinking and personal beliefs on the nature of teaching.

From different strategies of qualitative research approach, I mainly used the principles associated with methods (e.g., data collection technique, data analysis) and the assumptions (i.e., what kind of knowledge can be produced) corresponding to "phenomenography." Phenomenography is an empirical research tradition that addresses individuals' understanding, perceptions and conceptualizations of the world around them. "It is research which aims at description, analysis, and understanding of experiences; that is, research which is directed towards experiential description" (Marton, 1981, p. 180). In this type of research strategy, the research problem is studied from inside i.e., from the views of those who have experienced the problem. According to Marton (1981), in studying a research problem or phenomenon we may choose one of these two alternative perspectives:

In the first and by far the most commonly adopted perspective we orient ourselves towards the world and make statements about it. In the second perspective we orient ourselves towards people's ideas about the world (or their experience of it) and we make statements about people's ideas about the world (or about their experience of it). Let us call the former a first order and the latter a second-order perspective (p. 178).

Phenomenographic research, however, is more than simply reporting different people's conceptions and ideas about phenomena: it involves identifying the concepts and looking for their underlying meanings and the relationship between them. The ordered and related set of categories of description is called the "outcome space" of the concept being studied (Orgill, 2008).

Participants

Two Iranian middle school teachers (one male and one female) were main source of knowledge and data in this study. The male teacher (teacher 1) has 32 years and has been teaching science for 7-9 grade students for 8 years. The female teacher (teacher 2) is 38 years old and has been teaching literature for the same age-group of students for 12 years. The two teachers are acknowledged as "good' teachers among their students. I can say that the students extremely like the two teachers and everybody in the schools they teach wish to attend their classrooms. It can be said that they are good exemplars of "caring teachers".

Collecting tool

I used semi-structured interview to collect data. The main questions or themes of interview were identified based on my earlier experiences in research on teaching. These themes were related to the teacher's goal of teaching, relation between teacher and students, teaching strategies and approaches of teacher, concepts of good teacher and good student and discipline and order in classroom. In addition to these themes, there were a lot of probe questions while conducting interviews. The probe questions were considered as a chain of questions that aimed to gain more insight into teacher thinking and particularly to ask teachers show more evidence and reflection on their personal beliefs and philosophy. The following example shows the procedure of conducting interview:

> Q) What does it mean to be a good teacher?
> A) Well, a good teacher might have different properties, but I think a good teacher should have close relations with her students.
> Q) Could you let us know what do you mean by close relation?
> A) Ok, I mean you need to deal with students like a friend of them. You cannot be a good teacher and don't know what problems your students might have.
> Q) If your colleagues wanted to learn about this idea of close relationship, how do you convince them that having friendly relationship with students may work out?
> A) Well! It is quite clear, simply if your students would not trust you, you cannot teach them, help them, encourage them and thus they may not be able to learn effectively.

Each interview lasted about one hour and the interviews were audio-taped and transcribed verbatim.

Data analysis

The main goal of the data analysis was to understand the nature of teacher argument regarding different issues of teaching. Relying on Toulmin's (2003) model of argument an "abductive" procedure for categorizing data was designed to gain insight into the two teachers' personal teaching philosophy. Toulmin's model is a popular form of argument. This model is named after Stephen Toulmin, who in *The Uses of Argument* proposed that every good argument has six parts. The first three parts are essential to all arguments. These parts are claim, data, and warrant. Arguments may also contain one or more of three additional elements: backing, rebuttal, and qualifier (Toulmin, 2003).

A claim is the main point of the argument. A claim can be mapped up by asking, "What does one want to prove?" The response is the claim. The claim organizes the entire argument, and everything else in the argument is related to it. Data supply the evidence or other kinds of justification, such as reasoning and factual information about the claim, which makes it something others believe in it. Data can be identified by posing questions such as "What information does one need to convince his/her audience?" "Warrants are the

assumptions, general principles, the conventions of specific disciplines, widely held values, commonly accepted beliefs, and appeals to human motives that are an important part of any argument. Warrants originate with the arguer, but also exist in the minds of the audience. They can be shared by the arguer and the audience or they can be in conflict" (Wood, 2007, p. 1). The most important function of the warrant is to relate the data to the claim. Warrant can be interpreted by asking "Why does an arguer believe that his/her data are relevant for the claim?" Backing is more abstract evidence or additional information provided to "back up" a warrant whenever there is a strong possibility that your audience will reject it. A rebuttal establishes what is wrong, invalid, or unacceptable about an argument and may also present a counterargument (ibid., p. 2). A qualifier refers to the extent to which am argument is possible and indicates its strength. The figure 1illustrates the model of data analysis:

Quotation (an inclusive unit of argument)	Elements (single units) of argument and their relationship
A good teacher must be strict because if you give students too much freedom, they cannot work, and thus the learning tasks cannot be done very well. You know! In this class I am dealing with 25 young students with various backgrounds. But you should give them enough freedom so they can express their thinking and views on different issues in the classroom, but they still need your guidelines for how to work and act.	

Figure 1: The model of data analysis for teacher argument

Based on this model, I first wanted to determine to what degree the six parts of Toulmin's model could be identified in the teachers' arguments which in turn helped me understand the two teachers' personal teaching philosophy. I should also point out that elements claim, data, and warrant were the main source to understand the two teachers' teaching philosophy.

FINDINGS AND DISCUSSION

The main task of this study was to address the teachers' philosophy through examining their reasoning or what is called practical reasoning. The data suggested that the two teachers' teaching philosophy has two main dimensions: "moral reflection" and "pedagogic purposes".

Moral reflection
The two teachers' moral reflection was found to be related to their most fundamental values and personal beliefs regarding to human being in general and students in particular. The two teachers wanted to conduct their activities based on "moral care" toward students (Gholami, 2011). The teachers' moral reflection had three significant dimensions:
- Fairness
- Respectfulness
- Nurturing the character of students as human beings.
Fairness was connected to the teachers' beliefs by which they wanted to be "just and fair" in dealing with the students inside and outside of classroom. Teacher 1 stated that "when I teach in the classroom I try to have eye contact with all students because they understand and think how and to what extend I am unbiased from different aspects of my attention toward students".
In respectfulness the two teachers were concerned about the "collective status" of the students. The teachers believed that the students have formed a social status in the classroom and thus would have group sensitivity

in the classroom while dealing and interacting with their classmates and teachers. In order to not harm this feeling, teachers should be respectfully carful in their activities toward students in the front of classmates. Teacher 2 says "if one student misbehaves in the classroom, I will inform her that her deed was not good. Meanwhile I care about her respect and her feeling in the front of her classmate".

The third aspect of moral reflection was taking the "personal and social characters" of the students into account in the teachers' professional responsibilities. The two teachers argued that it is needed that teachers sometimes try to engage students in issues other than academic tasks. Teachers should put aside a particular time during their daily activities and talk about relevant issues of the students personal and social lives. Teacher 1 says "most often at the end of day we talk about important matters that the students are interested in; for example I ask students to go in the front of classroom and discuss important events in his life while the other classmates ask questions. This action help students learn from each other's personal experiences and thus nurture and develop their vision toward the word around them".

Moral reflection including its three dimensions is in accord with those moral theories by which human beings are considered as having intrinsic worth. In this sense, "it is not only students' rationality that must be respected; students need and want teachers to care for them as persons and to convey this care through listening and responding to their expression of concern. The teacher as a person is centrally important in teaching…the teacher sets an example with her whole self; her intellect, her responsiveness, her humor, her curiosity…her care" (Noddings, 2003, p. 244, see also Audi, 2006, pp. 139-140). Moral reflection was found to be based on "a one-sided feeling coming from teacher's side. [This feeling is] a teacher's pedagogical love (that) can be a foundation for *pedagogical friendship* which is reciprocal relationship between teacher and her pupils" (Kakkori & Huttunen, 2007, p. 27). The core value of moral care was the tenet by which teachers' pedagogical practice "should not harm students."

Pedagogic reflection

As Brookfield (1990) stated an important part of a teacher's teaching philosophy deals with pedagogical issues and is concerned with pedagogical purposes in order to bring about learning in students. According to Brookfield:

> Teaching is about making some kind of dent in the world so that the world is different than it was before you practiced your craft. Knowing clearly what kind of dent you want to make in the world means that you must continually ask yourself the most fundamental evaluative questions of all— What effect am I having on students and on their learning?

In the present study data suggested that core idea of the two teachers' pedagogic reflection was embedded in what I call "working action" which was presented in two distinct ways: "constructive working action" and "regulative working action". Constructive working activities were based on "caring pedagogy" (Gholami, 2011). The heart of such a notion was to bring about learning in the students' life by conducting careful or effective pedagogy. The two teachers tried to realize this professional obligation by means of two significant personal standards or principles: "pedagogical inclusion and accommodation". In other words, the teachers believed that an action is good provided it aims at, or has the epistemic condition of, engaging all students in the learning activities through accommodating their potential differences.

Teacher 1 stated one of his remarkable narratives in which his action was significantly constructive:

> Few years ago when I was teaching in high school there was a student in my physics class whom I found has serious problem in listening. His academic achievement was often disappointing and he used to fail in attaining good marks in many of the subjects he supposed to complete. When I found he has this problem, I tried to write down most of the learning tasks on whiteboard that I was orally explaining to other students-I was almost writing down whatever I presented in the classroom for other students. At the end of academic year, he succeeded to achieve highest grade in the class; something that was unbelievable for my colleagues.

This narrative shows how teachers' pedagogical flexibility in responsive to different background and properties of students was effective and thus worked in helping students enhance their learning capabilities. This notion of constructive working action is in accord with Oser, Dick, and Patry's (1992) perspective wherein effective teaching is seen as a morally responsible practice in which teachers' are responsible for developing intellectual and moral characteristics of their students.

The other dimension of the two teachers' pedagogic reflection was "regulating working action" where the teachers primarily wanted to implement an effective action to manage and regulate their teaching practice,

not to bring about learning for students, by espousing the principle "what works," with ignorance about what did not work. Teacher 1 argued that in some classes I had to establish strict rules and regulations. I sometimes had tough dealing with some students to teach the other classmates behave well and in according to rules because in those cases if I didn't act so the whole class would suffer from a big chaos during the whole academic year. In cases corresponding to this type of personal philosophy the teachers applied the kind of pedagogies in which the differences in the students' interests and capacities were ignored. Thus, teachers tried to assimilate most of the students' differences in their established pedagogical framework and rules. It seems that in such cases the nature of teacher reasoning was based on a "rationalization" process whereby teachers failed to understand and recognize the "salient" features of the case (Pendlebury, 1990).

Considering moral reflection and constructive working action, the teaching philosophy of the two teachers reflects the normative dimension of teaching whereby teachers believed that the existing teaching situation can be improved upon. Thus they had "moral care" and "caring pedagogy" (Gholami, 2011) at the core of their philosophy to improve the "intrinsic good" and the "intellectual qualities" of the students. Associated with the *phronesis-praxis* perspective, moral reflection and constructive working action indicate that the concept of "care" is placed at the core of teachers' philosophy. According to this perspective, teachers use what Pendlebury (1990) calls "constituent-to-ends" reasoning whereby the means and ends stand in reciprocal positions to each other – meaning that the "means" are not technically isolated from the "ends" (Gholami & Husu, 2010). Rather, the concept of care is embedded in both means and ends and places them in a mutual position so that the means constitute the ends. The findings, however, showed that not all of teachers' personal beliefs were in accord normative teaching. The notion of regulative working action suggested that the teachers sometimes failed to reflect on the ethical or moral dimensions of their practice.

Based on the findings and drawing from Audi (2006), I would like to argue that in the teachers' teaching philosophy there were two kinds of obligations running their teaching activities: "*prima facie* obligations" and "master obligations". In *prima facie* obligations "to each obligation (or duty), there corresponds a principle to the effect that we (morally) should fulfill it. The 'should', however, like 'duty' as Ross used it, does not designate the presence of a final, i.e., overriding, moral obligation, but rather that of a morally significant ground for action which will yield a final obligation if not outweighed by any other equally strong or stronger set of moral grounds" (p. 139). Master principles can support final moral obligation in a way no single *prima facie* can. On master principle theories, any *prima facie* principle owes its authority from the master principle. The findings suggested that there were two basic master obligations embedded in teachers' philosophy: "creating happiness" for the students, and "eliminating pain" (Gholami, 2011). In turn there were three associated *prima facie* obligations for fulfilling the master obligations: moral reflection, constructive working action, and regulative working action. In most cases, the *prima facie* obligations of teachers were found to be related to constructive working action (i.e., conducting pedagogical inclusion and accommodation to foster the learning capacity of students); however, constructive working actions were outweighed by activities associated with moral reflection and regulative working actions, depending on the different situations and contexts the teachers would face. In other words, in teaching practice, the main, basic, and most extensive *prima facie* obligation of teachers is to improve the intellectual properties of students, i.e., to bring about learning, which in turn meets the demands of teachers' master obligation, i.e., to provide happiness for students or remove pains. However, this main *prima facie* obligation is replaced by two other mentioned obligations namely moral reflection and regulative working actions. It means in the situations corresponding to moral reflection and regulative actions, to bring about learning is no longer the main point, i.e., *the prima facie* obligation, but the intentions associated with moral reflection and regulative actions become more important and thus become the new *prima facie* obligations for teachers. However, these two new obligations do not have the same epistemic value in fulfilling the demands of master obligations of teaching. While moral reflection, in addition to constructive working actions, is relevant for fulfilling the teachers' master obligations, the regulative working actions were mainly based on a rationalization process and thus may not be fully relevant for bringing about happiness for students and eliminating pain.

These findings show that the teachers' philosophy was in the line with philosophical understanding of teaching in the neo-Aristotelian perspective when they justified their teaching activities with values embedded in "moral reflection" and "constructive working actions". In both of these cases, teachers' activities should have had an "end" in themselves. However, the teachers' conception of teaching was not in accord with this philosophical view, when they justified their practices with "regulating pedagogy." In cases related to this pedagogy, teachers saw teaching as a "means" to bring about other "ends", which were not basically in the favor of students.

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39 - Teacher Education and the Best-Loved Self

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Abstract: Four understandings arising from four different sources comprise the fodder of this paper. The first story fragment comes from the author's long-term research with Daryl Wilson, a middle school literacy teacher in Houston, Texas. The second story nugget comes from Miriam Ben-Peretz's research program in Israel, which she shared in China. As for the third story fragment, it arises from a small narrative shared by a doctoral student, Merieke Pillen from Eindhoven School of Education in The Netherlands at the International Study Association of Teachers and Teaching Conference held in Roveniemi, Finland. And the fourth has to do with the author's understanding of her role as an instructor of primarily doctoral students. As a Canadian living and working in the U.S., all four storied experiences revolve around a common theme—teachers' visions of self and others and how they desire to teach —in effect, "the best-loved self" and the contributions it makes to teacher education, the topic addressed in this paper.

The paper begins with the author's work with Daryl Wilson (_____, 2009). The work then flashes forward to a story excerpted from Miriam Ben-Peretz's (1995, pp. 76-77) research program. The research then moves on to Marieke Pillen's (2009) story from The Netherlands, which was part of a presentation at the ISATT Conference in Finland. The fourth scenario concerns the author and the course appraisals at her institution.

When these four vignettes from different continents were analyzed, a narrative resonance (Conle, 1996) emerged from them which provided palpable evidence that teachers naturally gravitate toward teaching what Schwab called "their best-loved selves." The work then unpacks what Schwab specfically had to say about "best loved selves," i.e.

> [The Teacher] wants something more for his students than the capacity to give back to him a report of what he himself has said. [The Teacher] wants them to possess a knowledge or a skill in the same way that he possesses it, as a part of his best-loved self…He (sic) wants to communicate some of the fire he feels, some of the Eros he possesses, for a valued object. His (sic) controlled and conscious purpose is to liberate, not captivate the student (Schwab, 1954/1978, p. 124-125).

The work then provides strong justification for probing the best-loved self and consciously addressing what the concept offers teacher education. The U.S.'s Marilyn Cochran-Smith and Ken Zeichner (2005) and Marilyn Cochran-Smith and Susan Lytle (2009) and Israel's Miriam Ben-Peretz (2009) have underscored the fact that concrete examples of how to prepare preservice teachers as curriculum-makers are urgently needed in the field of education. As this paper argues, the best-loved self is foundational to understanding the image of teacher as curriculum-maker (Clandinin & Connelly, 1992).

The research then revisits the four vignettes, keeping the following inquiry questions in mind: (1) If the best-loved self is integral to the teacher-as-curriculum-maker image, what practices might we engage in in teacher education to foster the best-loved self? And (2) How does change happen in preservice teachers' pedagogical practices and repertoires, given the potential significance of the teacher's best-loved self image?

The paper then carefully sifts through the revelations apparent in each of the four narratives of experience. It concludes with critically important ideas that international research conducted about teachers teaching their "best-loved selves" has to contribute to teacher education as lived in Colleges of Education dotted around the globe.

Keywords: teacher education, teacher mentoring, teacher development, teacher identity, teacher reification

NARRATIVE BEGINNINGS

Four understandings arising from four different sources intersect to form the topic of this paper. The first story fragment comes from my long-term research with Daryl Wilson, a middle school literacy teacher in Houston, Texas (Craig, 2009a, 2009b). The second story nugget comes from Miriam Ben-Peretz's research program in Israel, which she shared in Beijing, China in the summer of 2009 (Ben-Peretz, 2009). As for the third story fragment, it arises from a small narrative shared by doctoral student, Merike Pillen from

Eindhoven School of Education in The Netherlands, at the International Study Association of Teachers and Teaching Conference held in Roveniemi, Finland, also in 2009 (Pillen, Beijaard, & Den Brok, 2009). And the fourth has to do with my understanding of my role as an instructor of primarily doctoral students studying teaching and teacher education. To me, a Canadian living and working in the U.S., all four storied experiences revolve around a common theme—teachers' visions of self and how they desire to teach—in effect, the topic I address in this paper.

PRELIMINARY ANALYSIS

I begin with my own work with Daryl Wilson (Craig, 2009a, 2009b). I will say a bit more about it and my personal story than the middle two examples because I understandably know more about those situations and contexts. When Daryl's campus became involved with a readers' and writers' workshop approach to literacy instruction, he grieved the fact that he no long would be able to teach the Holocaust unit of study he had developed over a period of years, alongside his personal travels to Israel and the Jewish Concentration Camps in Europe. With his school's hiring of a readers' and writers' literacy expert, new units of study were collaboratively developed and all of the teachers' previous curriculum development—one might say, their scholarship—was purged. Daryl, as Department Chair, mourned this loss—and the associated loss to his students who, to his way of thinking, were not connecting to the new foci of study with the same enthusiasm and intellectual engagement as previous students had related to his Holocaust unit. In my research with Daryl, I saw his self-directed agency as a teacher who viewed teaching through the teacher-as-curriculum-maker lens being suppressed as the view of teacher-as-curriculum-implementer—doing what he was told to do—took precedence in his school context, especially administratively where teaching tended to be seen as something to be determined, regulated, and monitored by others. Also, other teacher participants in the same study lamented Daryl's loss—laying it alongside their corresponding regrets—and discussing what had happened to the literacy department at Yaeger—and Yaeger's students—often. One female colleague of Daryl's, for example, said the approach made her feel captive like a "butterfly under a pin" (Craig, in press). Another mentioned that what had happened had metaphorically "pulled [teachers] through knotholes" in trees, presumably reshaping their practices in ways acceptable to those in charge—that is, consultants, administrators, school district/state agency personnel and policy makers, but at the expense of the personal practical knowledge (Clandinin, 1986; Clandinin & Connelly, 1985) of the teachers enacting them.

I am now going to flash forward to a story I am excerpting from Miriam Ben-Peretz's (1995) research program. Miriam tells the story of a teacher with seven years of experience who taught a 5th grade math lesson in a manner that another expert teacher who was a textbook author advised. The teachers' teaching was appraised by the same superintendent who had previously observed the teacher teaching Bible and language arts classes. However, upon observing the lesson that was satisfactorily taught and subsequently passed inspection, the superintendent remarked that the teacher should not feel compelled to teach in ways that did not resonate with her. He specifically advised: "Don't use a teaching method that doesn't suit your personality. Be yourself". His insightful comment reminded the teacher that the lesson was, in her words, "not me". His noting of the mismatch reminded the teacher of the vital connections between the personal and the professional and how educators should not have to compromise one for the other. Also, the fact that the teacher related the story fragment to Miriam Ben-Peretz in a research interview eight years after the teacher retired from a 35-year career of teaching and that Ben-Peretz chose to include the telling comment from her 1995 book in a 2009 keynote address in Beijing, China (Ben-Peretz, 2009) underscores the importance of the teacher's recollection and the significance both the teacher and the researcher afforded it.

I now move on to Marieke Pillen's narrative from The Netherlands, which was part of a presentation on professional identity dilemmas (Pillen, Beijaard, & Den Brok, 2009) at the International Study Association of Teachers and Teaching (ISATT) Conference in Finland. While conceptualizing personal, professional, and contextual elements of teacher identity, a small passage in which a teacher candidate reflected on his expert mentor's advice was offered as an example: "He tells me how to teach, but that is not how I want to teach: It does not suit me." Once again, we see the expert—this time, a mentor enacting a particular image of mentorship/teaching (i.e., mentor/teacher-as-implementer)—proclaiming what constitutes best practice—and the preservice teacher's knowing and sensibilities being diminished—but not without the beginning teacher expressing his knowing of what was going on and his sense of regret.

My fourth scenario concerns me. On the course appraisals at my institution and on our annual Curriculum Vitas for salary purposes is a relatively new section having to with faculty members' use of technology. While I use technology in the gathering, coding, and storing of research data, frequently deliver multi-image PowerPoint presentations and have helped to create digital stories as representations of narrative inquiry (probably the first to spearhead a narrative inquiry team experimenting with the latter), I am quite reluctant

to use digital approaches to teaching advanced research methods classes. In my personally held view of teaching and learning, more is learned through showing than telling. I reason that my students want to personally interact with me concerning how I conduct my research rather than viewing jazzed up presentations depicting the fruits of my labors. So, while I am comfortable with technology communicating understandings in one-shot presentations, I am not okay with it replacing my face-to-face instruction—and my developing relationships with my students and what they subsequently come to know about teaching and curriculum.

When I combined these four scenarios that I encountered and mused over on a number of different occasions—indeed on different continents, the following revelations bubbled to the surface:

(1) Daryl Wilson tells story of loss to me; he says teacher colleagues and parents also recognize loss;
(2) Israeli teacher tells Miriam Ben-Peretz the story of what her superintendent told her;
(3) Dutch preservice teacher tells Merike Pillen his response to what his mentor told him;
(4) I share my story of technology requirements imposed on me for accountability purposes.

When I meshed these four diverse experiences together, engaging in what Schwab (1983) called "serial interpretation," I found what Conle (1996) termed "narrative resonance" between and among:

1) Two narratives (Israel and Dutch exemplars) that had to do with stories being given back by researchers, and, in turn, used in a layered research way by me;
2) Two narratives (Daryl Wilson's and my own) corroborated by others (in Daryl's case, his colleagues—in my case, my students) and, in turn, used in a layered research way by me.

The narrative resonance arising from these stories provided me with palpable evidence—derived internationally, nonetheless—that teachers naturally gravitate toward teaching what Schwab called "their best-loved selves". It seems Daryl Wilson and his colleagues understood this; the teacher and superintendent quoted in Ben-Peretz's Israeli study understood this; the teacher candidate discussed in Marieke Pillen's Dutch inquiry understood this—and I certainly understand this because I have listened hard to the stories students give back to me about my teaching throughout the course of my career. My students tell me that when I am "on my game"—which I take to mean, enacting and exuding my "best-loved self," they are more apt to learn about curriculum, teaching and research.

What I will do now is examine further what Schwab might have meant by the expression, teachers' best-loved selves, through traversing the breadth of his scholarship and connecting it with some more recent research on his line of inquiry. That will set the backdrop for specifically thinking about best-loved selves and the idea's relevance to, and application in, teacher education.

Probing the Idea of Best-Loved Self

In Schwab's early writing, he outlined the distinctive properties of human nature. The "human person," he observed, is a "self-moving living thing" that is able to "produce itself," to "develop itself," and to create a "personal history" that is non-replicable (Schwab, 1964, p. 8). Furthermore, when Schwab (1969, 1971, 1973, 1983) developed 'the practical,' he underlined the utter necessity of diverse groups of people engaging in curriculum deliberations. These individuals would represent different commonplaces of curriculum of equal importance (Student, Teacher, Subject Matter, Milieu). Perhaps just as importantly, they would articulate "differing selves" (Schwab, 1983). Also, in a curriculum handbook chapter (Craig & Ross, 2008), Vicki Ross and I examined metaphors of teacher learning by exploring the differences that Schwab forged between stable and fluid forms of inquiry. Schwab favored education through the growth metaphor as Dewey (1938) before him did. He boldly declared that people are not only products of their education, but products of the choices their selves make (Schwab, 1960/1978, p. 218). Schwab (1971) furthermore added that flexible inquirers such as teachers—that is, those interacting in complex milieus—are the result of "intelligent rebellion and self-education after [they] are trained…" (Schwab, 1971, p. 23). Here, we see how the self figured large in Schwab's understandings of how education happens. Even amid prescription and shared practices and procedures, Schwab found important spaces where the self makes choices.

Schwab also stalwartly supported teachers and gave unwavering support to their "…looking at their own practices and the consequences of them…" (Schwab, 1959/1978, p. 168). He additionally emphasized that teachers have "different bents" (Schwab, 1983, p. 241) and, hence, their strengths and reflections on practice will necessarily differ. In all cases, from matters of curriculum to testing to educational policy, Schwab left discretionary powers with the individual teacher because he understood that no enactment of curriculum would be complete without his/her active engagement. For him, the teacher was the "fountainhead of the

curricular decision" (Schwab, 1983). Students "are better known by no one [else] but the teacher," Schwab said, because the teacher is the only one who actively "tries to teach them"; he/she is the only one "who lives with them for the better part of the day and the better part of the year" (Schwab, 1983, p. 245). In fact, on one occasion in 1950, Schwab entered into a heated debate with an unnamed professor at an Educational Testing Services Meeting. The unnamed professor maintained that teachers meeting together in groups represented "a pooling of ignorance" (Westbury & Wilkof, 1978, p. 31). In stark contrast, Schwab vigorously defended the idea of teachers' learning together. For him, teacher deliberations result in "a pooling of diversities of experience and insight" (Schwab, 1969, p. 30).

To Schwab's way of thinking, recognizing that teachers are "agent[s] of education, not of its subject matter" (Schwab, 1954/1978, p. 128) is the only conceivable road to sustained improvement of practice because:

> …only as the teacher uses the classroom as the occasion and the means to reflect upon education as a whole (ends as well as means), as the laboratory in which to translate reflections into actions and thus to test reflections, actions, and outcomes, against many criteria is he [sic] a good … teacher" (Schwab, 1959/1978, pp. 182-183).

Not surprisingly, Schwab articulated an expansive vision for the role of university faculty as well. There, too, he loosened the subject matter straitjacket, favoring a more organic, interactive role for professors. In his carefully selected words, the faculty member

> …is a possessor and imparter of disciplines in quite another sense: mentor, guide, and model; ally of the student against ignorance, participant with the student in high adventures into the worlds of intellect and sensibility (Schwab, 1969, p. 20).

These passages excerpted from Schwab's scholarship over the continuum of his career provide critical background that promotes the understanding of what Schwab meant by teachers teaching their "best-loved selves"—without their selves being the curriculum. In his work, it is clear that all people cultivate themselves through a myriad of near imperceptible decisions they make—and that through this ongoing sense-making of experience in context and over time, individual persons become "differing selves" who have the capacity to actively contribute to and shape curricular situations.

In a like manner, Schwab envisioned the individual teacher producing him/herself in non-replicable ways. This, too, occurred through self-education and dialectic reflection on means and ends, and also through rebellion of training because training, in his view, threatens the agency, autonomy, and identity of selves through making impositions on the self in the midst of its making. Also, because all human beings have choices to make with respect to how they act as independent agents, so, too, do teachers.

As mentioned, teachers have discretionary power. They encounter constant "moments of choice" (Schwab, 1983) in their face-to-face work with children throughout the school day. Such choices range from how they present subject matter to the virtues they stress in the classroom. They also have to do with which students are praised or punished and with how the teacher generally presents him/herself in class, even without uttering a word.

Schwab's early work on the commonplaces in curriculum making acknowledges the essential role of the teacher and sets the stage for the teacher serving not as a conduit of the state—that is, teacher-as-curriculum-implementer, but as teacher-as-curriculum-maker (Connelly & Clandinin, 1988; Clandinin & Connelly, 1992)—that is, taking up his/her rightful place as a "fountainhead of the curricular decision" because as Schwab earlier maintained, he/she is the only one who dwells with, and labors alongside, students for several hours a day.

A student of Joseph Schwab, Michael Connelly, along with his student, Jean Clandinin, picked up on these threads of Schwab's scholarship, conceptualizing the two aforementioned phenomena as images of teaching (Clandinin & Connelly, 1985)—that is, the image of teacher-as-curriculum-implementer and the image of teacher-as-curriculum-maker.

These images, of course, hunker back to Schwab's commonplaces of curriculum that I earlier presented. Clandinin and Connelly's idea of teacher images—derived from their close research with classroom teachers in Canada—takes into account the shaping effects of teachers' personal practical knowledge rather than letting others' prescriptions and moral admonitions for teachers—expressed in formal knowledge statements—pave the way. In the scenario they paint, the cart does not lead the horse as Clandinin and Connelly (1992) metaphorically put it. For them,

The most important aspects of teacher education are often ephemeral, passionate, shadowy and significant. For the most part, [they]…reflect teachers' lives… (Connelly & Clandinin, 2004, p. 42).

This explains why we have to be modest in our expectations of what can be singularly achieved through formal teacher education programs.

Combining what Schwab had to say about the self in the course of his career with what Clandinin and Connelly conceptualized as teacher images—teachers' personal practice knowledge in action—it appears that Schwab's notion about teachers' best-loved selves was an image emanating from his teaching practice. In fact, these are the words he chose to describe it in his *Eros and education* paper:

> He (Joseph Schwab) wants something more for his students than the capacity to give back to him a report of what he himself has said. He (Joseph Schwab) wants them to possess a knowledge or a skill in the same way that he possesses it, as a part of his best-loved self…He (Joseph Schwab) wants to communicate some of the fire he feels, some of the Eros he possesses, for a valued object. His controlled and conscious purpose is to liberate, not captivate the student (Schwab, 1954/1978, p. 124-125).

Two pieces of concrete evidence support this interpretation. The first is that Schwab broke ground by making his personal teaching practice "a proper object of study," which is how Lee Shulman, another of Schwab's students, referred to Schwab's contribution (Shulman in Brandt, 1992; Lee Shulman, Personal Communication, 2006). The second is that Joseph Schwab, like Philip Jackson, drew on "[his] ideas about teaching" rather than "images of research as others were doing," according to Clandinin and Connelly (1992, p. 380). Through this approach, Schwab avoided a major obstacle—"the vice of abstraction" —about which he so cogently wrote—which is a worldview that produces "flights from the field" (Schwab, 1969). Also, there is an associated factor in this mix, a point that few in the present generation of scholars know. Not only was Schwab arguably the most recognized researcher in the field of curriculum during his era, he also was honored as an excellent instructor, having been awarded the University of Chicago's teaching excellence award on two occasions (1938, 1965). This especially makes thinking about Schwab's notion of teachers teaching their best-loved selves in the same vein as the image of teacher-as-curriculum-maker a profitable thought enterprise. Presumably, Schwab's personal 'excellence in teaching' was fueled by his 'best-loved self,' about which he must have been reflecting because he was certainly publicly writing about it.

Cultivating the Image of the Best-Loved Self

With all of these building blocks in place, we are now in a position to consider teacher education and how prospective teachers' best-loved selves could be cultivated. Before begin this portion of the inquiry, it is important to assert that strong justification for our engaging in this conversation can be found in the research of the U.S.'s Marilyn Cochran-Smith and Ken Zeichner (2005) and Marilyn Cochran-Smith and Susan Lytle (2009) and Israel's Miriam Ben-Peretz (2009b), all of whom have underscored the fact that concrete examples of how to prepare preservice teachers as curriculum-makers are urgently needed in the field of education. So, (1) if the best-loved self is integral to the teacher-as-curriculum-maker image, what practices might we engage in in teacher education to foster the best-loved self? And (2) How does change happen in preservice teachers' pedagogical practices and repertoires, given the potential significance of the teacher's best-loved self image? I will begin by working with the first query and drawing on the narrative fragments I used to open this paper as well on the literature and my own experiences and sensibilities as a student, teacher, and researcher. All the while, of course, we will keep in mind Schwab's assertion that prospective and practicing teachers "*must* be involved in debate, deliberation, and decision about what and how to teach" (Schwab, 1983, p. 245, italics in original).

Let us begin with the small story I shared about Daryl Wilson and discuss what it offers in terms of teacher-as-curriculum-maker advice. In that narrative, Daryl spoke of a unit of study that he personally developed around a historical issue—in his case, the Holocaust—and how that unit of study resonated more with his students/himself than the readers' and writers' workshop activities he and his colleagues had more recently planned under the direction of a consultant. Daryl's story presents us with at least three curriculum making considerations: (1) he, as an individual teacher, wants choice where the content of the exemplar (in his case, social issue) around which his students will write is concerned; (2) he, as an individual teacher, wants choice in his teaching method (he did not appreciate being forced into using the workshop approach); and (3) he, as an individual teacher, wants his knowledge to be considered significant and relevant, not rendered insignificant and irrelevant in the face of the consultant's expert knowledge.

Moving on to the teacher in Miriam Ben-Peretz's story, that individual showed how she, like Daryl, could teach successfully using an approach that differed from her own style. However, the feedback she received—this time from a superintendent, not students as was the case with Daryl—was that the new approach did not fit her personality. In this vignette, the superintendent provides the teacher-as-curriculum maker advice: (1) teach from strength—from natural sources within one's personality as opposed to parroting teaching as described in manuals and copycatting others' expert teaching strategies.

As for Merike Pillen's Dutch study on beginning teacher identity dilemmas, we also learn two things about curriculum making—this time from a student teacher. Once again, (1) a teacher's personal sense of self is wrapped up in his/her public display of the teaching act and (2) preservice teachers' curriculum-making is productive when their preliminary knowledge of their personal selves is supported not diminished by more interventionist approaches to mentoring.

The fourth story I shared had to do with technology and me. From it, we learn the following about curriculum-making. Edicts from above may (1) interfere with personal learning, (2) be less-than-appropriate when general understandings are applied to the individual case, and (3) add to the rejection of practices that initially held the possibility of becoming part of teachers' best-loved selves.

Taken together, all four narratives display rebellion and efforts to self educate in the midst—or in the aftermath—of training. The lesson that these stories from the field teach is that rebellion, appropriately expressed, may be an important sign of growth in the development of strong, independent teachers and their identities, an idea that is consonant with what Schwab had to say about best-loved selves.

However, in the narratives, we also see others contributing to the teacher education experience: (1) an educational consultant; (2) a superintendent; (3) an assigned mentor; and (4) administrators in the background making generic decisions in the general educational milieu. Surprisingly, only the superintendent urged the teacher to free herself of the training mindset and encouraged her to make curriculum in a way that resonates with her best-loved self. In the other three instances, the expectations of one who is trained/prepared in a particular way continued to be imposed on the individuals. More than that, the expectations were actively enforced through observation and evaluation. This left the teachers in all aspects of the field of education personally navigating ways to free themselves to become their personal versions of better teachers—ironically at considerable professional risk. Unfortunately, the prevalent teacher-as-curriculum-implementer image, which undoubtedly works over the short haul, inevitably stunts educators' growth. It is just a matter of time as to when that happens. In sharp contrast stands the teacher-as-curriculum-maker image, particularly the best-loved self part of it, which advances teachers' sense of knowing on the learning continuum and propels them to continue to improve in an effort to become the teachers they could be.

If this comes across as a paradox—and it is, there is an even greater paradox at work where teacher education is concerned. Not only do government policies demand the preparation of teachers-as-curriculum-implementers, prospective teachers, if left to their own devices, would choose that image for themselves when they begin their teacher education programs. "Tell us what to do" is their most fervent plea. After all, as Schwab informed us, they need to be in the throes or aftermath of training or actively involved in self-education in order to encounter the image's limitations on their sense of selves as teachers.

Furthermore, we as teacher educators also would like to a have a definitive answer to address our students' "tell us what to do" demands. But, when we are brutally honest with ourselves and with them, we do not know exactly how things will unfurl until the teacher-student-subject matter-milieu dynamic plays out. We are like Schwab himself who once told the following to a group of students assembled in a Michigan State University class:

> I'd like to tell you exactly where we are going, and what steps and at what rate, and I can't at all; because if [this class] is properly planned, where we are going is somewhere you have not been and the words which would describe it would make no more sense than to talk about dogs to somebody who has never seen an animal. (p. 3)

What we hear in Schwab's rather humorous analogy is an idea that parallels something that Donald Schön (1983), another Deweyan scholar, had to say: "People cannot be taught [in direct input-output ways]; they can only be coached." This, of course, brings us full circle to the other people in the stories I featured—the educational consultant, the superintendent, the mentor, and other administrators in the general educational milieu—all of whom are living and advocating certain images of teaching, like the teacher educator, and presenting those images as possible 'stories to live by' to impressionable, neophyte teachers.

Changing the Image of the Best-Loved Self

This brings us to the second question raised: How does change happen in preservice teachers' pedagogical practices and repertoires, given the potential significance of the teacher's best-loved self image? Once again, I think answers are present in the story nuggets I shared. In Daryl Wilson's case, the answer resided with the next educational consultant with whom he worked and the different plotlines apparent in the consulting story she was living. She made a case for a particular writing strategy and set up the conditions for Daryl to experiment with it. But she did not impose her expertise on Daryl or seek to narrow his teaching choices. Rather, she walked alongside him in the learning process. And surprise, surprise—Daryl Wilson made the strategy he learned through example part of his teaching repertoire and even used his own experimental writing as a way to fuel his students' learning and his fellow literacy teachers' learning about writers' workshop. In the Israeli teacher's story, change initially came through the teacher conforming to mandates and following the modeling of another teacher's lesson, but then paradigmatic change happened through listening to the feedback an authority figure gave back to her. How refreshing it was to see a superintendent using his narrative authority (Olson, 1995)—coupled with his authority of position—to support the teachers' best-loved self (and perhaps in doing so the superintendent enacted his best-loved self?). We also see the researcher, Miriam Ben-Peretz, championing the teachers' best loved self—and perhaps, in turn, Ben-Peretz's own best-loved self. With the Dutch preservice teacher, there is no immediate evidence of change in practice in the vignette. However, the preservice teacher is highly reflective, is willing to express his narrative authority and is doing so in the audience of researcher, Merike Pillen, who may be able to assist him by walking alongside him in a teacher/researcher relationship. Clearly, the preservice teacher points to the need for change—and clearly whatever change happens will be more aligned with the preservice teacher's vision of his best-loved self (even if it sadly entails his leaving the profession). Finally, there was my personal example. In it, I spoke of media requirements being added without consultation to our evaluations in order to promote greater use of technology. Like Daryl Wilson and the Dutch preservice teacher, the mandate ran against the grain of how I perceive myself as teaching best. At the same time, I was able to supply examples of how I teach and conduct research using advanced technology. In my story like that of Daryl Wilson, I relied heavily on students' responses to my teaching. In both of our cases, it appears that Daryl Wilson and I would have been willing to change our practices if we felt the need arising in the stories of our teaching we were receiving from our students. In fact, as an aside, I want to add that I had several advanced technology students in my class a year ago and they wanted to experiment with digital stories as technological containers for research and teaching findings. I thoroughly welcomed the opportunity to work with them and, as a result, now use digital stories in my teaching practice and in my research program. In fact, I have even been awarded a grant to accomplish what I have described. The upshot here is that my students provided me with a pathway through which the new approach could become an integral part of my research and teaching repertoires and my best-loved self. Ironically, this change was fueled by my desire to assist them in moving closer to their best-loved selves. In fact, I think that in all of the narrative exemplars (Lyons & LaBoskey, 2002) shared, we can see a circle of educators seeking, to varying degrees, their best-loved selves—but some, at times, at the expense of others.

CLOSING COMMENTS

For the past four years, I have been fascinated by Schwab's idea of the teachers' best-loved selves and how vitally important the idea is to understanding curriculum and teaching situations, particularly the teacher commonplace and the teacher-as-curriculum-maker image and how absolutely foundational the notion is to high quality teacher education. In fact, my interest led me to visit the Schwab Archive at the University of Chicago this past winter. Amid the countless folders of material I browsed, I found the manuscript of Schwab's unpublished book, *Community: A Mission for the Schools*. Its preface was addressed to teachers and expressed "the need to worry a little about who teaches what to whom in…schools." It also emphasized the importance of having "more satisfying lives" (p. i). When I read that Preface, I could not help but think that best-loved selves figured largely in Schwab's vision of more satisfying lives. But it also caused me to think that our single-minded focus on the image of the teacher-as-curriculum-implementer has seriously stunted preservice teachers' growth and bounded who they are rather than cultivating them into who they could be as mentors, guides, models, allies—to borrow Schwab's words—of the students they will teach. Serendipitously, the book, *Teachers as Learners: Critical discourse on challenges and opportunities*, edited by Hong Kong's Ora Kwo, a book that I reviewed for *Teaching and Teacher Education*, crossed my desk at about the same time. In that book, Kwo referenced the Delors Report (1996) commissioned by UNESCO. In that report, four pillars of education were internationally agreed upon: learning to know, learning to do, learning to live together, and learning to be (Delors Report, 1996). Sadly, a great deal of attention has been

placed on 1) knowing and 2) doing in formal teacher education and precious little attention has been given 3) living together and 4) being. I think Joseph Schwab's notion of the best-loved self attended in a very large way to being and living together and was a ground-breaking idea ahead of its time. Finally, I thank my fellow ISATT panel members for the opportunity to discuss the idea of the best-loved self with a shared international commitment to high quality teacher education held firmly in mind.

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53 - Literacy teachers' didactic choices

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Abstract: This article is about the didactic choices made by literacy teachers from state schools, in São Paulo. The aiming is to understand the teaching work of this group, through the verification and analysis of those teachers' pedagogic practices in their daily school routine. With observations from the classroom, from the teachers' meeting room, and the answers from questionnaires and interviews, it was possible to conclude that the manuals of didactic instruction which were offered to the teachers and their pedagogic training are not enough to guarantee, in their actions, the appropriation of the proposed knowledge.

It is necessary to consider this professional's life trajectory, not only at the teaching work, in order to understand the reasons, though unconscious from the common sense, that motivate them to make their didactic choices in the classroom.

Keywords: Literacy. Teaching work. Didactic choices.

INTRODUCTION

This work is about the literacy teacher's work, which has two elements to be discussed:

1. The changes that occurred in the literacy area, from the 1980s, influenced the literacy teacher's practice.

2. The didactic choices made by those teachers characterize the confusion provoked by those chances.

It is my intention to explicit and discuss the research results from 2008 to 2010, in order to achieve the Master's degree, in the program of Graduate Studies in Education: History, Politics, Society, of the Pontifical Catholic University of São Paulo. The research was accomplished in a state public school in São Paulo, aiming to verify and understand the choices a teacher, who works with children in literacy process, makes in his/her daily school routine.

These choices, that characterize the teaching work, are also linked to factors such as social origin, instructional and family formation and are, sometimes, imperceptible, unintentional, to the ones who make them. However, the school teaching is marked by intentional characteristics (Marin, 2005) and the teacher is responsible for elaborating the activities, observing the students, and evaluating them. This school dynamics, that involves the teaching work, especially the one that is related to children in the literacy process, is not alone, even though it seems to be. The way the school organizes itself directly interferes in the teacher's work.

Changes in the literacy program since 1980

There are many research studies that aimed to analyze the literacy theme. Those which investigate the teachers' concepts in the classroom are, sometimes, the ones that better justify the teaching work.

Vieira's studies (2007) point that, from the 1980s, the teaching practice in the literacy process has suffered some changes, such as: the use of new technologies, Emilia Ferreiro's and Ana Teberosky's research (1985) about the written language acquisition, the implementation of politics to organize the school's space and time, based in the constructivist approach, the creation of the Literacy Cycle in public schools and the increase of this Cycle to the 3rd and 4th grades of Primary School.

Before the 1980s, we verify that the teaching practices in the literacy process are characterized by the adoption of a synthetic or analytical method. Such methods were worked in the textbooks, which were considered genuine manuals, once they organized, selected and conducted the teacher's work. According to the constructivist proposal, the textbooks did not provide the social function of the written language to the student, because they did not bring authentic texts, that is, texts within a range of genres that are part of the society. According to Vieira (2007), when working with different kinds of texts, the teacher needs different teaching procedures, which are based upon the observation and the interpretation of the students' cognitive processes to the acquisition of the written language.

Although the textbooks have been edited so far, new literacy books have been elaborated and started to demand from the literacy teacher new abilities and competences to teach how to read and write, but this new scenery has not necessarily confirmed the renovation of the teaching practice, since the concerns about the theme have not ended yet.

Not only Ferreiro's and Teberosky's studies have contributed to the changes in the literacy area. At the same time, in the middle of the 1980s, the country was passing by a political transition, "characterized by the change from a dictatorial government to the construction of a democratic society" (Mamede, 2000, p. 1). This context, according the author, must be remembered, because the "education is strongly linked to social, political and economical issues" (p.15).

In 1984, the Basic Cycle started to operate in the state public schools, being implemented just in the 1st grade of Primary School. The year after that, in 1985, the implementation was extended to the 2nd grade of Primary School. One of the challenges faced by the teachers in the 1980s was the re-elaboration of the concepts that had been learned so far, since it was the beginning of the cycle implementation all over the public schools and also the implementation of the constructivist perspective. However, Mamede (2000) points out that, in such a big country as Brazil, where the social differences are unbearable, several teachers did not have (and have still not had) the minimum conditions to understand this new paradigm. According to her, in the cities she visited during her research data collection, she verified that several teachers used to work in places which are "forgotten" by the State, living collectively in a profound isolation. So, succeeding to survive in the given conditions was already an innovative action.

The expression "innovative action" has several interpretations, according to different studies. To Zunino (2003), the teachers want to teach their students read and write and search for different ways of doing it. However, many of them feel they are alone, as islands. They miss collective thought and action, which are not provided by the school organization. The practices that are considered innovative are isolated and the course of work is "very little reflexive and shared" (p. 124). In this way, the author observed the dissonance between the discourse (based mostly in a constructivist perspective of teaching and learning) and the action (reinforced by models of exercises and evaluation criteria based in the traditional pedagogy).

With the same concern, Silveira (2004) demonstrates that the knowledge teachers have about the acquisition of the written language could be verified in three aspects of their action in the classroom: the mediation, the interaction and the constructive mistake. According to the author, there is an oscillation between those attitudes, which sometimes are influenced by the associationist presuppositions, making the teachers sometimes oscillate between the traditional method and the constructivist proposal.

These positions are directly reflected in the practice and the work organization. This organization is characterized by Oliveira (2008) as a consequence of a history of the literacy process marked by manuals and textbooks built out of the school context. Because of those manuals, the teachers started to be considered mere executors and task performers. To the author, such fact may have influenced the teachers to face the challenges, from the point of view of the reflection upon the given conditions, as well as the reflections upon the students' learning.

Oliveira (2008) points out the public politics and not only the academic environment, from where the teachers got in touch with the constructivism, as responsible for the imposition of the so called "savior" practices.

Taking in consideration that the knowledge is constituted through the teacher's trajectory and the conceptions are related to the idea about something, it is possible to assume that there is also the possibility of judgment in the presence of the teachers' positions, that is, they could be considered more or less efficient because of their conceptions.

For the last twenty-five years, the concept of literacy has achieved different meanings. Firstly, as mentioned before, the concept has changed with Emília Ferreiro's and Ana Teberosky's studies, in the 1980s, about the cognitive mechanisms children use to learn how to read and write and their own conceptions about the written system. According to the authors, the hypotheses raised by the children concerning the written process are very important. The understanding of the construction of the written language starts with the children. To Ferreiro (1985), interpreting what had been seen by the teachers as "scribbles" requires a defined theoretical attitude, that is, in order to evaluate the children's writing it is necessary, firstly, to believe that they do not need authorization to learn, once they already learn a lot of things without anybody's permission.

According to Ferreiro (1985), the studies about literacy were mistaken in a particular situation: they considered only two elements in the process of the written language acquisition, the teacher and the student, forgetting that the written system is the most important object of study. This learning process is formed by three elements: teacher, student and written language. The author, then, formulated the following questions:

How is this system built? Which perceptions do the children have about this system, before attending school? Which conceptions about the written system does the literacy teacher need to teach children to read and write? What are those conceptions' consequences to the literacy practice?

At first, Ferreiro (1985) affirms that the children, before attending school, already have some ideas about the reading process. They live in a world where the written language is present. It does not happen only at school. The children read several forms of written language in their daily life, even without having the intention to do it. They realize, for example, that the pictures near a text are related to each other and to the text. They even find out that in order to read something, it is not possible to use the same letter several times, it is necessary to join different letters to form a word. As we can see, the children have conceptions about the written system before attending school and they do not need any literate adult to tell them that the written system exists.

Children who live in urban centers are nearer the literate world and could have more chances of building their conceptions in less time. Nevertheless, Ferreiro (1985), in her studies, also considered children who live far from the urban centers.

She evidenced that the stages that follow, during the evolution of the hypotheses made by the children about the written language, must be seen by the school, mainly by the teacher, as extremely important, once it was necessary the child's elaboration and cognitive work in order to reach that result of the written system. It is totally different if we think about a text copy, for example.

However, these stages differ by levels or steps and cannot point out which student is left behind or is weak in the achievement of the written system at school. This is not the aim of the levels. The levels (pre-syllabical, syllabical, syllabical-alphabetical and alphabetical), according to the hypotheses of the written language made by the children, are useful to evaluate the degree of evolution of their thought about the written system. In this way, the teacher takes into consideration the construction of the written language made by the child, instead of evaluating him/her with a technique that was systematized.

Considering such conceptions, the teacher develops his/her action understanding of what was once considered a scribble as one of the steps of construction of the writing act. Knowing that, what was first considered a mistake has gained a different meaning. This does not mean that the teacher cannot correct the child's writing, or present him/her models (as a reader or a writer), without allowing him/her to think about what and how to write.

Ferreiro's and Teberosky's studies had a great repercussion in the literacy teaching action and unsettled, in a certain way, those who believed that the efficiency of literacy was in the method chosen. This unsettlement can be historically understood in the teacher`s function, as seen in Oliveira (2008).

Another used term to literacy is "*letramento*" (in Portuguese, there are two different words that refer to literacy). Soares (2004) points out that, at the end of 1970s, the United Nations Organization to Education, Science and Culture (UNESCO) proposed to amplify the concept of *literate* to *functionally literate*, suggesting that the international evaluations about the domain of reading and writing competences would be further instead of only measuring the ability to read and write. However, the author mentions Mary Kato's work (1986) that uses this different term in Portuguese (*letramento)* for the first time in Brazil, even though the concept "literacy" has already been lexicalized in the United States and England since the end of the 19th century.

In order to better explain the variety of concepts destined to literacy, Soares (2010) criticizes: "We have been trying, lately, to attribute a too comprehensive meaning to literacy, considering it a permanent process, that would be extended throughout life, that would not finish after learning to read and write" (p. 15). To this author, the concept "literacy" has been debated under three points of view, and two of them are present in the double meanings of the verbs read and write.

The first characterizes the reading and writing processes (literacy abilities) in a "mechanical" perspective of the written language, in which "being literate" is to have acquired "the ability of codifying the oral language into written language (writing) and deciphering the written language into oral language (reading)*"* (Soares, 2004, pp. 15-16).

The second point of view characterizes the verbs "read" and "write" concerning the apprehension and understanding of meanings, that is, "the literacy would be a process of representation that involves gradual substitutions, that is, from what is near the child to what is far from the child, aiming the communication, the knowledge acquisition, the exchange" (Soares, 2004, p. 16).

The third point of view cited by the author concerns the social aspect of literacy, once this concept is not the same in all the societies and it depends on cultural, economic and technological characteristics to be constituted.

Soares (2004) sees literacy as a representation of graphemes in phonemes and vice-versa, but also see it as a process of understanding and apprehending meanings by means of a written code. According to her, one representation does not annul the other, although she affirms that in her studies both concepts are partially true, given both processes' specificities in the literacy (the systematization of the relations between the phonological system and the graphical system concerning the other kinds of learning and behavior in the reading and writing area) and in "*letramento*" (the other term for "literacy", the ability to use different types of written materials).

Both concepts in Portuguese have suffered, according to the author, an increase in their meaning because of the extent to characterize the social practices. Many illiterate individuals may use certain social practices and, then, have a kind of "literacy". So, Soares (2004) justifies the fact that literacy is not related or does not come before the other Portuguese term "*letramento*".

Soares (2004) and Oliveira (2008) share the idea that the change provoked in the classroom practice, with the arrival of the constructivist proposal, conducted to some mistakes, justifying the oscillations between the pedagogical practices, causing the "uninvention of literacy", term used by Soares (2004) to explain the loss of specificities in this process.

The author concludes that, unfortunately, the children have been literate in the school but not taught how to read and write. This happens because nobody believes that "the literacy process is developed by means of social practices of reading and writing, that is, through literacy activities, and it may be developed in the context of the learning of the relations phoneme-grapheme" (Soares, 2004, 8).

With the analysis of such references, we understand that literacy teaching has been subject of substantial alterations in the conceptions and the political actions that guide the works at the initial grades of the public school. Thus, it is necessary to search for theoretical references that allow us to understand how people are oriented in their daily routine when facing such changes.

The presence of *habitus* in the literacy teacher's didactic choices

Knowing that the choice related to content is limited, once it has to be under the rules established by the program of the Bureau of Education of the State of São Paulo, the choices of the observed teacher are perceived in his actions, in his acting style when facing unexpected facts, in the content, in the control over the discipline and also in the conducts which are opposite to the ones presented in the documents.

Those are the mechanisms incorporated throughout the teachers' personal trajectory, which will mark them for the rest of their lives, which brought to this research authors like José Gimeno Sacristán and Pierre Bourdieu. With those authors, we could understand the teachers' educational practice and actions.

Bourdieu (2009) affirms that "the practices are theatrical roles, executions of musical pieces or plan applications" (p. 86). Through the practices, the individuals assume social roles which give them condition to belong to a group or a place. In the construction of the practices, men became history subjects, authors and actors of a trajectory, in which the "objects are built and not passively registered" (p. 86). Even as actors, they can see "gaps" to improvise, not performing what is only at the script to be read or done. In order to do this, we rescue the principles and mechanisms generated from those practices, which Bourdieu named *habitus*. Would *habitus* unchain the choices that confirm the teaching practice in literacy? Which mechanisms used in the classroom by the literacy teacher allow an analysis through this theory? Before becoming a teacher, the person was a child, he/she has learned principles and family values and has become familiar with the environment where he/she lived, has observed "teacher's models" while he/she was a student, has experienced these professionals' attitudes, behaviors toward their students and all of this has produced in him/her the *habitus* structures. Did those structures, based in the principle of perception and observation of previous experiences, give him/her condition to make his/her choices, even unconsciously? It is *habitus* that guarantees "the conformity of the practices and its steadiness throughout time" (Bourdieu, 2009, p. 90).

According to Bourdieu's affirmation, to any choice the teacher makes, this could be attributed to the experience he has acquired during his trajectory, personal or professional. However, Bourdieu explains that the agents' *habitus* are different, but also they make everything different. To the author, the differences exist by means of social categories of perception, that is, how people "realize" things. The essential point is that although the reading of "how to be" and "how to do" is inside the teacher's trajectory and he is inside a social space, inhabited by other individuals, none of them is above the other and everybody has his own space. Because of that, they could be different.

There may be the same language to the agents of that field, because many actions could be manifested inside the same *habitus*, the same class. The subject has the power of choosing and the condition of reinventing, of creating over what is already known. Let`s imagine, yet, that in a classroom, which is a collective learning

environment, the students' life trajectory, the experiences that they take to that place is crossed with the personal and professional experiences lived by the teacher. It does not seem possible to predict the number of answers that we will find when facing the endless possible situations. However, we could maybe observe, in a systematic way, if there are some practices in the school routine that incorporate, by their frequency, the principles that generated the actions that integrate the *habitus*.

Another Bourdieu's concept that contributes to the data analysis of this work is the practical sense, because it orientates the choices, it anticipates what is coming, it gives meaning to the choice, a reason to exist, promoting a meeting between the *habitus* and the field. According to the author, it is in the field that the game rules, its space and its purpose are established, reproducing conditions to its perpetuation. In order to be part of this game, it is necessary to believe, since "the belief is a constitutive part of how to belong to the field" (Bourdieu, 2009, p. 110).

Bordieu's theoretical proposition to the action brings intriguing issues. Synthetically, we may point out that the actions have, as a generator principle, the practical sense more frequently than the rational calculus. To Chauviré and Fontaine (2003), authors that synthetize Bordieu's concept of action, the agents could be reasonable without being rational; the rationality is practical, not theoretical, and the agents' action motors have their source in another place, that is, in the confrontation between a system of acquired dispositions and a fragment of the social space, acquisition place and the evolution of these dispositions.

According to Bourdieu, it is the notion of the practical sense as dispositional sense that allows thinking about the adjustment of the *habitus* to the field in the action course.

These considerations lead us to think that the choices the teachers make in their daily school routine originate from the constituted *habitus*, but also from the practical sense when the *habitus* faces the new demands of the educational field where they act. How do they relate to the actions to be accomplished? What kind of practical sense do they have?

Gimeno (1999) corroborates with Bourdieu's theory when affirming that the practices are historically built, because "the action brings the mark of other previous actions" (p.70). Those marks, according to him, are left by the experiences, by the effects that generate and by the transformations that may occur in the social context. Such transformations, according to the author, are suitable as basis to new actions. After some time, and after they are incorporated by the subject or the group, they generalize themselves, becoming "guidelines" to the crystalized practices accomplished in the daily routine. "Knowing how to do" characterizes, in a certain way, the style of action. A teacher's life trajectory demonstrates, most of the times, if he has resources or schemes of action. The author exemplifies such fact with the teacher who allows himself to experiment different situations and rich situation throughout his life. The bigger their resources of action, the easier the teacher will "know what to do", concerning the social practices that permeate each action. These practices are shared, imitated and create a social reality or an intersubjective culture. With this, the author wants to say that shared actions are changed into social patterns as soon as they become routine.

The reflection of this historical conscience of the actions is very important, according to the author, because it is through this refection that the teachers will know how to explain the paths already taken and the ones that could be modified. To Gimeno, there is more information about what is thought and desired than about the ways of "knowing how to do". Such affirmation justifies, therefore, the importance of keeping studying the teachers' actions in the classroom. Observing how a teacher acts, how the chooses the best conduct to be taken, how he observes his students, interprets and reacts to their actions is essential, because the educational practice is the only possible foundation to the personal action and this is repeatedly wasted by the teachers in their actions.

The author affirms that "knowing how to do" is not enough. It is also necessary to "want to do" something. Both are, according to the author, essential resources to renovate the settled actions into practices and originate new actions. The author proposes processes of creation of useful routines, once they obey to purposes and once the repetition, in relation to the former actions, could retain the meaning to the individual.

FINAL REMARKS

The production of studies about the literacy theme has been intensified in the last decades, especially since the 1980s, when more extensive results started to appear due to the expansion of the school program to an extract of the population that had not had access previously.

This is a study that also aimed to understand what happened inside the school through the analysis of the didactic choices made to teach children from public schools to read and write.

Once we defined the focus of the didactic choices of this part of the school teaching, we immediately infer, in the educational environment, that those choices are an option in the presence of many other alternatives, especially when we understand everything that had been already proposed.

Taking as reference this scenery and the critical perspective of the analysis about the school, the society and the formation that both provoke in the subjects, we have accomplished a study based in the concepts of *habitus* and practical sense complemented by the concepts of action and practice. Following those concepts, we have started from the postulation that the choices made by literacy teachers would be based in the current educational policy, once the state and municipal governments (in São Paulo), as in other places, have been defining orientations to the schools and their agents for a long time. However, we had no intention to verify whether the teacher followed the current proposal or not. The aim was to detect which choices were made, given the political context, but also considering the other contexts in which the unexpected situations of the reality and the practices solidified as school culture played an important role, choices that the teacher would certainly be saturated.

We used to understand that, even though there were external interferences related to daily aspects, present in all those contexts, the teacher, when "closing the classroom door", used to make his own didactic choices, which give him certain uniqueness, according to the idea that circulates about the teacher's job.

As a consequence of those definitions, a state public school was chosen, as described in the introduction and the initial chapter. At my first visit to the School in Mooca, to present the research that would be done and ask for permission to observe a classroom in the beginning of the literacy process, the coordinator chose a group of students from the 1st grade, because of this group's teacher. Even though I had not met her personally, I started my observation in the classroom knowing that the teacher was indicated to be my research subject because "*she had good control over the children's discipline and she knew how to teach them read and write*". That was a kind of "presentation letter" that defined the teacher's reputation in the school, but, moreover, it was indicating what was valued and expected from those teachers.

According to the teacher's description, we observed that she has lived in the neighborhood since she was born, she studied in public schools until she reached the university and she belongs to a family whose parents did not have the same school opportunity. Her trajectory is similar to her students'. Although she knew that, she had over them a posture of control, which reinforced the submission and the obedience to her commands. According to her, that seemed to be the logic underneath the school system.

In fact, we actually verified that the control was a strong characteristic in her action, that is, imposing herself to her students, demanding – and achieving – "ideal" conducts from the children through the embarrassment she created with her body posture, taking advantage from her physical characteristics and her way of dressing: body *héxis* also expressed by gestures, tone of voice, way of looking and gesticulating, imposing her power over the children. In this way, she worked according to her strategy of maintaining the "good concept". This characteristic ruled the teacher's entire action and allowed her to ascend in her career, since she was indicated to be the coordinator in another school, the year after that.

In a constructivist proposal, like the program adopted by Bureau of Education of the State of São Paulo, in which the perspective is related to critical literacy, the teacher did not have to work exhaustively with one text genre and only after a lot of training, to move on to a more difficult genre. The program is against this practice, which is a characteristic of the traditional pedagogy. At that school, the teachers worked with the characteristics which were peculiar to each text genre that must be understood by the children, because they would, in the following years, elaborate texts to different purposes. Recognizing the kind of text seemed to be the priority.

Part of the choices made was related to the teacher's credibility according to the adopted program. Composing the initial axle to present the scenes, there are choices of activities with contents according to orientations weekly received in the meetings. Those were choices that privileged the different text genres. Until the moment of the beginning the research, I had not known anything about the program adopted by the state schools. I started to understand the program, initially different from the way the observed teacher knew it, without orientation, only through her actions. From the beginning of the research, I started reading and tried to relate the orientations the teacher received in the meetings with her actions in classroom. The intention was not to verify whether she followed the orientations or not, but from the observation I could realize that the choices made by the teacher in her daily school routine with the children, composed the new actions of the program proposal, varying the materials and content to attend the literacy principle.

Due to the second axle of criterion to select the scenes, we could actually verify the teacher's intervention over the children, the importance of the acting to work with the contents of the texts with the children. The teacher's actions could be understood as contradictory concerning the underlying principles of the proposal. It was possible to realize, for example, that any activity that could make the children behave in a freer way, and could make them nosier, would not be accepted by the teacher.

Although continuously receiving orientations about what to do with the materials and how to literate and even believing to do what was proposed, the analysis allows us to point out that the teacher was incoherent,

specially related to the rhythm and to homogenization. We verified that time has been associated to the dynamics of literacy in this group. It was the most important organizer of the activities, propitiating one of the main school learning which was necessary for the rest of the school life. This organization leads itself to the opposite way of the underlying principle to the theoretical base of the proposal, that is, to attend to all the differences among the children, to the diversity of the rhythm of each child's educative work, a principle that, besides being widely spread, does not seem to actually achieve the classroom.

Such fact leads us to homogenization, imposing all the time what has to be done, allowing very few possibilities of variation, experiments, or an attempt to do something according to their own expectations, their life experiences, their likes, when they face the activities that could allow the teachers to attribute other meanings different from the compulsory ones, since the beginning of their school years.

The didactic choices, concerning the way used to teach, were the most difficult situation to the teacher, because the heterogeneity presented by the children in the learning of the written language lead the teacher to opt for copies of short exercises, in order to avoid the children to copy the activities from the board or from the sheet, making them glue those activities in their notebooks. This is also an opposite reality to the one expected to be found in the proposal, that proclaims the teachers' possibility of finding their own way to follow their path, since the technique of reading and writing is controlled, which is fundamental in this phase to all the rest of the proposal. And the teacher actually caused the interdiction of the writing action, favoring the execution of the activity at the right time and at the right way.

The possibility of analysis with the multiple references allowed us to identify that the teacher's didactic choices – like other teachers' choices in these stages of teaching modifications – occur due to the diversity of situations faced in the schools, in which the proposals embrace certain aspects of the daily life, generally its curriculum contents, but they do not embrace all the dynamics that move them. So, the action is, in fact, a mix of implementation of the political action, but it is, above all, the maintenance always renovated of the fixed practices in the school culture that constitute part of the teachers' *habitus* who are active in the impact with the multifaceted reality.

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54 - Utilising case study to develop an interpretive theory to address organizational and individual issues in teacher learning in a school site

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Abtract: How to effect teacher learning is a critical concern for many stakeholders, given the prevalence of change in schools. One such stakeholder, a school leader responsible for professional development in a curriculum reform context, took on the dual identity of insider-researcher to address the problem within a particular school site. The article focuses on the value of case study for investigating the issues confronting teachers in their learning and details the interpretive theory developed to address those issues. It presents a comparison of that theory with the literature derived theory about how to address teacher learning within a reform context, to emphasize the tension inherent in the relationship between the particular and the universal, and characteristic of case study paradox.

Keywords: Teacher learning, case study, reform

INTRODUCTION

How and what teachers learn within each school community with its characteristic culture is a matter of considerable interest to both school leaders, whose responsibilities include evidence of improved classroom practices, and researchers whose interests include teacher learning within the contemporary context (Borko, 2004; Johnson & Hallgarten, 2002; Kelchtermans, 2005; Norton, 2006; Putnam & Borko, 2000; Shulman & Shulman, 2004; Smylie, 1996). The interpretive theory detailed in this article, developed from case study research into teacher learning in a large independent school site in Queensland, Australia (Norton, 2006), adds to what is known about teacher learning. It reveals the importance of the nature of the school reform context in determining the interplay between organizational and individual issues challenging teachers in the learning process.

Additional interest lies in the fact that the theory was developed by an insider- researcher utilising case study methodology. Her dual identity was that of school leader (responsible for curriculum reform and accompanying teacher learning) and researcher (enrolled in a professional doctorate) investigating a problem of teacher learning. This insider-researcher role as well as the study's focus on site-specific issues facing teachers in learning within a curriculum reform context made case study an appropriate choice of methodology. These factors also explain why the interpretive theory developed from the study emphasized that an approach taken to support teachers' learning should be a strategic response to identified contextual issues. This was highlighted in an autobiographical comment made in one of the final chapters of the thesis:

> …the particular is not the universal. It is related; it is connected; it mirrors characteristics; but it is also intrinsically a different, unique entity…the site specific theory is more likely to work than an ideal theory. However, if it lacks the genetic characteristics of the parent theory, it will not. I would argue that as an insider-researcher, I value the tension between the two theories, as well as the need for that tension, more than someone who has not experienced the duality of roles (Norton, 2006, pp. 214-215).

There is considerable support for improved understanding of reform in the education context, and particularly for improved knowledge of how to support teacher learning appropriately within contemporary reform contexts (Beattie, 1995; Fullan, 2000; Resnick, 2001; Rosenholtz, 1985; Scribner, 2003; Sleegers, 1999; Zbar, 2002). Similar support is evident at the level of national government in Australia, where leadership in this area has been given to the Australian Institute for Teaching and School Leadership, whose goal is to promote "excellence in the profession of teaching and school leadership" (AITSL, 2011, p. 11). Educators generally are very aware of the importance of professional development for quality teaching (Evans, 2004; Holden, 2002; Rowe, 2004) but there is perhaps insufficient research into what pressures teachers face due to this level of interest (Ballet, Kelchtermans, & Loughran, 2006). In Borko's (2004) overview of the field of teacher professional development research she makes the point (albeit with an American focus) that considerable progress has been made into research in the field over the 20 years prior

to her publication. Further, she recommends what steps should be taken in future design and research into professional development for teachers (2004, p. 12-13). These include:

- Extension of research into all subject areas and all grade levels;
- Adaptation of professional development programs to the particular needs of local sites, with an intent to preserve the integrity of the programs;
- Appropriate resourcing of program and appropriate analysis of the effects of programs, taking account of a particular school's contextual influences and individuals within a context.

Both the second and third points in the list suggest that the "needs of local sites" would be met by research such as that completed by this writer into the organisational and individual issues facing teachers who are challenged to learn new knowledges, including pedagogical knowledge, within a particular school's reform context. Research by James and McCormick (2009) into school community learning supports the importance of considering school-based issues that impact on teacher learning, while Shulman and Shulman (2004) warn that a teacher's learning is continually in interaction with his/her particular teaching community and is not necessarily transferable to other contexts. Given this, the argument that this paper can add to knowledge and understanding about how to approach teacher learning in a particular school site has strong justification.

There is a focus in this paper on the value of case study methodology adopted for my research into "local sites" and the interpretive theory developed within the study to address local issues that challenged teachers' learning. Both were considered an appropriate and justifiable response to the major question guiding the research study, which was:

> What issues do teachers encounter as they attempt to engage in curricular work that is more collaborative, coherent and challenging?

Explanation and justification are provided initially in the paper – first, with regard to the choice of case study methodology, given it was a good fit for the problem and aim of the study, and second, with regard to the choice of interview for data collection. An overview of the analysis of data is provided, including a summation of the findings. The focus is then given to the interpretive theory constructed to address these identified issues in the local site, a benefit of the case study methodology. This is given theoretical perspective through a comparison with the literature-derived theory about how best to approach teacher learning within reform. Finally, the paper addresses what Simons (Simons, 1996) has termed the paradox of case study evident in the tension between the particular (the interpretive theory) and the universal (the literature-derived theory), a tension that has significant impact on an insider-researcher.

CASE STUDY – A METHODOLOGY TO FIT THE PROBLEM

The school curriculum reform, the context for the insider's research, was one that challenged students and teachers from years 1-9 to improve learning outcomes. The reform focussed on the adoption of a learning model and associated learning strategies designed by a dedicated team of academic-consultants and a team of representative school staff over many months. Teachers were challenged to take an integrated approach to learning across subjects, to work in teams at year levels and to base changed classroom practices (especially the implementation of a pack of purposeful learning strategies) on the theory underpinning the learning model. Coherence in learning from Year 1 to Year 9, as well as across subjects, was a key objective, but it was very dependent on collaboration and team work. That is, it was not only the learning about new pedagogies and the conscious application of theory to practice that was challenging. The culture of collaboration and the expectation that teachers be actively participating in the learning community were equally challenging.

In this reform context, what was needed was a methodology that took account of the nature of the community described, one bounded by situation, time and person involved (Merriam, 1988; Stake, 1991), as well as the researcher's insider status and the nature of the problem. It was a what, how and why problem: it was about what issues faced teachers in learning, why those issues were significant and how teachers dealt with those issues (Norton, 2006) in one school site. There was strong support for the appropriateness of case study for this kind of problem in a single case (one school) (Yin, 1994) rather than for the problem in multiple schools (Hammersley, Gomm, & Foster, 2000; Orum & Feagin, 1991).

Case study enabled the views of both researcher and participants to be utilised (Marshall & Rossman, 1999). The methodology supported the researcher's aim, to develop an interpretive theory grounded in the realities described by teachers in interviews. This theory was designed to support a pragmatic approach to addressing issues in teachers' learning, such that it was an "instrument" of use (James, 1978). Further, the design of the study included a comparison of the interpretive theory with the literature-derived theory about how best to approach teachers' learning within a reform context. This juxtaposition of theories gave perspective and

provided a means of controlling any perceived lack of objectivity due to the insider's political influence or cultural knowledge (Cochran-Smith & Lytle, 1999; Dombart, 1985; Tuhiwai Smith, 1999). The process, it is argued, contributed to "theoretical understanding" (Schoenfeld, 1999, p. 10), while the outside-in perspective gained from the comparative process eliminated possible dominance of the inside-out perspective (Darling-Hammond, 1996b; Lieberman, 1992) more likely to be characteristic of case study by an insider-researcher.

Data collection method
Within the reform context of the single school site, and given the researcher's insider status, the interview was used to investigate the realities of learning for selected teachers (Freebody, 2003; Gubrium & Holstein, 2003; Judith Warren Little, 1990; Miller & Glassner, 1997; Noddings, 1992). The selection of the fifteen teachers was based on their ability to be "good informants" (Merriam, 1988) and representative of roles and experience across the year levels of the school. The interviews were semi-structured interviews framed around five domains derived from the genealogical literature search into approaches to teacher learning within reform contexts. These domains included:

- The characteristics of the learning community,
- Places and spaces for learning,
- Learning experiences,
- Construction of knowledge,
- Practices demonstrating teacher learning (Norton, 2006, p. 110).

No complementary methods were utilised, although available in the form of documentation, as the teachers' perspectives on the realities of issues confronting them were targeted and the interview data provided sufficient evidence of the "human affairs" in the case (Stake, 2000).

ANALYSIS OF DATA
An heuristic approach was taken to the analysis of the data, characterised by action and interaction with the data, a process intrinsic to constructing theory grounded in the realities of the data (Dey, 1999). The two dominant categories of issues that emerged from sorting and categorisation of patterns based on patterns, concepts, or relationship between concepts were Biographical Issues and Organisational Issues. These are detailed in Table 1:

Table 1: Summative Table of Issues (Norton, 2006, p. 177)

Domains	Biographical	Organisational
Learning community	Classroom Comfort	A Culture of Change
	Fitting the Bits and Pieces Together	Integration of the Curriculum
	Responsibilities of Managers	Collaboration
	Conflicting Responsibilities	Teams
		Leadership
		Timetable
Places and Spaces	Encroachment on Own Time	Joint Work
	Interaction with Significant Others	Meeting Protocols
	Making a Fit	Reflection and Evaluation
	Quality of Work	
Learning Experiences	Risk Taking	Key Teachers
	Beliefs	
Knowledge Construction	Nature of Knowledge	Overload
	Nature of Talk	
Practices	Knowledge Base	Model
	Accountability	Reporting

These significant issues were further analysed for evidence of patterns termed "regularities" (Hatch, 2002) due to evidence of similarity, difference, frequency, sequence, correspondence or causation. For example, teachers identified the Nature of Talk as a major issue in both organisational and individual categories. It demonstrated both frequency and causation: teachers made direct reference to the issue or to a related aspect in more than one domain; while other issues were exacerbated by the difficulties teachers experienced in engaging in cognitive conflict about the new curriculum. One teacher noted that the kind of "teacher talk"

required was a major issue because "it didn't exist prior to the change in the way we do things" (Norton, 2006, p. 186). Participation in meetings was seen as a risky endeavour and one where people were "quite attacking in what they would say" in discourses that were rigorous intellectual debates (Norton, 2006). These were a natural consequence of the inquiry process characteristic of the learning in the reform context (Cotter, 2003; Kelchtermans, 2004; Little, 2005; Reagan, Case, & Brubacher, 2000).

By adopting this process of identifying regularities, four macro-issues emerged (Norton, 2006, p. 177-187), constituting the key findings of the investigation, as follows:

- Key teachers (Facilitators/support persons are necessary to support the construction of conceptual knowledge and changed practices);
- Joint work (Scheduled opportunities and experiences in appropriate facilities are needed for teachers to learn and to work together);
- The nature of talk (Articulation of tacit knowledge and engagement in cognitive conflict are necessary in the learning new curriculum knowledge);
- Making a fit (Constructing complex conceptual knowledge requires time as well as processes of inquiry, reflection and evaluation.)

Examination of the macro-issues lead to the construction of a set of principles and supporting strategies that represented an appropriate theoretical means of addressing the issues. These principles and strategies are detailed in what follows, along with a comparison of the interpretive theory with that derived from the literature.

The interpretive theory
Three principles – reciprocity, coherence and integrity – were determined to be necessary elements of a principled approach (Norton, 2006) to teacher learning in the school site. These were derived from close examination of the macro-issues to identify the principles at work within each. Framed by this approach, specific propositions were developed to address each of the macro-issues. In addition, the interpretive theory was compared with what the literature presented as recommended approaches to teacher learning, so that there was demonstrated perspective as well as credibility in the school-specific theory. Figure 1 provides a graphic representation of the interpretive theory developed.
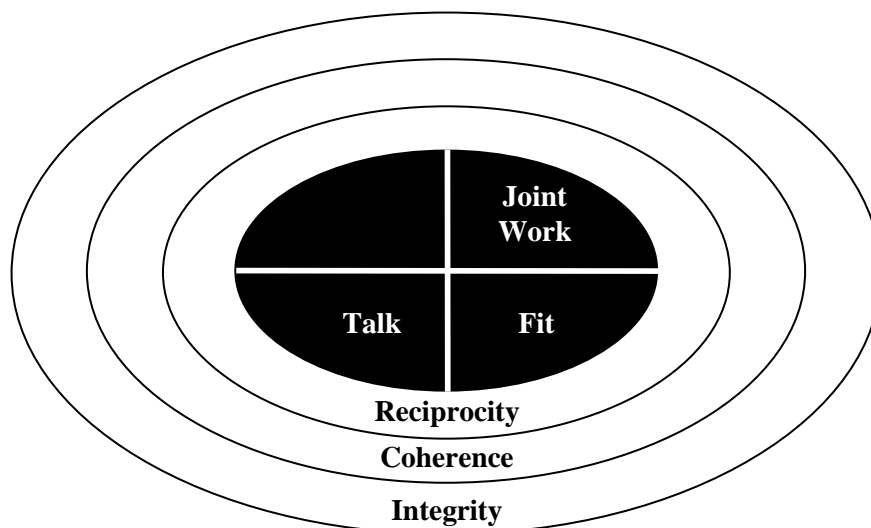
Figure 1: The Interpretive Theory

The first principle, integrity – fidelity between the idea and its application, as well as honesty in professional behaviour - applied to both the organization and the individuals in this site, and reflects the support of theorists. On the one hand, Dinan-Thompson (2002) suggests, in the metaphor of the chookyard, the rooster is in control, and the chooks want to know that the administration is a responsible agency (Dewey, 1915), but they also expect that democratic practices will match the democratic vision as evidence of integrity (Dewey, 1915, 1955; Henderson, 2002; Henderson & Kesson, 2004; Kesson & Koliba, 2002). On the other hand, teachers who are perhaps resistant to reform and pedagogical change (Joyce & Murphy, 1990; Lortie, 1975;

Rosenholtz, 1985, 1989) need to commit to collaboration and the challenge of cognitive conflict within inquiry discourses characteristic of reform.

The second principle of coherence – the construction of meaningful conceptual knowledge and pedagogical knowledge, built on tacit knowledge – was applicable to all macro-issues. In particular, it addressed the contentious and risky nature of what teachers in the study described as the "fierce discourses" about "deep questions" (Norton, 2006, p. 168) that took place in the school's curriculum reform context. These discourses challenged teachers in making meaning and sense from conversations in meetings, because of the level of "constructive controversy" (Johnson & Johnson, 2009; Johnson, Johnson, & Smith, 2000) and resultant stress that characterised many of the meetings. That is, professional conversations in meetings were problematic, perhaps necessarily so, an aspect of teacher learning noted by Sankey (2004). One teacher described participants in such discourses as "quite attacking in what they would say" (Norton, 2006, p. 187). Coherence was a needed principle to address the issue of the Nature of Talk particularly, as well as related issues.

The nature of meaning making and learning was identified in the grafting metaphor adopted as the title of the thesis (Norton, 2006) – *Teacher learning is a process of grafting new truths on to old truths* – and targeted each teacher's need for a biographic narrative that enabled him/her to make links between temporal experiences. It was an approach supported by theorists (Clandinin & Murphy, 2009; Kelchtermans, 2004; LaBoskey, 2006) and echoed the advice that understanding of changed practices is achieved through "existing knowledge and beliefs" (Borko & Putnam, 1995, p. 59). Other learning theorists voice similar support for coherence in learning, emphasizing the need for inquiry and the social construction of knowledge in varied contexts (Anderson, Greeno, Reder, & Simon, 2000; Lauriala, 1998). Further, the situative perspective on learning (Putnam & Borko, 2000), with its emphasis on coherence evident in authentic activities and distributed learning (characteristic of joint work) in purposeful settings, was identified in the study as a fit for the demands of the school site.

The final principle, reciprocity, was about "honesty in the equality of contribution of both parties" (Norton, 2006, p. 195). Teacher resentment resulted when teachers' giving of time, cognitive effort and commitment to a changed collaborative approach were not matched by the organization's giving of time, support or understanding of the cognitive challenge of learning. Keys (2005) offers a similar perspective on the importance of giving, along with acknowledgement of beliefs, in his study of science curriculum reform. This principle targets the macro-issue of Making a Fit more directly perhaps than other issues, because the challenge to learn new knowledge was seen by teachers as work overload – simply more of their "own time" (Norton, 2006, p. 196), something precious to them. Even though teachers are acknowledged as "poor knowledge sharers" (Fullan, 2002, p. 3) with strong loyalties to established truths (James, 1978) theorists tend to support the critical need for a school to consider how much teachers can or should give without reciprocal giving by the school (Fullan, 2000; Little, 1986; Zbar, 2002, 2003).

Within the framework of principles illustrated, four propositions were developed, targeting the macro-issues, as listed:

- Key Teachers: Teacher learning of complex conceptual knowledge requires Key teachers as facilitators.
- Joint Work: Scheduled (timetabled) opportunities and experiences in appropriate facilities should be provided for teachers to learn and to work together.
- The Nature of Talk: The nature of talk in teachers' learning should encourage the articulation of tacit knowledge and reflect engagement in cognitive conflict.
- Making a Fit: Teachers should engage in inquiring, reflecting and evaluating over an extended time to construct a conceptual understanding of the curriculum.

These propositions addressed context-specific issues, especially what are termed the "institutional practices" (Aspin, 2002, p. 12) adopted in a school. They represented the application of the idea, rather than the idea itself, to issues in the community of practice (Palinscar, Magnusson, Marano, Ford, & Brown, 1998).

The first proposition targeted the need of teacher-learners for a facilitator who was part mediator/manager and part coach (Norton, 2006), someone with specialised knowledge of the curriculum changes and with allocated time for working with teachers both in and out of the classroom. The key teacher's role was to assist teachers in the process of making meaning and thereby achieving coherence in learning. The role also included management of meetings, such establishing ground rules that supported positive intellectual debate (Darling-Hammond, 1996a) and group dynamics, given the level of cognitive conflict that was identified as part of the joint work situations in the school. Further, the role was that of coach, working inside the classroom with individual teachers to support changed practices and engage in reflective dialogue

(Garmston, 2005; Schon, 1983). It was envisaged that this Key Teacher would also be the liaison person working across subjects to assist in integrating the curriculum. Essentially, the Key Teacher was seen as the facilitator for shared learning, thereby supporting the characteristics of the situative perspective on learning (Putnam & Borko, 2000) identified as a fit for the school situation in the literature, as well as enacting the principles of coherence, integrity and reciprocity guiding the approach overall.

The second proposition reflected the emphasis on the macro-issue of Joint Work by teacher interviewees, who had noted the lack of spaces and places for shared learning and social interaction in specific situations. It was a strategy recommended by the theorists (MacPherson, Aspland, Brooker, & Elliott, 1999; Putnam & Borko, 2000) and one that resonated with Thayer-Bacon's (2000, p. 5) emphasis on the construction of the quilt of knowledge as a "transactive sociopolitical process with others". The proposition was intended to reduce perceptions that teachers were constantly finding the time for meetings and for learning, and were unable to reflect with others on complex conceptual knowledge and changed practices. It met the criticism of a teacher who complained of lack of integrity by the organization in not providing time for learning (Norton, 2006) and for making sense of the new curriculum knowledges.

The macro-issue of the Nature of Talk has been noted as a significant issue. It was a difficult issue to address but the third proposition clarified what challenged teachers in meetings and focussed on teachers' need to feel confident that their tacit knowledge and beliefs were acknowledged and valued in cross-subject and cross-year meetings with teachers of varying backgrounds and ages. The proposition was intended to encourage teachers to talk about tacit knowledge as a means of constructing new knowledge and maintaining a sense of order or meaning in their lives (Crebbin, 2000; Little, 1992) but this was challenging for teachers. One commented that she was perceived as a "show-off " because she described her changed classroom practices (Norton, 2006, p. 206). In addition, data from this study clearly demonstrated that the teachers in this school site were not accustomed to constructing complex knowledge with others (Norton, 2006, p. 208), which is why the role of the Key Teacher (proposition one) was so critical in facilitating this approach to learning.

The fourth proposition complemented the first three with its emphasis on processes of learning. It targeted both the literal aspects (work overload, conflicting duties) and metaphoric aspects (constructing new knowledge, reflecting, changing beliefs) of Making a Fit. In terms of the grafting metaphor used in the title of the thesis reporting on the study, teachers needed time for the graft to "take", an approach given considerable support (Cochran-Smith & Lytle, 1999; Henderson, 2002; Windschitl & Buttemer, 2000). Hence the strategy was intended to give teachers time to engage in inquiry, reflection and evaluation and to talk to others so that there was intellectual development, defined as "a process of growth from a state of relative psychological rigidity toward increasing flexibility" (Hill, Crevola, & Tucker, 2003, p. 2). One of the teachers described this more simply as a concept map construction "starting off with a few big balloons and a few connections and then it gets more and more complicated" (Norton, 2006, p. 210). Ultimately the proposition was about promoting coherence and reciprocity in learning discourses such that teachers were able to construct complex conceptual knowledge with each other.

These four propositions were devised to function within the framework of principles as strategic means to address the macro-issues identified from the analysis of data. What was most notable, however, was that the propositions, like the issues, were unique to the one school site.

The paradox of case study

The previous discussion of the interpretive theory resulting from the research identified broad similarities between the principles framing that theory and those espoused in the universal (literature-derived) theory. The propositions targeting specific macro-issues reflected the focus on the contextual conditions of the school site in applying those principles to identified local issues, thereby highlighting the uniqueness of the single case. The nature of this interpretive theory provided the insider-researcher with significantly improved knowledge an understanding the "the interpretive theory was paradoxically independent of the ideal/universal approach. It emanated from real issues identified by individual teachers in a specific context" (Norton, 2006, p. 214). There were, surprisingly, critical differences between the particular and the universal theories. For example, the interpretive theory focussed on how to support teachers to talk about conceptually difficult knowledge, to articulate tacit knowledge and beliefs within conversations considered risky and difficult, with the goal of attaining coherence in learning and providing evidence of reciprocity and integrity on the part of the organization and individuals (Norton, 2006, p. 227). The literature-derived theory did not address the particular combination of factors peculiar to the site within such a principled framework.

Simon's (1996) exploration of the paradox of case study has provided a similar emphasis on the need to understand why a particular case can be similar to, but not the same as, the general or universal set of cases,

just as a particular theory may display critical differences but broad similarities to the universal theory. Understanding this tension between the particular and the universal is critical, it is argued, to what Flyvbjerg (2006, p. 236) defines as "advanced understanding" of how to address the problem of teacher learning in one site. His perspective, however, is based on the belief that such understanding comes from being an insider utilising case study methodology in proximity to the realities of teacher learning. I would argue that such understanding also comes from the constant awareness of the tension between the particular and the universal generated in case study of the single site.

CONCLUSION

This paper has provided details of an interpretive theory derived from case study methodology to address issues in teacher learning in one school site. The emphasis has been given to the strategic nature of the theory, given it was a response to the contextual issues, not a one-size-fits-all approach, even though similarities with literature-derived theories were acknowledged. As such, the paper has met a perceived identified need identified for investigation into school-based issues that impact on teachers' learning. While the interpretive theory was the focus of the paper, considerable attention has also been given to the value of case study, firstly, for the nature of the school-based problem, and secondly, for its ability to generate a significantly improved understanding by the insider-researcher. Such understanding is two-fold: it is about both a deeper theoretical understanding that comes from a deliberate comparison of the particular and the universal theory, and the personally significant understanding of the insider-researcher who appreciates, as a consequence of applying case study methodology to a single site, the need to value and maintain the tension between the particular and the universal.

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57- Academics' Perceptions with respect to their Teaching, Research and Management

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Abstract: Spanish Universities are in a process of change towards the European convergence to reach higher quality levels in higher education. As a part of this process, it is essential to analyse the conditions in which teachers undertake their duties. The main aim of this paper is to make known how academics feel with respect to their duties at the University: teaching, research and management. The design of this research is based on a combined use of quantitative (questionnaire) and qualitative (biographical-narrative interview) methods. The questionnaire was administered to the whole of academics from the University of Granada, and the sample was composed of 1062 academics, which is equivalent to 35.4% of the population. The obtained results show that most of academics perceive themselves more like teachers than researchers. Also, there are significant differences in how academics conceptualize teaching and research.

INTRODUCTION

The transition to a common area of Higher Education is a rethinking of the concept of teaching. In this sense, academics are one of the main agents that can make the change possible. They must develop a professional profile that allows them to respond appropriately to new challenges and demands that are emerging in the new knowledge and information society.

Academics must change their mentality and realize that they must focus on students learning in order to prepare participative and active professionals and citizens for the future. In order to achieve this, they need a commitment to acquire cognitive, educational, communicative, social and emotional competencies to develop quality teaching.

The professional profile refers to the set of skills and competences to identify the training of a person, doing possible the responsible development of several duties within a profession. In this case, Zabalza (2009: 75) argues that academics have a double identity, as they are specializing in a scientific field and, at the same time, they have to specialize in the development of teaching and learning procedures for their disciplines.

However, these specialization processes differ depending on whether we refer to research or teaching activity. While research has a broad formative support through masters and PhD; in the teaching activity, although academics may voluntarily participate in training processes, they do not need to prove that they are competent to teach. Therefore, as Zabalza (2009: 79) defends *"university teaching will not improve (if that is the point in this tortuous European convergence process) if academics' training, their professional identity and their competences as teachers are nor strengthened".*

The academics' professional profile has to be created in a personal and responsible way, through the involvement in training processes that could prepare and motivate them to carry out the necessary changes. For this purpose, it is also essential to have institutional support at all levels in order to promote from the top the importance and value of excellence in teaching.

Although there is a need to enhance teaching development and improvement, this will not be possible if academics' prestige keeps depending more on research than on teaching. Nowadays, in order to promote and get incentives, academics are more valued and recognized for their research than for their good practices on teaching.

> *"Both, professional recognition and economic and promotion incentives, attributed to an excellent research work, contrast with the low importance given to quality teaching practices in the University"* (Mérida, 2006: 5).

In this regard, Valcárcel (2003: 36) gives us an example: "... in the hypothetical case of two professors, one of whom has only incentives for his/her research and other who has only incentives for his/her teaching, the first one is allowed to participate as a member of a board of examiners, while the second one is not".

For this reason, new academics that access to the University assume this culture in which recognition is measured by quality in research, but not by excellence in teaching. Therefore, for their promotion it would be better to focus on research. This entails negative consequences for university students, since the quality of their training is impaired.

It seems essential to increase the prestige of teaching, so that academics feel more motivated and involved in the improvement and professionalization of this activity.

It is also necessary to encourage an integrated evaluation system which recognizes a balanced set of activities carried out by teachers during a concrete period of time. Besides, it must be taken into account if academics connect their research with their teaching, because most of the time they are developed separately.

This paper aims to show how academics perceive themselves as teachers, researchers and, where appropriate, other, and to find out if there are significant differences between academics' perceptions depending on their age, gender, years of experience, academic rank, scientific branch, etc.

METHOD

In this research it has been used a combined procedure: the quantitative method, through a questionnaire, and the qualitative method, through biographical-narrative interview.

In this paper are described some of the results obtained through a questionnaire titled "Construction and development of the professional identity of academics" (Spanish version). This instrument was validated by experts and designed as a Likert scale set by 113 items. On this study we have focused on those related to how academics perceive themselves as teachers, researchers and, where appropriate, other. These aspects are scored by a scale of five values: 1=Nothing; 2=Little; 3=Average; 4=Quite a lot; 5=A lot.

At the same time, in order to complement the quantitative study, part of the information obtained from several case studies will be shown in order to study academics' perceptions in depth.

POPULATION AND SAMPLE

The population of this research is composed by the academics from the University of Granada (Spain), tenured and not tenured occupying one of the following academic ranks:

Table 1: Equivalence for academic ranks

Hired Academic Positions:	
• Contratado Doctor: is tenured, non-civil servant and must hold a PhD. Equivalent to Associate Professor.	**CD**
• Ayudante Doctor: is non-tenured and must hold a PhD. Equivalent to Assistant Professor.	**AD**
• Ayudante. Similar to a Lecturer.	**A**
• Others:	
o Colaborador: does not have to hold a PhD (to be phased out with the new legislation);	**Col**
o Asociado: does not have to hold a PhD but must have professional experience outside the University)	**Aso**
University Academic Positions:	
• Catedratico de Universidad: is tenured and civil servant. Equivalent to Full Professor.	**CU**
• Titular de Universidad: is tenured and civil servant. Equivalent to Professor.	**TU**
• Catedratico de Escuela Universitaria: is tenured and civil servant (to be phased out).	**CEU**
• Titular de Escuela Universitaria: is tenured and civil servant, does not have to hold a PhD (to be phased out).	**TEU**

For this investigation, all population was invited to fill in the questionnaire, getting a total of 1062 responses that represent 35.4% of the population. They are distributed through the different categories as shown in the following table:

Table 2: Population and sample distribution according to academic ranks

	Population	Sample	% Population	% Sample	% Total
CU	396	151	13.2	14.2	38.1
TU	1486	523	49.5	49.2	35.2
CEU	64	18	2.1	1.7	28.1
TU	171	55	5.7	5.1	32.1
CD	291	124	9.7	11.6	42.6
AD	67	28	2.2	2.6	41.8
A	83	27	2.7	2.5	32.5
Col	201	61	6.7	5.7	30.3
Aso	239	75	7.9	7.0	31.3
TOTAL	*2998*	*1062*	*100%*	*35.4%*	

After calculating the value of Pearson Chi-square, it was found that the academic ranks obtained in the sample are a representative subset of the population.

RESTULTS
In order to analyze the questionnaire responses, a double procedure has been followed: a descriptive study to determine the distribution of frequencies for all variables in the questionnaire and, secondly, a contrast study (causal-comparative) to determine the differences and similarities in their responses from an illustrative set of variables such as sex, age, branch of science, academic rank and years of experience.

Descriptive study
Table 2 shows the results obtained after crossing the descriptive variables of the questionnaire with the items related to how academics perceive themselves as teachers, researchers and other.

Table 3: Frequency distribution of how academics perceive themselves

	Nothing	Little	Enough	Much	A lot	Total
1. You perceive yourself as a teacher	6	20	90	389	554	1059
	0.6%	1.9%	8.5%	36.7%	52.3%	100.0%
2. You perceive yourself as a researcher	21	73	226	394	335	1049
	2.0%	7.0%	21.5%	37.6%	31.9%	100.0%
3. You perceive yourself as other	13	22	39	85	63	222
	5.9%	9.9%	17.6%	38.3%	28.4%	100.0%

For item 1, 1,059 academics indicated how they perceive themselves as teachers. From those, 89.0% see themselves as teachers in a much and a lot degree, while only 11.0% feel teachers between enough and nothing. The median shows that academics perceive themselves as teachers much, and the mode shows that the highest number of frequencies is located in those academics who perceive themselves as teachers a lot.
With regard to item 2, with a total of 1,049 responses, a decrease from the previous item can be appreciated, as only 69.5% of academics perceive themselves as researchers in a much and a lot degree. The rest of the academics (30.5%) see themselves as researchers between enough and nothing, although there is a general tendency is for the central score (enough). In this case, both median and mode are located in a much degree.
The item 3 has only been marked by 222 subjects, distributed as follows:
- Managers = 52.7%
- Professionals: 23.8%
  - Arts and Humanities = 4.0%
  - Health Sciences = 10.8%
  - Social Sciences and Law = 5.4%
  - Engineering and Architecture = 3.6%
- Unspecified = 13.1%

Out of the total, 36.7% perceive themselves as "other" in a much and a lot degree, and 33.4% between enough and nothing.

As can be seen, both number of responses and scores, academics from the University of Granada perceive themselves more as teachers than as researchers, although both scores lean toward higher values (much and a lot).

Contrast study

In this section, an inferential analysis was carried out to determine to what extent academics perceive themselves as teachers and researchers.

The variables used to establish differences between academics from the University of Granada, for each item, were thirteen: sex, age, level of family responsibility, scientific branch, faculty/college, department, studies degree, academic rank, previous management position, current management position, years of experience as university teacher, teaching in other educational levels, other occupation.

As shown in Table 4, the item that contains the highest number of significant variables is the second one, which refers to how academics perceive themselves as researchers, with ten variables: age, family responsibility, branch scientific, faculty/college, department, studies degree, academic rank, years of experience, teaching in other educational levels and other occupation. Secondly, we have item 1 with eight significant variables; and finally, item 3, with only two.

Almost all variables are significant in one or two items, except the variables "sex".

Table 4: Significant descriptive variables with respect to how academics perceive themselves as teachers, researchers or other

	Teacher	Researcher	Other
Sex			
Age	x	x	
Level of family responsibility	x	x	
Scientific branch	x	x	
Faculty/College		x	x
Department		x	
Studies degree	x	x	
Academic rank		x	
Previous management position	x		
Current management position	x		
Years of experience	x	x	
Teaching in other educational levels	x	x	
Other occupation		x	x

Next, we discuss the results obtained on how academics perceive themselves with respect to their professional duties:

- *How academics perceive themselves as teachers*

For this item, significant differences were observed in eight variables: age, level of family responsibility, scientific branch, academic rank, past management position, present management position, years of experience and teaching in other educational levels.

The average of academics who perceive themselves as teachers is "much" and below we discuss the most relevant results.

For the variable "age", was drawn that older academics perceive themselves more as teachers. Therefore, those who are older than 55 years old valued with a higher score the degree in which they feel teachers, followed by teachers aged between 41 and 55, those aged between 30 and 40, and finally, those under 30 who have rated the item with the lowest scores.

> *"... With teaching (...) you feel fulfilled, because you see... Research is often nice, the results are gratifying, you publish, you supervise thesis and that's all great, but with teaching you see that you are doing more, the results are more direct. And when a student finishes the career and he comes to see you after two or three years to greet you and tell you how things are going with him, all that is a positive feedback "* (Diego, more than 55 years old e. 1: 3).

According to the average ranks obtained for the variable "scientific branch", there are significant differences. Academics from Social Sciences and Law, Arts and Humanities, and Sciences are the ones that perceive themselves more as teachers. They are followed by academics from Health Sciences, and finally, by academics from Engineering and Architecture, with the lowest scores.

The variable "academic rank" also presents significant differences, which can be grouped so that: CEU, Col and CU are those who perceive themselves more as teachers. Next, TU and TEU. And finally, academics who feel less as teachers are CD, Aso, A and AD (see Table 1).

> *"... Teaching is essential in my life (...). When I get to class I become someone else (...). My students are involved; they are quiet and they ask many questions (...). They transform me and give me energy, it's a non-stop; they give me energy (...). I think that's one thing I could not stop doing, I love it"* (Gema, Col, e.11: 3-4).

The results for the variable "years of experience" identify with those obtained for the variable "age". Academics with more years of experience see themselves more as teachers, and the order of highest to lowest identification with teaching is as follows: 1. Over 30 years of experience; 2. Between 21 and 30; 3. Between 11 and 20; 4. Between 5 and 10 years; and 5. Less than 5 years of experience.

Also, the variable "teaching in other educational levels" shows that academics who have taught in other educational levels perceive themselves as teachers more than those who have only taught in the university.

- *How academics perceive themselves as researchers*

For this item, significant differences were observed in ten variables: age, level of family responsibility, scientific branch, faculty/college, department, studies degree, academic rank, years of experience in university teaching, teaching in other educational levels and other occupation.

The average of academics perceive themselves "much" as researchers and below we comment the most relevant results.

For the variable "family responsibility", academics who have no family responsibilities or a low level of responsibility, identify themselves more with the research activity that those who have a high level of responsibility.

The level in which academics perceive themselves as researchers varies depending on their scientific branch. In this sense, academics who perceive themselves more as researchers are from Science, followed by academics from Arts and Humanities. Academics from Health Sciences, Engineering and Architecture, and Social Sciences and Law had the lowest score for this item.

Among the twenty faculties/colleges to which the questionnaire was administered, significant differences were found. According to the average range, the five institutions whose academics perceive themselves more as researchers are: 1. Faculty of Science; 2. School of Psychology; 3. Faculty of Political Science and Sociology; 4. Faculty of Translation and Interpretation; and 5. Faculty of Arts. By contrast, institutions that had the lowest degree of identification with the research activity are: 1. College of Health Sciences; 2. College of Technical Architecture; 3. Faculty of Work Sciences and College of Social Work; 4. School of Architecture; and 5. Faculty of Dentistry.

The responses of the different departments also differ. The departments whose academics gave high scores to this item are: 1. Soil Science and Agricultural Chemistry; 2. Spanish Literature; 3. Ecology; 4. Physiology; 5. Theoretical Physics and the Cosmos; 6. Mineralogy and Petrology; 7. Political Science and Administration; 8. Geometry and Topology; 9. Radiology and Physical Medicine; and 10. Biochemistry and Molecular Biology II. By contrast, the departments with lowest scores for this item are: 1. Physiotherapy; 2. Surgery and its specialties; 3. Nursing; 4. Accounting and Finance; 5. Didactic of Social Science; 6. Obstetrics and Gynecology; 7. Architectural; 8. Social Work and Social Services; 9. Pediatrics; and 10. Stomatology.

For the variable "studies degree", there are obvious differences between doctors and teachers who are not doctors, because the former perceive themselves more as researchers than he latter.

According to the average ranks obtained for the different academic ranks, it appears that CU, AD, CD and A, perceive themselves more as researchers than the rest. They are followed by CEU, TU and Col. Finally, Aso and TEU have the lowest score (see Table 1).

> *"... Research is essential for me, because your research feeds your teaching. Without research, that is, if you don't advance in your field, your teaching will be poor"* (Lucia, AD, e.12: 3).

The years of experience are also significant for this item. Academics who perceive themselves as researchers are ordered from most to least as follows: 1. Those with less than 5 years of experience; 2. Those with more than 30; 3. Those between 5 and 10; 4. Those between 21 and 30; and 5. Those between 11 and 20 years of experience.

> *"For me a good teaching cannot exist without a good research, because otherwise you'd be bringing them only what others have said, and one has to check that... My vocation is to go to the sources and interpret them myself"* (Jose, more 30 years of experience, e.3: 9).

For the variable "teaching in other educational levels", it is clear that academics who have not worked as teachers in other levels perceive themselves more as researchers than those who have taught in other educational levels.

Finally, for this item should be noted that those academics who have no other occupation perceive themselves more as a researcher than those academics who have other occupation.

- *How academics perceive themselves as other*

The average of academics who perceive themselves as other is "much" and there are significant differences for the variable "faculty/college". Academics who perceive themselves more as "other" belong to the following faculties/colleges: 1. Faculty of Education and Humanities of Ceuta; 2. Faculty of Work Sciences and College of Social Work; 3. Faculty of Arts; 4. Faculty of Translation and Interpretation; 5. Faculty of Medicine; and 6. Faculty of Education and Humanities of Melilla; 7. College of Health Sciences, 8. College of Communication and Information; 9. Faculty of Economics and Business; and 10. Faculty of Dentistry.

CONCLUSIONS

The number of academics who identify themselves as teachers is higher than the number of academics who identified themselves as researchers. Therefore, we observe that 89% of the academics perceive themselves as teachers in a "much" and "a lot" degree; whereas 11% of the academics perceive themselves as teachers in a "enough", "little" or "nothing" rate. According to the facts mentioned above, the following statements have been proven:

- Older academics with more experience in the field perceive themselves as teachers in a higher degree.
- Academics from Social Sciences and Law, Arts and Humanities, and Science are more likely to identify themselves as teachers.

> *"I like teaching more than research and management (...).For me is essential to know how to convey to people. In my opinion there needs to be creativity in the teaching process, and have a good memory when students finish their studies."* (e.5: 3-4).

- Civil servant academics and collaborators are more likely to recognize themselves as teachers.

On the other hand, 69.5% of the academics consider themselves as researchers in a "much" and "a lot" degree; whereas 30.5% consider themselves as researchers in an "enough", "little" and "nothing" levels. In addition, it has been proven that:

- Academics from Science perceive themselves more as researchers.
- Non civil servant academics and university full professors identify themselves more as researchers than the rest of the academic ranks.

Unpacking the offered results for teaching and research activities, it could be concluded that academics, in general, tend to feel more identified with and interested in teaching, something that gives them more motivation for their practice. Subsequently, more time and effort are dedicated to prepare it. Therefore, academics possess a greater control over their practice, although always from the isolation that this practice seems to imply. However, this high level of satisfaction becomes unbalanced due to the inexistence of a structured system of training, evaluation and incentive that could heighten and promote this activity. This provokes a lack of amplitude, diffusion and repercussion of such advances within the University community.

It is clear that there is a discrepancy in the way in which teaching and research are conceived and developed; mostly, they are activities disconnected. Training, evaluation and incentives systems for teaching and

research are relevant aspects that influence this separation and, also, determine the academics' conceptions about their professional duties. For this reason, it is crucial to emphasize the necessity of creating structures which will guide the professional development of academics towards teaching and research integration, and which will support the construction of their professional identity according to the appeals of the University and the society.

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60 - Researching Impact of Targeted CPD on Teachers' Professional Attitudes and Classroom Practices

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Abstract: In England there is a national priority to improve science teaching. One action has been to provide high quality Continued Professional Development (CPD) through a National Network of Science Learning Centres (NNSLCs). This paper reports a two year evaluation of courses provided across the NNSLCs to see what impact there has been on teachers' attitudes to CPD and their classroom practices. It was possible to explore differences in impact due to the mode of organisation and content focus of courses. An on-line survey of 1800 participants was used and case studies, involving interviews and document collection and analysis, were carried out in 22 schools. There were impacts from all modes but multi-contact CPD seems to provide a space from which deep and lasting changes in pedagogy and to policy can arise. Time away from lessons that disrupts teaching is an important factor in deciding course type. Various factors in schools can facilitate or hinder impact from CPD courses and these are exemplified and discussed.

Keywords: science education, teacher education, professional development, impact and evaluation.

INTRODUCTION

High quality, sustained Continued Professional Development (CPD) for teachers is one of three characteristics of the world's highest performing education systems, the other two being; recruitment of the highest quality graduates and quality instruction for learners (Barber and Mourshed, 2007). In the UK, as in many other countries, the government is concerned about declining student interest and engagement in school science that has resulted in lower numbers of students taking science subjects at higher levels, affecting the supply of future scientists and technologists (Royal Society, 2006). To address national problems in science education in England, actions have taken place against all three of Barber and Mourshed's characteristics for high performing systems, but it is in CPD for STEM subjects (Science, Technology, Engineering and Maths) that investment and efforts have had the highest profile.

The National Network of Science Learning Centres (NNSLCs) was established six years ago with substantial government and charitable funding to provide Continuing Professional Development (CPD) at one National Science Learning Centre (NSLC) and nine regionally based centres, known as Science Learning Centres (SLCs). The SLCs are mostly based in Institutions of Higher Education and offer courses for science teachers, school technicians and others of short duration (up to three days, but most commonly one or two days). The NSLC was provided with residential facilities and can therefore offer longer courses. Two-part courses are common at the NSLC and comprise blocks of two or three days separated by weeks or months back at school. There are a few courses that involve three or four blocks of training, more often aimed at existing or potential managers or coordinators of science in primary and secondary schools. The other distinct characteristic of the NSLC is that it can provide courses for the devolved nations of the UK, whereas the regional centres are for England only.

The CPD provision is targeted at supporting science teachers and other professionals such as technicians and classroom assistants in gaining knowledge, skills and confidence needed to change their practice in a number of key areas seen as contributing to better science teaching and learning in schools. These include science-specific areas such as the use of contemporary science in teaching, implementing new initiatives in the science curriculum (such as to do with teaching, learning and assessment, practical work and ICT) and more general areas such as leadership and management of change. The aspiration for the programmes is to embed CPD in teachers' professional practice such that it impacts on teachers' attitudes to professional development, on their classroom practices, on pupils' experiences in learning science and on pupils' attitudes towards school science and science more widely. Between 2005 and June 2009, the NNSLCs delivered over 70,000 training days to primary and secondary teachers and other professionals in science education. It is estimated that in 2008/09, the NNSLCs engaged in one way or another with 72% of all maintained secondary schools in England (Holman, 2009).

The research reported in this paper is from a two-year evaluation of the classroom impact of a range of courses provided by the NNSLCs. Other studies of CPD operated by the NNSLCs have been of a semi-formative nature in the early development of the network (Wellcome Trust, 2008) or have concentrated on changes in teachers' subject content knowledge for science teaching (Scott, Ametller and Andrews, 2010). The purpose of this research was to explore impact of CPD on science teachers' pedagogical practices manifested in classrooms and the factors that facilitated and hindered processes of implementation of actions associated with the CPD. Additionally, it was possible to explore these impacts for different modes (durations and styles) of CPD; single day, multi-day, sequences of contact or bespoke delivery of courses designed for specific client groups such as individual schools or groups of schools.

STUDIES OF CPD IMPACT

Guskey (2002) differentiates between five levels of impact of an intervention. At the most basic level (1), the CPD may affect the participant's experiences. At the second level (2) the CPD may impact participant's knowledge skills or attitudes, including confidence. At level 3, the school organisation may be changed as a result of the intervention. Level 4, reflects impact on participant's actions in the classroom and level 5 reports impact in the form of changes in pupils' knowledge skills or attitude. Our studies focussed mainly on factors influencing Levels 3, 4 and 5, according to Guskey's scheme, where evaluation has, traditionally, been less frequent.

Comprehensive impact studies (especially, Desimone *et al*., 2002; Garet *et al*., 2001) across a variety of CPD projects in the US, identified nine characteristics influencing classroom change. They concluded that high-impact programmes focus on CPD content with externally-imposed objectives (e.g. assessment standards) and deal with professional content knowledge (PCK) of new curriculum aspects. The impact is also high if the CPD uses a transparent planning process, formative evaluative cycles, allows for active learning of participants, is implemented in close collaboration with local education authorities and covers an extended period of time. Classroom impact increases if the CPD experience addresses teachers' goals, and links closely with the reality of schools. A subsequent study by Penuel et al. (2007) addressed critiques that the previous studies by Desimore et al.(2002) and Garet et al. (2001) had focused on the CPD provision and less on the implementation context (cluster, school, department, class) within which experiences were embedded. Penuel et al. (2007) found that classroom impact increases when the CPD content emphasises subject content and PCK or the teaching of inquiry methods. The impact is influenced by the total number of CPD hours. Loxley et al. (2007) differentiate between various types of contexts influencing CPD impact, the teaching context, school context and systemic context. Thus, in Loxley's terms, in the US studies reported above, systemic context is the driving force and the school context is the implementation setting. It should be noted that in our studies the NNSLCs works in an environment where the teacher and school contexts are the driving forces and the systemic context is the implementation setting acting as a backdrop to CPD.

Describing the forces driving professional development of British teachers, Day and Gu (2007) identify teachers' need for variation and renewal during their professional life in order to remain an effective teacher. Based on a 4-year longitudinal study using data from more than 300 primary and secondary teachers from a stratified sample of schools in England, Sammons et al. (2007) concluded that strong teacher resilience is expressed, amongst others, as change in classroom activities. They suggest that CPD experiences strengthen classroom impact if the CPD experience takes account of personal, workplace and external factors. More specifically, Boyle et al. (2005) explored the relationship between the characteristics of the CPD provision and impact on classroom practices. More than three quarters of their sample of 800 primary and secondary teachers across England, participating in long-term professional development activities, reported changes in lesson planning, assessment approaches and/or teaching style (Boyle et al., 2004).

In terms of CPD programme duration, Hammond et al. (2009) established that only programmes with more than 30 hours contact time over an extended period of several months show statistically significant positive outcomes on student learning (level 5 impact, according to Guskey, 2002). Cordingley et al. (2007) surveyed the nature of the CPD support provided by specialists (from inside and outside the school) in interventions of more than 12 weeks. Classroom impact had a large component of participant autonomy, allowing structured time for teachers to develop bespoke materials and strategies which would be supported when applied to their own practice. Although little research has been undertaken on CPD support through short, specific, and targeted interventions, received wisdom assumes 'more input, more impact' (see also, Adey, 2004). An illustration of a study of the classroom impact of a short CPD workshop to support the teaching of Earth science at KS3 is provided by Lydon and King (2009). They analysed questionnaire responses for classroom impact plus baseline data for the state of pre-workshop teaching of Earth science in 15 participating schools. After one year all schools reported long-term changes, to various degrees, as evident from changed schemes

of work to accommodate practical activities promoted at the workshop. Half of the schools reported considerable impact, adopting most or all of the proposed activities. The reported impact resulting from a 90 minute workshop contradicts earlier reported research suggesting that CPD needs to be sustained for impact to occur. Lydon and King (2009) point out characteristics of the successful CPD intervention; it was grounded in an explicit theory of learning and promoted tried-and-tested teaching methods supported by high quality and detailed materials for a newly constituted area in the curriculum. Also teachers, who attended as whole science departments in the school-based CPD workshop, were encouraged to work in groups and share experiences and so to take ownership of the changes. These findings suggest that appropriate CPD content and a facilitating school context can offset absence of desirable features of the extended CPD.

METHODS
The studies reported addressed the following research questions:

RQ1: What is the nature and extent of teachers' professional change in classroom activities as a result of participating in selected CPD programmes?

RQ2: What are factors facilitating or hindering classroom impact of selected CPD programmes?

RQ3: How does the mode (course duration/delivery style) of courses affect impact of the selected CPD programmes?

Sample
Data were collected from participants in 28 selected courses provided at regional Science Learning Centres (SLCs) and at the National Science Learning Centre that took place between June 2009 and April 2010. Participants were from primary and secondary schools with larger numbers from the latter. Courses were selected on the basis that they represented different durations or styles of delivery (called **modes**) and had content associated with one of three key **themes**; curriculum innovation, subject pedagogy or leadership. There was also the requirement that courses should be provided across the network, not just at one centre. Table 1 shows the modes and themes of courses evaluated. The numbers of detailed case studies of practice in schools are shown in parenthesis in the relevant cells.

Table 1. Summary of the courses studied

Course mode	*Curriculum*	*Pedagogy*	*Leadership*
[A] Single day	4 (4)	2 (2)	-
[B] 2/3 day	1 (2)		-
[C] Sequences of multi contact	1 (2)	3 (6)	3 (6)
[D] Bespoke CPD	2	4	3

Number of courses (and cases) studied in each theme

There were two phases of the research. The first phase took place between July 2009 and February 2010 and was concerned with eight cases studied from four courses (Modes A-C). The second phase took place between July 2010 and January 2011 and involved collection of survey and case study data from a total of twenty courses. In this phase, data were collected from an on-line survey sent to 1800 teachers participating in courses (in Modes A-D) and through detailed case studies (for courses in Modes A and C) carried out in 14 schools, bringing the total number of cases (schools) studied in both phases to 22. It was not possible to carry out detailed case studies in schools taking bespoke courses (mode D), although questions used at interview had capacity to collect information on the planning and experiences of such courses.

A team involving lead researchers at the University where the study took place collected data in the first phase. To extend data collection across all regions of England, in the second phase, the team was expanded by recruiting Centre Evaluation Leaders (CELs), one based at each SLC. CELs were trained by experienced lead researchers from the University using a programme designed to ensure consistency and reliability in data collection and analysis. The training process is described in our full report of the second phase of the research (Bennett et al., 2011).

The on-line survey questionnaire consisted of twenty closed questions with single or multiple options and open comment boxes. Items focused not only on the selection process of the CPD course and the perceived impact of the CPD experience across Guskey's levels, but also on reasons and available evidence supporting these views. The sample population consisted of all participants in a selection of CPD courses stratified for the four CPD modes (A-D, shown in Table 1) and three content themes (Pedagogy, Curriculum and Leadership). A total of twenty courses (in Modes A-D) were included in this part of the study. Over a period of six weeks, 156 responses were received, six of which had no clear indication of a course code, and thus

could not be classified for mode or theme. The remaining 150 responses formed the basis of the analysis. The responses were analysed using simple statistical methods of frequency and percentage comparison between modes and themes, thus identifying patterns of differences. The reliability of the interpretation of the analysis was safeguarded since two researchers independently viewed the findings, and the responses for several items were discussed at research workshops involving CEL researchers.

Case studies involved face-to-face interviews with teachers from two different schools attending each course. In secondary schools the intention was to also interview a Head of Department or subject and one other senior manager, usually the person managing and monitoring CPD activity for the whole school. In primary schools the intention was to interview the Headteacher as well as the teacher participating in a course. Interviews were recorded and transcribed and the text of each interview was allocated line numbers. In some cases it was also possible to collect documentary evidence of teachers' action plans connected with courses and any training materials or lesson plans that had been produced as a direct result of CPD experiences and outcomes. Researchers from the central research team and CELs analysed text and extracted examples of responses according to a set of themes that emerged from scrutiny of responses in an early part of the study.

FINDINGS

The nature and extent of teachers' professional changes resulting from CPD

All course modes and themes had similar capacity to challenge the ways in which teachers teach (that is, at Guskey level 2). On-line survey results showed this was true for 2 in every 3 teachers, though only 1 in 6 said they were challenged very much, except for courses involving multi-contacts (Mode C), where this was closer to a quarter of teachers. Leadership courses provided much more challenge than ones focussed on curriculum or pedagogy, where nearly all (94%) felt teaching was challenged a lot or to some extent. Case studies revealed that impact on one's own practice was universal, even where teachers were highly experienced or already had significant management and training roles. Examples of changes were often subtle, sometimes peripheral to a course's central intentions, or through casual 'osmosis' from practice experienced through CPD into one's own pedagogy. For example, an experienced teacher and Head of Department commenting on a course, focussed on leadership of change, said this:

> *"... if you go along to inset* [CPD] *session and you see someone delivering something and ... doing it confidently, you can take that into your classroom teaching ... that sort of style, and you always pick up these things* (even when the course is about management and leadership). *All of this adds to your kind of. . .repertoire"*

Data in Table 2 below show that two out of three teachers reported, in the survey, that the CPD had affected their teaching in some lessons or even most lessons (53% and 11%, respectively). The proportion of teachers reporting such change was considerably higher for multi-contact courses (a total of 84%) and for leadership courses (85%). However, change in teaching was less than average for those involved in single day courses and curriculum courses.

There was a strong desire shown by most teachers to share outcomes of their CPD. Hardly any (3%) of the respondents in the survey saw themselves and their pupils as the only beneficiaries. Almost half (47%) of respondents reported that their whole department or Key Stage (age phase) team benefitted from their CPD, whereas one in three (32%) teachers reckoned that only one or two colleagues benefitted. In addition, one in six teachers reckoned that the CPD had a positive impact on their whole school, teachers in other schools and students teachers. These trends were supported by case study data. Strong actions to change whole school approaches or policies were particularly common in primary schools. It seemed primary teachers attended courses with intention to obtain specific skills, knowledge and expertise that would be rapidly disseminated to colleagues and so influence or change school policies. For example, a course on Gifted and Talented

Table 2: Teachers' reported changes in their classroom teaching (n=150)

Change in classroom teaching	Mode (%)				Theme (%)			All (%) n=150
	A n=52	B n=8	C n=60	D n=30	Ped n = 27	Curr n = 61	Lead n = 62	
Most of my lessons	8% (4)	13% (1)	12% (7)	17% (5)	11% (3)	7% (4)	16% (10)	11% (17)
Some of my lessons	37% (19)	88% (7)	72% (43)	37% (11)	56% (15)	36% (22)	69% (43)	53% (80)
A few of my lessons	37% (19)	0% (0)	7% (4)	30% (9)	22% (6)	39% (24)	3% (2)	21% (32)
Not really changed the way I teach	19% (10)	0% (0)	10% (6)	17% (5)	11% (3)	18% (11)	11% (7)	14% (21)

pupils clarified what the term 'Gifted and Talented' implied and resulted in a radically changed school policy on learning provision for these pupils. Changes in practice often have to be proven to be successful at a personal level before a teacher feels able to communicate and recommend them to others. This was particularly so for teachers in primary schools. One primary teacher said this:

> *That's usually what I'd do from a course, I try things out. I think most people are the same. There's certain things you can pass on that are general to the school. When it comes to ideas, you're better having tried it yourself and if it works then... on a training day I can show them* (colleagues) *some of the activities when I feel a bit more confident using them and that they work.*

In some cases actions were far reaching and sustained over a period of months following CPD. These actions typically included any of the following: preparing sets of training materials, surveying teachers' lesson plans, making changes to long, medium and short term plans for teaching, training technicians, purchasing additional equipment and books, adapting or changing policies, liaison meetings with teachers in other schools and special activity days for pupils from nearby schools.

When it came to providing actual, 'hard' evidence of change in teaching or effects on pupils' learning, teachers and their managers often found it difficult to provide more than anecdotes or vague impressions of what might have occurred or been achieved. In the survey, more than half (50-57%) of respondents indicated they were uncertain of impact. Where teachers did cite evidence for change, over half referred to own observations in their lessons (56%) and to general improvements in the quality of pupils' homework or classroom tasks (52%). Only one in four respondents referred to more objective evidence, such as lesson observations by colleagues (28%), pupil questionnaires (26%) or test results (20%). It was notable that changes due to courses intending to improve pedagogy and curriculum were, generally, less well evidenced probably because leadership courses have more built in opportunities requiring reporting evidence of impact to course peers

Part of this reluctance or inability to warrant changes could be because managers in schools found it hard to distinguish impact of CPD from impact more generally. For example, in the case of a course for new Heads of Department over one academic year, it was hard to distinguish specific impact of the CPD from impact that had accrued from the teacher's personal development through having to manage other professionals. His Deputy Headteacher said this:

> "I can't . . . if I'm honest, say whether I genuinely think the course has made any difference to him whatsoever because it's so difficult to extrapolate that from what was happening to him over that year anyway. . ."

Schools' implementation space'. Factors facilitating or hindering classroom impact of selected CPD programmes

In analysing case study data, the team at the University coined the phrase 'school's implementation space' for CPD. This describes ways in which the human and physical resources in a school are brought together to plan, manage and implement CPD and its outcomes. Thus it describes the management systems organised to identify individual, departmental and whole school needs for CPD and ways in which outcomes are facilitated, for example through dissemination events, provision of equipment or other support for teachers to collaborate, reflect on and plan for development or change. Implementation space is also occupied (or at

least it should be) by processes to collect and analyse evidence of CPD impact. Where this takes place it could be through observations of lessons, monitoring of teachers' and departments' action plans, pupil work monitoring, surveys of pupils' voice and collection of pupil performance and other data.

Case studies showed that successful implementation of CPD outcomes, both at a personal level and especially in dissemination to colleagues or to bring about policy change, relied on harmonisation of CPD with department or school drivers for development. In one or two cases there were strong examples of deep rooted changes, backed by the sorts of corroborating evidence that were rare in many schools. In one case in particular, which we named the 'dream ticket for CPD' there seemed to be a number of features in the school's implementation space that were particularly important:

> The time was 'right' – a newly appointed Head of Department (HoD) seeking a willing ally (the teacher participant in the course) to implement change.
> The right 'central alliance' –the course participant was seen by school managers as an 'alpha teacher' working with a willing, though less experienced, middle manager (the HoD).

The right 'relaxed conditions', allowing the alliance of participant and HoD to occupy and function in the CPD implementation space – helped by school managers who 'backed off', allowing developments to occur without their interventions or constant critiques.

The right course type – a course on effective science demonstrations that was seen to be in sympathy with improving science by making it more exciting and appealing to pupils, thereby raising their levels of interest in and attitudes to science.

Previous contact with NNSLCs' courses. The teacher participant and her HoD had both previously attended a course at the NSLC and had been impressed by the quality of provision, tutor delivery and materials.

Analysis of case study data revealed hindering factors in schools' implementation spaces included: lack of provision to share and develop new approaches from CPD, absence of resources to invest in equipment or materials seen on courses, organisational arrangements of schools such as split site/short lunchtimes and the resistance of some teachers to adopt changes suggested by CPD. In one notable case, it was partly a failure in the lines of communication that conspired against impact. This case involved two teachers from the same school who had attended a single day course on 'Effective and Safe Demonstrations in Science' and who were determined to hold a series of sessions for their colleagues back at school so that examples of demonstrations could be shared. Unfortunately the placing of these two teachers on the course had been made by a senior manager without the knowledge of the Head of Department and so Departmental meeting time had already been allocated to address other activities and issues, meaning these teachers were unable to share their professional learning and their aspirations were frustrated.

The impact of different modes of CPD delivery

The mode (length) of a course strongly influences schools' choices for CPD. Choice is influenced by a complex set of interacting factors; cost, location, duration, likely disruption to teaching, disruption to personal lives and the personal expectations of teachers and their managers. In the survey, 56% cited disruption to teaching as the most influential factor in choosing CPD mode. Case studies revealed this was particularly sensitive where examination classes might be affected. One senior manager in charge of CPD for a school said this:

> *"I think people are very reluctant to say that they want to do them* (courses) *because they are just worried, you know... all the students that we teach are examined... You've got your lower years which you can maybe leave but, for us, time is so tight that people are very reluctant to leave their classes for more than one lesson, which is what it would be to go on any course."*

The survey showed choice is influenced by self–identified factors related most to the teacher (97% claimed needs are self identified). However, approximately 3 in 4 teachers still acknowledged the influence of managers. This links with evidence from case studies where interviewees in secondary schools described a CPD policy based on a 'bottom-up' approach to CPD whereby teachers are required first to self-assess CPD needs and these are then moderated by overarching requirements of departments or schools to bring about macro-changes in teaching or the curriculum.

One in three selected a course on the quality of the learning experience and here, personal or received knowledge of SLCs and the quality of what they provide is important as this quote from one of the interviews shows:

> *Well, we have had a lot of positive experiences with local Science Learning Centres ... I was aware of some of the resources coming out of them and at my last school, in Yorkshire, I went to the NSLC at York and it was great ...*

Multi-contact (Mode C) courses were often favoured on the basis of thoroughness of the learning experience. Thoroughness was also associated with bespoke CPD which has the added advantage of being less disruptive to teaching. While there were a number of advantages to Mode D (bespoke) courses including cost, immediate relevance, rapid dissemination and collegiate involvement, some teachers and their managers seemed to prefer an environment for CPD away from the busy and sometimes distracting routines and duties in a school. Half-day courses seemed hardly worth the cost and time for travel or setting of work compared with day courses. Twilight (after school) sessions are often seen as inappropriate and ineffective, due to levels of fatigue at the end of a day's teaching.

There are overlaps between themes that make it hard to associate the level of impact on individuals and their colleagues or at department or whole school level with the theme of a course (curriculum innovation, pedagogical change or leadership). For example, a course focussed primarily on curriculum innovation such as a new government initiative on teaching the history and philosophy of science could have just as much, if not more, potential impact on pedagogy because of the active promotion of certain ways of teaching, for example using group discussions of controversial science.

In case study interviews, the most commonly expressed advantages of multi-contact courses (Mode C) over other modes were that they provided cognitive space for deeper reflection on teaching and to test innovation and actions with wider impacts for teaching, such as assessment for learning. Gaps between days or blocks of CPD allowed deeper reflection on practice and for participants to clarify and debate effectiveness of changes in practice or policy with other teachers. Tasks set between blocks appeared to have facilitated and enhanced the extent of professional reflection. Course materials, procedures and techniques were most often used within weeks of the CPD event, much more so in Mode C and leadership courses (15% more than other themes).

As far as impact on pupils (at Guskey's level 5) was concerned, the survey findings showed improvements in pupils' science skills were most commonly reported even when courses had not had a specific focus on teaching practical science or on the history and philosophy of science. Improvements in pupils' general skills (such as 'thinking') were reported more often for Mode C (multi-contact) and Leadership courses, and less so for Mode D courses. An improvement in pupils' attitudes to science was relatively more frequent for Mode C and Pedagogy courses.

CONCLUSIONS

Combining the collection of quantitative survey data with qualitative case studies of enactment of CPD outcomes in schools provides fruitful material for analysis of impact. Survey information on CPD choice and expectations and outcomes, on its own, can provide a general picture of the processes and impact of CPD related to mode and theme of courses. However, school-based factors for CPD impact are highly situated and so case study research in schools is essential. The mode of delivery/duration of a CPD course cannot easily be separated from its theme. For example Leadership courses were almost always delivered through the multi-contact mode (Mode C). It has been possible to collect and analyse data across a wide variety of course types and school situations using a collaborative research model for multi-site research. This required extensive training and support for the personnel involved.

The mode of a course strongly influences schools' choices for CPD. Teachers and managers often found it hard to produce systematic evidence of impacts of CPD on teachers' professional learning and practice or on pupils' learning, attitudes or behaviour. Bearing this in mind there are still plenty of examples of claimed impact at all levels of Guskey's model including and beyond level 2. Challenge and changes to existing ways of teaching, likely dissemination to colleagues and impacts on pupils' performances, attitudes and behaviour were claimed for all modes and themes of CPD challenging findings of some previous studies (Darling Hammond et al., 2009; Penuel et al. 2007). However, it was still the case that these featured more for Mode C courses (multi contact/Leadership). Even where courses are clearly targeted at leadership, participants still show strong personal gains that change the ways they see their teaching.

SLCs have advantages of being able to provide high quality state-of-the-art training environments, experts in CPD content of courses, spaces allowing concentration away from the day-to-day life of school and the sharing of expertise between teachers from a wide variety of educational situations. These features were clearly valued by many who felt that CPD is more effective when teachers are able to think outside the

contexts and spaces of their busy professional lives. Nevertheless, a number of school-based factors including cost, location, lower risk of badly matched situational relevance and perceptions of deeper professional learning in a collegiate environment may persuade school managers and leaders to favour bespoke (Mode D) courses in the future.

In a time of limited financial resources, investment in CPD focused on multi-contacts and leadership seems particularly worthwhile to bring about the sorts of deep seated professional knowledge and change needed to improve science teaching quality along the lines desired by the nation. This is not to say that other modes of course delivery should be abandoned in favour of only funding these types of courses, as our studies show all modes have are valued by teachers and have impact. To embed changes at school level, however, will require systemic improvements in evidence collection and follow up to professional learning outcomes of CPD, whatever course type is followed.

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Full reports of the CPD evaluation research are available from the NNSLCs at:
https://www.sciencelearningcentres.org.uk/research-and-impact/research-reports

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73 - Inclusion in Brasil: A Collaborative Consultation Program as Support for Teachers in Public Schools

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Abstract: Inclusion of special students is gradually occurring in Brazilian public schools. Teachers main complaints refers on how to work reading and writing with special students. The objective of this study was to establish and evaluate a collaborative consultation program between researchers and regular school teachers on a methodology of collaborative action research, in a way that the researchers take part and make a process of change previously stated by the group. The study was realized in one regular public school and participants were 2 researchers, 8 regular teachers and 12 children with disabilities. Teachers had group meetings every week with researchers to evaluate and discuss actions and lectures every month about a chosen topic. Data was collected through teacher interviews, field diary, student progress recording, videotaping.. The results demonstrated that collaborative consultation has been proven to be an efficient support for teachers who have special children included in their classrooms.

Keywords: special education; inclusion; collaborative consultation.

INTRODUCTION

The inclusive education movement in Brazil had a great impact on the discussion of education policy for children and adolescents with special needs since the vast majority of this population had been historically excluded from the public education system in Brazil.

During the World Conference on Education for All in Jomtien, Thailand in 1990, Brazil has established basic goals to improve the Brazilian educational system. Among these goals, it seemed necessary to improve the education of children and adolescents with special needs. Later, in 1994 as a result of the World Conference on Special Needs Education: Access and Quality, organized by the Spanish Government and UNESCO in June 1994, the Salamanca Statement was approved. Theories and practices based on the principle of school inclusion began to be discussed with emphasis in Brasil.

Since then, the inclusion of students with special needs has gradually occurred brazilian in public primary schools (Brazil, 2006). In on one hand this insertion has been identified as positive (Mantoan, 2006), on the other, has generated conflict and distress to many teachers not knowing how to work with these students (Arsenic, 2007).

Once the public school system has demonstrated the desire for political change, the enrollment of children with special educational needs in ordinary classes began to increase and the horizon for research on school inclusion opened. Although there is no official data on this, it is known that one of the biggest complaints from teachers regarding inclusion of students with special needs, refers to the fact of not knowing how to work with certain content with students who are not literate; among these contents, the most problematic is the area of reading and writing - this area has been identified as the teacher most needs support. In this sense, collaborative consultation can constitute an important way to support teachers in specialized educational services to students with disabilities enrolled in regular education, since this service has the function to identify, develop and organize learning resources and accessibility eliminating the specific barriers to pupils, aiming their full participation in activities.

The collaborative consultation is a form of mutual work between the teacher education policy and a specialized professional counseling to discuss problems, find solutions to problems related to school inclusion (Palches, 2009).

Thus, this study aimed to show the development and evaluation of a collaborative consultation program between the project coordinator sponsored by FAPESP (Notice: Public Education Announcement), teacher /

researcher and resource room teachers in regular schools in meeting the specialized educational services in reading and writing for children and adolescents with different special educational needs – intellectual disabilities, learning difficulties and visual impairments. This project arose due to a concrete need for a public school and research involving the subject studied (Almeida, 2005; Almeida & Alpino, 2006, 2008; Almeida et al., 2007, 2008; Almeida & Rocha, 2008).

To develop this intervention research, the reference was research on collaborative consultation, which is defined by some authors as "an interactive process that enables groups of people with diverse experiences to generate creative solutions to mutually defined problems" (Idol, Nevin & Paolucci -Whitcomb, 2000, p.1).

For Kampwirth (2003), collaborative consultation is a process in which a consultant trained in the school works equitably, in a non-hierarchical relationship with other members in order to make decisions together and make plans aimed at improving the student who needs intervention.

Unlike other forms of consultation, collaborative consultation aims to work in conditions of equality among all members, adding experiences, searching for solutions, planning and evaluating together. Thus, it is essential to mutual respect, dialogue, non-use of jargon, the desire to learn with others and willingness to give and receive suggestions (Palches, 2009).

To have this partnership and in order to accomplish a successful collaborative work, it is necessary to establish some steps or stages. In this regard, Idol, Nevin, and Paolucci-Whitcomb (2000) established six stages in the process of collaborative consultation: 1) Create bond and establish team goals - is to create a bond with the first team work, goal setting, roles and scoring goals and benefits of collaborative work; 2) Identifying the Problem - there is a team effort to define clearly and precisely what is the problem that needs to be solved, 3) Interventions / Recommendations - the team discusses possible solutions and alternatives for action and plan how application will happen; 4) Implementation of the recommendations - the strategies and interventions are implemented to solve the problem, 5) Evaluation - outcomes of intervention are evaluated in terms of successes and points that need to be reviewed, 6) Continuation - the team evaluates their collaborative partnership work, celebrating the successes achieved by restructuring the job, making sure that the advice should continue, and formulating new goals.

The collaborative consultation generally involves the consultant, staff and students, this relationship, however, may extend to family, community and other people / professionals.

This type of consultation aims to find solutions both short term and long term, avoiding the emergence of other problems. This is the opinion of Jordan (1996) who believes collaborative consultation as a tool to promote the practice in the classroom, including three goals: to solve an immediate problem related to the learning situation punctuated by a colleague or team; help the colleague or team to develop knowledge and skills to enable them to deal with similar problems in the future and change the way people work, that is, their views and beliefs with respect to the person with special educational needs. The collaborative consultation permits, thereby not only solve current problems but prevent future problems and enable the teacher / staff to deal with them later.

Besides these benefits, the literature has pointed out other benefits of collaborative consultation. For Kampwirth (2003) this consultation allows, among other things, an approximation of labor between regular and special teacher; the support given to teachers who deal with the difficulties of the student; generating ideas through a joint effort ; the improvement of services offered to the student. In addition, the collaborative consultation also allows the team to get the field in the contents worked, interpersonal communication, the ability to solve problems, intrapersonal attitudes (Idol; Nevin & Paolucci-Whitcomb, 2000).

Some studies have offered contributions in this direction. Mishna and Muskat (2004) conducted an intervention project for people with learning difficulties, offering advice to parents and education professionals; the realization of this project showed improvements in performance of these students and provided greater understanding to parents and school staff on dealing with people with learning difficulties. Allen and Blackston (2003), undertook a study of training for teachers involving collaborative problem solving. The results indicated a greater adherence of teacher planning conducted jointly positive results in student behavior and the acquisition of problem-solving skills.

In Alpino's research (2008) a collaborative consultation program was carried out involving a physical therapist and teachers of students with cerebral palsy, and the results showed significant gains: the training of teachers; adaptations to the physical space / school furniture, the use of assistive technologies, activities and materials.

The literature presents some studies (cited by Idol, Nevin & Paolucci-Whitcomb, 2000) where the collaborative consultation is used as an important form of support for people with different disabilities, in varied educational needs and different levels of education.

In Brazil, there are not too many publications in this topic (Almeida et al., 2007; Almeida et al., 2008; Almeida & Alpino, 2006, 2008; Almeida & Rocha, 2008; Alpino, 2008; Jesus, 2007; Mendes, Toyoda & Bisaccione, 2007), despite some pioneering initiatives, and therefore required more research, covering the Brazilian reality. Besides being very few publications on collaborative consultation as well, according to Capellini and Mendes (2009), there are not, in Brazil, legislation and curriculum that gives support to a collaborative work.

Are even more scarce publications relating to collaborative consultation aimed at specialized educational services in reading and writing problems, where this intervention is indispensable to use strategies that facilitate the acquisition. ..

Thus, the work of collaborative consultation is to find strategies that address different modalities to solve or mitigate the problem of reading and writing, thus causing improvements in the school, being this, the objective of this research.

METHOD

The investigation is based on the methodology of collaborative action research, which is one among the many existing forms of action research used recently. In this mode, the function of the researcher is "to take part and make scientific a process of change previously started by the group" (Franco, 2005, p. 485).

Giovanni (1998) points to projects that address the collaborative action research between school and university, can generate innovative practices both within schools and the university.

Participantes

The participants were a team of eight teachers (two men and six women) from elementary school and a resource room teacher from a metro school system from a city in the interior of Sao Paulo. All teachers were over 10 years of teaching experience and were working in different grades in elementary school. Four of them had undergraduate degree in education, two with superior normal school, two had degree in Portuguese Language and one had a course of literacy. The teacher who also served as researcher, besides being a resource room teacher, has PhD. in Education. All teachers had students with disabilities placed in their classrooms.

Local

The survey was conducted in a Municipal Elementary School Education (EMEF) located on the outskirts of a midsize city in São Paulo State.

The intervention sessions took place in the classroom of each teacher as well as some interventions were performed in the computer lab at school, through the use of educational software and other computer resources. The team meetings occurred in the school resource room.

Materials

It was used the following materials and equipment: a notebook, digital camera, camcorder, a computer, printer, software and educational bond paper (for assistance in the computer lab and to make material for teachers and students) as well as electronic projector with the projection screen.

Data collection procedures and analysis

The data were collected through video and recordings and also it was used the following instruments: "Teacher interviews", "Diagnostic Evaluation ", "Planning Interventions Protocol", "Record Sheet - Daily Field. At the end of the research it was used: " Final interview with the teachers", "Record of Student Progress".

Table 2: Study design and timeline

Steps	Objectives Year: 2009	Data Collection / Data Analysis Procedure
1 - Ethical Procedures. (September / 2009)	Clarify the team and obtain approval for the research.	- Authorization request for school principal for the Municipal Secretary of Education and for students parents submission of the project to the research Ethics Committee of UFSCar.
2 - Planning the Pilot Study. September	Making a first approximation of the stages of collaborative consultation..	- Presentation of the project for the team and mini-course - Meeting with staff members and parents. - Information on daily field use. - Information on observation in the classroom
3 – Search for student reading and writing problems of (October / 2009)	To investigate the problems presented by students and possible strategies to solve them.	- Meeting with members of the team. - Discussion of data from the field diary. - Interview with Teachers: A guide for for Diagnostic Evaluation - Elaboration and implementation of instruments designed as a team to verify the reading and writing difficulties.
4 - Planning of interventions. (October/2009)	Planning in collaborative partnership, as will be made interventions and planning lessons.	- Meeting with members of the team - Discussion on the data of field notes. - Using the "Protocol Planning Interventions"
5 - Implementation of Pilot Study October and November/2009	Implement the planned interventions, and evaluation of what was not successful. Share the experience with the group.	- Meeting with team members - Discussion on the data of field notes. - Using the "Protocol Planning Interventions". - Guidelines for parents.
6 - Evaluation of collaborative consultation based on Pilot Study (December/2009)	Make a survey of collaborative consultation from what was experienced by all staff during the implementation of the Pilot Study, by gathering data relating to impressions of the team about the students studied in order to verify and discuss the results and strategies for 2010	- Meetings with team members - Use of a field diary Reflection and analysis of data from the Pilot Study
	Year: 2010	
7 - Action planning for 2010 based on the Pilot Study (January and February)	Make a survey of the problems presented by students and possible strategies to solve them.	Meeting with team members. - Discussion about the use of field notes. Reflection on the actions of 2009 and suggested actions for 2010 - Interview: "Diagnostic Evaluation" with teachers - Elaboration and implementation of instruments designed as a team to verify the reading and writing difficulties of students
7. application of planned strategies March to November	**1.Realize phonological awareness activities** (Activities: rimes, Music, Poetry, Cards syllables, spelling mistakes, sentence structures, forms of reading, spelling cards, tokens alphabetic) **2.Realize Learning Strategies** Story about learning strategies, preparation of posters, presentation on learning strategies, **3. Carry out strategies for promotion of Cognitive Development** **4. Perform necessary curricular adaptations**	- Meetings with team members - Data analysis of field notes. - Realization of Phonological Awareness Activities, learning strategies - strategies for promoting cognitive development, curricular adaptations - Filming the lessons - Photograph classes - Using data show - Use the "Protocol Planning Interventions" - Guidelines for parents.

Table 2: Study design and timeline (cont.)

Steps	Objectives Year: 2010	Data Collection / Data Analysis Procedure
8. Evaluation of collaborative consultation. December/2010)	Make a survey of collaborative consultation from what was experienced by all staff	Using the "Guide to final interview with the Teacher" and "Final Record of Student Progress"
		Data Analysis
9 - Analysis of the data. December / 2010	Gather data regarding to the impressions of the team, and students participants in order to verify and discuss the results.	- Gathering the collected the data in class / interventions (tapes, pictures), in the questionnaires, on the field notes and meetings with the team, about the strategies used and collaborative consultation. - Based on these data, formulate and cluster analysis categories, making a statistical analysis regarding the occurrence of them - Descriptive analysis of opinion / experience of teachers regarding the collaborative consultation. - Data collection and discussion of methodology used in the questionnaires

Research stages

Each intervention activity was planned in advance by the team, considering what was raised earlier about student difficulties. At each meeting, the various cases were discussed. Based on the observations of the team, interventions were conducted in classrooms by teachers. All this experience was shared with the team that assessed whether the intervention was successful or not, so this experience was added to other teachers. Importantly, the intervention was intended not only to students with special needs, but to everyone else.

Year: 2009

The first part of research began in August 2009 and lasted until December 2009, coinciding with the closure of the school year. At first moment of the work, the selected teachers were invited to attend meetings. It was made a general presentation of the project and initial interviews with all participating teachers ("Guideline to Initial Interview" and "Guideline for Diagnostic Interview) and they all signed the "Statement of Consent. "
The results of these questionnaires showed that, among various difficulties mentioned by the teachers, lack of training resource materials were considered most critical and that Portuguese is considered the most difficult subject to be taught. Based on these data, meetings with teachers were started.
At the beginning of the study (August/2009), teachers in each class applied for a diagnostic test to verify the level of reading and writing of their students. The purpose of these tests was to identify the degree of reading and writing not only for the target student, but for the entire room, considering that the interventions would be in everyday classroom and for all students. With this evidence a survey of learning difficulties of these students was done, although some points were raised by the team, that will be discussed later.
In those early meetings, there was little interaction, predominantly over the speech of the researchers. This type of preoccupation was noticed through the notes drawn in the teachers diary:

> *"At first I felt insecure about the realization of the project but gradually, the meetings were clearing my doubts"* (Teacher 4).
> *"During the first meetings I had mixed feelings. Curiosity and apprehension about the project: "How to perform?", "What's next, " "Will I cope?", "Can we achieve the goals?".* (Teacher 6)

Each teacher received a diary to make notes, in order to remind them about what was said at the meeting, guiding them and avoid potential interpersonal problems. The daily information was fixed in teachers diaries, such as: the definition of collaborative consultation roles in the project, characteristics of the collaborative team, guiding questions for the field notes).
Gradually, barriers that previously existed, i.e the passive attitude regarding the project were being broken. According to Gately and Gately (2001), the collaborative work involves three stages: 1. Early Stage - characterized by infrequent and formal conversations, but also a certain inhibition 2. Commitment stage - there's more enggement, more communication and experiences exchange; 3. Training Collaborative - the

interaction is can be loose, spontaneous and humor predominates. Therefore, the team seems to have passed an initial stage to a s commitment stage making it clear to teachers that they were chosen precisely to exchange their experiences and teaching knowledge.

All meetings took place weekly, on normal working hours on a schedule designed for school planning.

Regarding interventions, it was agreed with the team, that it would be worked on strategies to students from 1st to 3rd year, considering the difficulties of attention and memory of the students targeted by the survey such as: 1. syllabic families report to as a visual and auditory to read and write, 2. use mnemonic strategies to remember some letter ("the "e" from Elephant"), 3. remember the many uses of a letter / syllable, 4. Associate the sound of a word starting with the initial sound of another word - alliteration, 5. Associate the sound of words that end in the same way.

With the students from the 4th to 9th grade, strategies were worked on the basis of literature (Boruchovitch, 2007; Coast Rivers, 2005; da Silva & de Sá, 1997): 1. Learn to summarize (orally and in writing later), 2. Find keywords in the text, 3. Underline important words and phrases 4. Use resources to store (schemas, graphs, charts, drawings), 5. Have a notebook with these resources (socialization with the room), 6. Use dictionaries and the Internet to seek information 7. Acquire the habit of reviewing what was learned; 8. Working understanding of the text orally and then in writing 9. Division of text into parts, using illustrations.

For all students, from the early years until the final years of elementary school were also worked attitudinal strategies based on literature (Costa & Boruchovitch, 2004; da Silva & de Sá, 1997): 1. To know how to remove objects or situations which cause distraction in the environment 2. Reduce anxiety in reading and writing, 3. Make it a habit to review what was done 4. Not being afraid of making mistakes; 5. Do not be afraid to ask 6. To believe you can achieve 7. Difficulties persist in 8. Cope with challenges; 9. To learn to concentrate, to think and plan; 10.To review / check what was done 11. Learn to motivate yourself 12. Learn how to identify difficulties and facilities

During the meetings, the teachers planned intervention activities, and were instructed how to record the field diaries, which was shared with team members. During the meetings, the teachers began to share more and exchange materials and activities. In this sense, were made available two folders - one for activities in the early grades and one for the other series - in which the team could leave them copies of activities and materials for the group.

The "Protocol for Intervention Planning " was also used and in this type of protocol each teacher had very clear what would be his/her intervention and would have more elements to share the results with the group. The use of videos and photos, helped to record the activities.

In one of the meetings, the group reached an important conclusion - that the students learning difficulties lies not only in reading and writing but in the use of cognitive abilities in general. This is based on the fact that these students participate in various activities in reading and writing, both in the classroom, as in the resource room and school support services, and even then, show little progress. Thus, it was noted that perhaps the way to achieve better performance with these students would be in addition to reading and writing activities that develop working memory, perception, deductive and inductive reasoning, mental imagery, problem solving, among others. In this sense, addressing to the Human Information Processing could easily contribute to it.

In the last meeting in December it a general evaluation of the project was discussed. It was raised the strengths and weaknesses of various instruments, interventions, diaries, collaborative work, as well as other issues were raised.

As for the instruments of data collection, there was total acceptance of the "Guide to Initial Interview, "the "Guide to Diagnostic Interview" and " Intervention Planning Protocol".

As for the evidence used to identify the problems of reading and writing, it was raised the following questions: teachers felt the need for a more complete evidence that would allow a better identification of the level of reading and writing of their students.

Teachers from lower grades felt that the test "Four words and a sentence " (Smith & Teberosky, 1986), not identified in more detail the level of the reading and writing, and the other teachers felt that the dictate "One afternoon in the field "(Sisto, 2007) only allowed to obtain a student's profile in the area of spelling, requiring instruments for evaluation in the areas of production and interpretation of texts. It was then proposed to draw up specific test for the early grades, including identification of vowels, consonants, and phonological awareness, and for the other series, one assessment containing three tests: dictation, reading comprehension and production. Thus, it would be possible to have a qualitative and quantitative assessment from the beginning to the end of the interventions.

Another issue raised was regarding the administration of videos and photos. Teachers proposed that both the videos and the photos were taken by themselves, in order to leave the environment as natural as possible. There was common agreement on this point.

At the end of 2009, it was possible to conclude, based on records in field diaries (the teacher researcher and the eight teachers) and in the "Follow-up Meeting Form" that there was progress in the stages of collaborative work, from an early stage (with little interaction) to a stage of commitment (Gately & Gately, 2001).

Year 2010

In February and March 2010 meetings were held with the parents of the target students in order to request authorization for the child's participation in the project. During the month of March, the Instrument Rating Repertory Basic Literacy - was applied to students in Year 1; also, a test developed by the school was applied for a student of 3rd year, and the dictate "One afternoon in the field" and other activities for other students were also applied.

From the application of these instruments and the "Diagnostic Interview", it was possible to identify the problems of reading and writing, and to confirm the target students to participate in the research.

Several interventions were planned in order to promote cognitive abilities such as attention, memory, perception, and motor skills and self-control (Gargiulo, 2006), Themes, such as phonological awareness, learning strategies, cognitive processes (memory, attention, solution problems, types of reasoning), were worked with teachers in planning interventions. For all these interventions, participants discussed the adaptation of curricula and ways to evaluate learning.

RESULTS

Through weekly meetings with staff and teachers' reports, it was noted that the collaborative consultation has allowed educators to further reflection on their practice as well as the ability to solve problems. The collaborative work has enabled the possibility for teachers to share problems and expectations, not only in relation to the student target, as other students in the room, which made them feel not alone in this process of school inclusion.

It is also important to note that performing this type of research involves many factors that made the work difficult, such as lack of parental involvement, high number of absences of some target students and, in one case, changing schools, internal conflicts at school; some teachers lack of motivation; the school structure, lack of teachers' time, within the requirements of the school to plan and implement interventions as well as difficult to understand, more fully, the fundamentals of these interventions. This is an important finding because it shows that the collaborative action research is done in practice at school, where they fit a large number of factors. Thus, performing this type of research requires that one can deal with tensions, resistances, as well as anxiety and teachers fears.

In addition, the collaborative consultation takes place over time, through the educational practice. As the literature pointed out, there is a whole process of breaking resistance until there is a period in fact collaborative. All this is possible to see in this project as the teachers' statements described below:

> It's a new experience, learn different things and share with other colleagues, this partnership between university and school. So I started to feel more secure for this collaborative work. "(Prof. 1)
> "I would like to reiterate the importance of the Program on Collaborative Consultation that has contributed so that we could increase the positive results of our work." (Prof. 4).
> "The collaborative partnership project has emerged as an important tool to evaluate our work and improve our performance and students' (P8)
> "... having a moment and a team to discuss these issues and also to think of ways to overcome all difficulties and obstacles caused by the system is a major conquest" (P 8)
> "At first, things were very vague to me but now I realized that I learned a lot during the meetings observing the practice of my colleagues and listening to the suggestions of the Project Coordinator" (P8).
> "I must stress that the partnership of collaborative work, enriches our educational work and with that, change the teaching and learning, bringing a huge contribution in the acquisition of reading and writing" (P5).
> "To put in effect the collaborative consultation we were informed that during the meetings we should respect colleague's opinion, to reflect instead of arguing, to take the advantage to learn from each other, to give and take suggestions without trials, to give everyone the opportunity to speak, direct talks on issues relevant and that we are not here to compete "(P2)

The teachers' involvement with the Collaborative Consultation Process, has provided the students with special needs a real school inclusion and not just "their insertion" in the regular classroom, where students as

"so-called normal" are developing activities from the curriculum of their grade and the students with special needs are there in a "corner " of the classroom probably "painting a yellow duck" in a piece of paper, i.e.eveloping activities that have nothing to do with those developed with students considered "normal". This can be seen in some of the teachers' statements such as:

> *"I acted as mediator, monitoring and assisting the target student who did very well. This activity is performed in pairs or in small groups is important to learn from each other "....." The target student is already able to read some syllables and phrases. "(P 1)*
> *"In reviewing the progress of research, with the record of activity and daily observation of behavior, you can see that Fausta has shown a positive development "(P 3)*
> *"I put a list of words on the blackboard, divided between verbs and nouns and asked the class even the target student to formulate rules for the correct use of termination. " (P 6)*
> *"There was a notable advance on target student during this time. Early in the project the student wrote the words together and did not identify the text elements. In addition, he was more resistant to develop the proposed activities. Commenting about his activities book, he mentioned that his father praised him about his letter, organization and activities. "(P 6)*
> *"The target student produced three texts and when reviewing text, made the necessary corrections without support" (P 8)*
> *"In my case, the target student" Fausta "(fictitious name), was enrolled in the fourth grade and has intellectual disabilities. Confuses the vowel "O " with "U "... I realized that her socialization greatly improved. This has been observed by myself and the family ..... She was always ready to carry out the activities... Some of them she did with more independence, others with some help... (P 5)*
> *"As previously mentioned there have been several advances by the student, but he still needs to perform some actions, repeat some of some instruments " (P 7)*
> *"I tried several partnerships with the target student until I found one that paid off because he needed someone to stay all the time asking him if he had finished the activity. The student then became more participant copying some things from the blackboard, becoming more organized with his material showing he had performed the activities. "(P4)*
> *"Over the academic year my target student required several adjustments and have difficulties to get the assignments from the blackboard" (P2)*
> *"Throughout the conversations and activities, the target student began to be less resistant and began to face the challenges. Regard to issues out of the classroom he was always willing to help This attitude can be considered a great advance he has demonstrated during the project. "(P 7)*

It is possible to consider that for all students with disabilities participating in the project, were effected by the collaborative consultation what is extremely important, since, at the end of the school year of 2010 all were promoted to the next grade on merit, that means, all of them got the grades they needed to pass.

We conclude that the collaborative consultation, may actually assist the regular education teachers in specialized educational services to students with special needs included in regular education.

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77 - Measurement of Professional Competence in the Domain of Economics of University Students in Economics and in Business and Economics Education – Comparison of the (Old) Diploma and the (New) Bachelor Degree

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Abstract: The focus of the project ILLEV lies on modeling and measurement of the cognitive teaching professionalism dimension in a longitudinal design: professional and didactical competence in the domain of Economics. This article examines primarily whether diploma and bachelor students of Business Education and of Economics (as a comparison group) distinguish themselves in their content knowledge and thinking and by which factors those differences can be explained. For this purpose parts of the Wirtschaftskundlicher Bildungstest (WBT, a German equivalent of the Test of Economic Literacy (TEL)) amongst others are used to measure the content knowledge. On the basis of the first project survey (adjusted sample in t1 = 743 students) comparative analyses by means of the total scores of the WBT and an IRT based MIMIC model are calculated. First results show that bachelor and diploma students marginally differ from each other if other relevant personal und structural characteristics are kept constant. At the same time slight advantages in the content knowledgt appear for students of Business Education in comparison to students of Economics. Especially gender, German as mother tongue and length of study seem to be important predictors for content knowledge. Furthermore it can be established that the WBT has an adequate applicability and validity for measuring economical knowledge in the first phase of the bachelor and diploma courses.

Keywords: *professional competence, content knowledge, domain of economics, competence measurement, MIMIC-Model*

EXPERTISE IN ECONOMICS AMONG STUDENTS OF THE "DIPLOM" AND BA DEGREE COURSE WITH OR WITHOUT THE AMBITION TO BECOME TEACHERS – ASSESSMENT METHODS AND FIRST RESULTS

Aims and Research Questions of the Project
The crucial role of teacher professionalization in a knowledge society is undisputed. Although the professionalization of teachers has been a field a lot of research has been conducted on during the last decades (cf. Zlatkin-Troitschanskaia & Preuße, 2010) only few empirical results of the effects of academic teacher training – especially of the individual (theoretical and practical) training stages - on the development and scope of professionalism exist (cf. Zlatkin-Troitschanskaia, Beck, Sembill, Nickolaus & Mulder, 2009). These research goals become even more crucial regarding the Bologna reform, as neither the effects of the phase-out model ("Diplom", state exam) nor of the new BA/MA model have sufficiently been validated empirically.

The research project ILLEV (innovative teach-study-network in academic higher education, cf. www.wipaed.uni-mainz.de/illev/), funded by the BMBF makes use of the (historically) unique situation of an almost natural experiment in which the traditional degree courses and the new consecutive courses coexist. It compares the old and new study model in teacher training – with special emphasis on economics education – regarding their effects on the scope and development of teacher professionalism over the course of three years. The reference analyses allow empirically secured statements on the question whether the new consecutive BA/MA model contributes to a higher professionalism among future teachers. In this context professionalism is seen as a result of individual personal traits and structural factors of the degree course. The assessed structural factors can be divided into the following three levels: (1) the macro level of formal and organizational parameters (i.e. lecture times, spatial and personal environment), (2) the meso level with elements of the teach-study process development (i.e. e-learning, examination procedures) and (3) the micro level of factorially implemented curricular and didactical/methodical parameters.

The project focuses on modeling and measuring the cognitive dimensions of teacher professionalism that is on the subject-related and didactical competence in the field of economics. It is based on the definition of competence by Klieme and Leutner (2006) who described competence as a context specific performance disposition. This definition grants a high importance to subject specific knowledge when it comes to conceptualizing competence (for further definitions of competence cf. Baumert & Kunter, 2006; Bromme, 1997; Shulman, 1986, 1987; Weinert, 2001).

The central research questions of the ILLEV project concentrate (1) on the influence of the traditional and the new consecutive study models on the development and scope of teacher professionalism. For the project they were *modeled to the test* (IRT- and MIMIC-models) as professional competence and didactical competence and were assessed at three different points in time; (2) the identification and quantification of individual features (i.e. previous knowledge, motivation) and structural factors of the degree course that have predictor or mediator characteristics.

After displaying the research design of the ILLEV project (chapter 2) and the employed survey instruments (chapter 3) *this paper* will describe the main content and measuring results of the *first* survey on modeling and measurement of the degree of *professional competence in economics. It will be illustrated if and to what extend "Diplom" and BA students of economics education (students who aim for teacher training) and economics (students who do not aim for teacher training) differ in their professional knowledge and thinking and what factors can explain these differences*[1]*.

RESEARCH DESIGN

In order to assess the development of (cognitive) teacher professionalism dimensions (subject-specific and subject-didactical competence) among students of the new consecutive BA/MA model of economics education ("intervention group") during the course of time, *longitudinal surveys* were conducted at three dates: (1) before teaching practice ("theoretical phase"), (2) after teaching practice ("practical phase") and (3) after teaching practice and the tutoring of the probationary teacher training seminar ("reflection phase"). Hence the ILLEV project can answer the question to what extend the different learning institutes (university, school and probationary teacher training seminar) contribute to the development of the assessed dimensions of professionalism.

The survey takes into account main personal treats (age, job experience etc.) and structural factors that (can) influence the development of professionalism positively or negatively. For a systematic comparison of the traditional and new consecutive degree course economics education, students of the "Diplom" degree course are being surveyed (control group) at the three test dates with the same survey instruments. The *comparison group design* allows for research statements on whether and to what extend one of the two study models actually contributes to higher teacher professionalism.

Apart from the professionalism dimension of subject-didactical competence, subject-specific competence is one of the main focuses of the project. In Order to validate the implemented test instruments and the constructed measuring models a further comparison group is added to the survey: BA and "Diplom" students of economics. The economic contents are the same during basic studies ("Diplom") and the orientation and consolidation phase (BA) of both economics education and economics, so that a further systematic comparison can be conducted. This enables among others statements on whether the development of professional competence among students of economics education is identical to the development among students of economics or if it is influenced by other structural or personal factors.

Employed Instruments

The questionnaire of the first survey (October 2009) contained - apart from the economics education test (WBT) - sub-scales of the intelligence-structure test (IST, analogies and numeric tasks, Liepmann, Beauducel, Brocke & Amthauer, 2007; Amthauer, 1970), scales on the attitude towards economic circumstances (employment questionnaires on economic questions, EWF, Beck, 1993), on the study interest or choice of degree course (inter alia items from the questionnaire on study interest FSI, Schiefele, Krapp, Wild & Winteler, 1993) and questions on socio-demographic data.

The dimensions of economic knowledge and thinking were assessed with the help of the economic education test (WBT). The WBT assesses economic knowledge and thinking and is the German version by Beck and Krumm of the English Test of Economic Literacy (TEL, Beck, 1993; Beck, Krumm & Dubs, 1998). Soper and Wallstad (1987) developed the TEL which permits a differentiation between relatively low and relatively high development levels of economic knowledge and thinking. The translated test was adopted in a number

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[1] Due to shortage of space this paper will not deal with the underlying theory model and hypothesis system. Cf. therefor Förster et al. (in the making).

of German-speaking countries, facilitating an international comparison (Lüdecke-Plümer & Sczesny, 1998). According to the classical test theory the measuring features and quality factors of the WBT have been researched and validated for the English and German version (Beck & Krumm, 1990; Beck, Krumm & Dubs, 2001; Soper & Brenneke, 1981; Soper & Walstad, 1987). Thus the WBT is an adequate tool to assess economical thinking and knowledge.

Beck, Krumm and Dubs (2001) recommend the use of the WBT especially for business and academic commercial training. The WBT was created for target groups with an economic knowledge one stage below university level, even if some questions reach university level. The project ILLEV amongst others assesses to what extend the test can be used for measuring competencies in higher education or if it is too easy for university students. Attention is paid especially to the occurrence of possible ceiling effects and selectivity indices of the items. The curricular validity of the test is being reviewed as it was designed according to high school and college curricula. The project investigates if and to what extend the test reflects the content of economics university studies (here: BA and "Diplom").

The WBT consists of two parallel versions with 46 items each; 15 tie items allow for a comparison of the two versions. The deployed questions can be divided into the four economic sub-domains "Basics of economics", "international relations", "microeconomics" and "macroeconomics". The questions were also theoretically arranged according to the cognitive levels by Bloom[2] (Beck, 1993; Soper, 1979).

The survey used a version of the WBT that contains 33 multiple choice items with one correct answer out of four options. The original version was thus cut back by 13 items, as the processing time had to be reduced out of organizational and motivational reasons. In order to guarantee the curricular validity of the test, not only the curricula were analyzed, but lecturers of the relevant classes were also being surveyed. They had to assess the different items of the WBT according to their curricular relevance (and difficulty).[3] The domain "international relations" was erased due to curricular reasons (eight questions). It is no substantial part of the BA and "Diplom" basic studies in economic science (or business studies and economics) at the University of Mainz. The items used in the survey which cover the three other domains highly correspond to the curriculum. Two further items with complex graphics in the survey were left out as they were not practical. The other three questions were left out because of their theoretical allocation to Bloom's taxonomy and the item-specific results (Beck, 1993).[4]

The second survey (November 2009) included the "Business Administration Knowledge Test" (Bakt, Bothe, Wilhelm & Beck, 2005) that was curricularly validated as a further instrument. Together with the WBT it was used to assess economic expertise. The BAKT, which was also to be implemented during the third survey in November 2010, although it was created for university level focuses on declarative expertise. So before implementing this test as part of the project, it has to be secured that the BAKT masters the requirements for measuring expertise as an essential part of professional subject-related knowledge in higher education (i.e. assessing declarative, procedural and conative knowledge dimensions).

Sample, Analysis of Representativeness and Weighting
The first survey was part of the longitudinal project during the winter semester 2008/2009. The students were surveyed during main classes.[5] The processing time was 75 minutes; project assistants controlled the questions and presented the survey to the subjects. In total 901 students of economics and economics education were surveyed, 743 were analyzed after the content and subject-relation had been checked.[6] 44.5% male and 55.5% female students (three missing values) were surveyed; 84% had German as their mother tongue (two missing answers). About one fifth of the test persons completed a vocational training before their university studies. The average school leaving grade was 2.34 with a standard deviation of 0.56 (61 missing values).

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[2] Bloom's cognitive taxonomy divides study goals or requirements to solve tasks into six consecutive categories of increasing complexity (Bloom, 1971).
[3] The survey was conducted online.
[4] The complete processing time was 75 minutes. The surveys were conducted during class, so that 75 minutes were not to be exceeded in order to guarantee an orderly test implementation within the 90 minutes of class. The better part of the test focuses on assessing cognitive ability dimensions, so that the processing time, which calls for a high concentration among subjects, is already very long. Hence the WBT had to be shortened.
[5] The classes were selected so that as many BA and "Diplom" students as possible studying in different semesters could be surveyed without assessing students twice in different classes. Therefore classes were selected with mostly different students.
[6] For example only students with economic science (business studies and economics) and economics education as their major were included in the sample.

The representative analysis revealed some differences between the sample and the main unit regarding the distribution of certain features.[7] For example, students of the "Diplom" degree are underrepresented in the sample (cf. chart 1).

Table 1: Quota of degree courses of the main unit, the unweighted and weighted sample

		Quota of the main unit	Quota of the unweighted sample	Quota of the weighted sample
Degree course	Diplom business studies	29.34%	16.99%	30.37%
	Diplom economics	12.72%	5.75%	10.44%
	Diplom economics education	10.88%	13.01%	11.74%
	BA economics education	6.23%	10.00%	6.45%
	BA economics studies	40.82%	54.25%	41.00%
total		100.00%	100.00%	100.00%

For that reason the sample cases were weighted to align the distribution of known parameters with the main unit. Different matching processes (classification tree method, propensity scores, distance weighting; cf. Rässler, 2002) matched the subjects from the sample with test persons from the main unit. The weighting reflected how many people from the main unit matched the subjects from the sample. The matching processes were supported by bootstrapping analyses in order to stabilize the estimation parameters. Reviews tried to find out to what extend the weighted sample approximates the individual distribution and the structural coherence of the variables within the main unit. The best approach was gained by the weighting that averaged the classification tree and distance weighting. One of the main results of the analysis shows that even the unweighted sample is a good approach towards a structural coherence of the main unit, while the basic allocation of variables in the main unit is only assessed moderately. Hence all analyses are being conducted with weighted and unweighted samples. Different analysis results can be an indicator for sample effects.

COMPARING ANALYSES ON PROFESSIONALISM BASED ON THE WBT SUM SCORES
The distribution of the sum score added up to an average (MW) of 20.91 correct answers to 33 items and a standard deviation of 4.77. The distribution's skewness is -.383, the kurtosis is -.122 (cf. chart 1). It is obvious that only a small number of students gave correct answers to all 33 questions. Most students can clearly improve. The results show that the test is not too easy and there are no obvious ceiling effects.
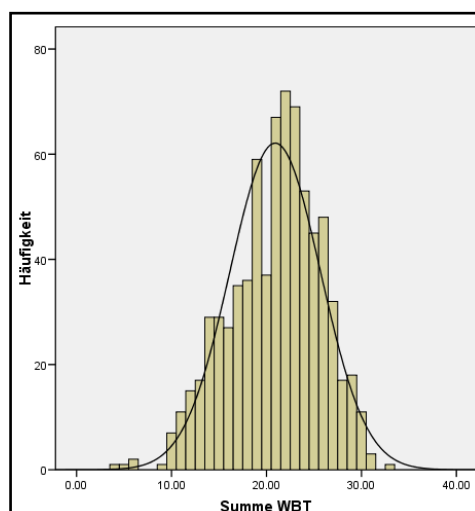
Chart 1: Distribution of the WBT's Sum Score within the Sample

At first a simple t-Test and a Mann-Whitney-U test were conducted to compare the average of the BA and "Diplom" group. In the unweighted sample the "Diplom" students reached an average of 22.09 correct

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[7] Comparing the samples with the main unit is possible due to anonymous data for the criteria gender, degree course, age, university and course semester, school leaving grade and federal state in which the school leaving certificate was gained.

answers, the BA students only reached an average of 20.28. The differences were even bigger in the weighted sample, where the "Diplom" students gave correct answers to 21.96 questions, while BA students did only to 19.52. For both samples the differences between the two sample groups in the t- and Mann-Whitney-U test were significant (p=.00).

The average scored by students of economics education (prospective teachers) is slightly higher than by students of economics (no teaching ambitions). The students of economics education ("Diplom") score an average of 22.64 while the economics students ("Diplom") score 21.77. Furthermore, economics education students (BA) in average solve 21.41 answers correctly while economics students (BA) only solve 20.06. One gets significant differences in the results when comparing the economics students with the economics education students with the help of a simple t-test or a Mann-Whitney-U test. Students of economics education (BA) score a p-value of 0.016 in the t-test and thus show a significantly higher score than students of economics (BA). The comparison of students of economics education ("Diplom") and economics ("Diplom") shows a p-value of 0.093 in the t-test, thus the difference in average between the two groups cannot be regarded as significant.

The "Diplom" students usually are in a higher semester and have visited more economics classes, so for that reason other relevant influences (i.e. duration of studies, number and character of attended classes) have to be assessed for an objective comparison. Therefor a linear regression was conducted that included further declarative variables to the model (chart 2).

Table 2: Weighted and unweighted regression on the sum score of the WBT (beta coefficient and level of significance)

WBT (included)				
R = 0.548 **R = 0.574**	**R² = 0.300** **R² = 0.330**	**Korr R² = 0.292** **Korr R² = 0.321**	**Unweighted** **Weighted**	
	coefficient (unweighted)		coefficient (weighted)	
	B	Significance	B	Significance
(absolute term)	20.62	0.00	21.37	0.00
BA	0.55	0.30	-0.31	0.59
Female	-1.65	0.00	-1.63	0.00
Other language	-1.89	0.00	-1.12	0.00
semester	0.79	0.00	0.56	0.00
No job training	-1.31	0.00	-1.32	0.00
Analogy score	0.30	0.00	0.30	0.00
Mathematics score	0.27	0.00	0.32	0.00
School leaving grade	-0.90	0.00	-0.25	0.04

The regression analysis shows: The variance of economic knowledge and thinking can by 30% (weighted 33%) be explained by the variables study model, gender, mother tongue (German or others), number of semesters, a completed vocational training, the school leaving grade and the intelligence sub-scales analogies and numeric tasks. As the beta coefficient of the BA degree course is not significant when controlling the other variables, a systematic study model effect cannot be assumed. The male subjects on average solve 1.5 more tasks than the female subjects. The following surveys will especially concentrate on the question if this can be drawn back to question or answering format effects (cf. i.e. Spiel, Schober & Litzenberger, 2008). A good school leaving grade, high marks in the intelligence tests (analogies and numeric tasks), a completed vocational training and German as mother tongue also lead to higher test results in economic knowledge and thinking. As expected the number of years studied at university level also influences the results, because with every semester an average of .56 (weighted) and .79 (unweighted) more items can be solved correctly. The estimations of the beta coefficient of most cause variables do not differ greatly between the weighted and unweighted sample. The results of the two samples only differ regarding the independent variables BA students (.55 vs. -.31), other mother tongues (-1.89 vs. -1.12) and school leaving grade (-.90 vs. -.25).

The sum score was implemented as it was assumed that all used items assess economic knowledge and thinking to the same extend. Hence every item has the same selectivity and the individual items only differ regarding their difficulty. The basic underlying measuring model is a simple dichotomous Rasch model (1PL model). However, this assumption is very restrictive. Therefore it will be checked if a 2PL model (Birnbaum

model) can explain the data more accurately (cf. i.e. Hambleton & Swaminathan, 1990; Hartig, 2009).[8] If the 2PL model provides a clearly better adjustment, the next step would be to calculate a MIMIC model based on this alternative measuring model in order to identify the influence of different factors on expertise as well as possible item functions (cf. chapter 6).

Comparing Different Measuring Models and Adjustment of a MIMIC Model

Global Fit Indices are needed to compare the data adjustment of the 1PL and 2PL model. This is possible through transforming the gained IRT parameters into a confirmatory factor model (Finch, 2005; Muthén, Kao & Burstein, 1991). The two alternative designs of the measuring model facilitate a broader and more flexible use of the data (Glockner-Rist & Hoitjink, 2003). The great advantage of connecting the two approaches is that measuring models can be analyzed, modified and globally assessed based on the plausible, statistic model by the IRT. Chart 3 provides an overview of the IRT-modeling results and the FIT indices.

Table 3: Quality factors of the 1- and 2PL model with 33 or 30 items

Model	Model I	Model II	Model III	Model IV	Model V
WLSMV estimator	33 items, 1PL	33 items, 2PL	30 items, 1PL	30 items, 2PL	30 items, 2PL, 3 residual corr.
Chi²	664.529	550.720	406.221	377.467	349.389
Df	221	242	202	221	220
p-value	0.000	0.000	0.000	0.000	0.000
RMSEA	0.052	0.041	0.037	0.031	0.028
CFI	0.704	0.794	0.841	0.879	0.900
TLI	0.725	0.825	0.852	0.897	0.914
WRMR	1.666	1.307	1.356	1.121	1.076

Analyses show that the 2PL model reaches the highest fit among the models with 33 items (models I and II). This is confirmed by the adjusted Chi²-Quadratic-Difference-Test. Based on the item fit of the 2PL model three items are eliminated. Two of them show a too low, non-significant selectivity. One item's residual has too high a correlation with other residuals. The 2PL model also shows a better fit for all criteria, including the Chi²-Quadratic-Difference-Test (models III and IV), among the models with 30 items. It is obvious that the 2PL models shows a RMSEA of .031 and thus stays under the critical limit of .05. The model-specific covariance matrix of the 1PL model fairly approaches the data's covariance matrix (RMSEA = 0.037). In the following the more suitable 2PL model is being used to assess economical knowledge and thinking. Model V allows three residual correlations and thereby further improves the fit.

Due to the 2PL measuring model not all items are weighted equally for the score of the latent construct "economic knowledge and thinking", but will be weighted according to their power (or rather discrimininant). As a next step, a MIMIC model (Multiple-Indicator-Multiple-Cause -Model) is adjusted to this measuring model (cf. Finch, 2005; Muthén, 1989). The MIMIC model integrates apparent covariants that can be recovered to latent variables as well as apparent items (operationalizations). Apart from the study model (BA vs. "Diplom"), gender, mother tongue[9], school leaving grade, year of studies and previous vocational training are included in the analysis of economic knowledge and thinking.[10] It is thus to assess if different groups of surveyed students differ in their latent knowledge score and if different factors influence the score significantly. The MIMIC model further investigates if measuring invariants in the form of differential item functionings[11] (DIFs) occur (Finch, 2005; Gallo, Anthony & Muthén, 1994; MacIntosh & Hashim, 2003; Woods, 2009). This is the case if covariants still greatly affect the individual items under supervision of the latent knowledge score.

The designed MIMIC model for the *unweighted* sample shows a better fit than the simple (2PL) model. The RMSEA is .026, the CFI is .926, the WRMR is 1.027 and the Chi²/df – Ratio is 1.51 (Chi² = 390, df = 259, p

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[8] The 3PL model was not used as it calls for 1000 subjects per item to guarantee a precise estimation of the parameters of the 3PL model according to Eggen (2008).
[9] The mother tongue was binarily coded into German mother tongue" and „other mother tongues".
[10] The selection of influential factors was based on the results of a previously conducted multiple-linear regression with dummy variables.
[11] Differential item function (DIF) means the situation in which two different groups show significantly varying answer patterns for the same item, although the underlying latent variable is constant (cf. Holland and Wainer (1993), Zumbo (2007) for more information on DIFs). Blömeke et al. (2009) show an example of DIFs in their study MT21, where the difficulties of individual subject-related, mathematical knowledge items with different cohorts and identical average latent score vary. Evidence shows that 4 items with an identical average knowledge score are clearly more difficult for first year students than for graduate students. The opposite effect applies to 7 items. The research group was able to attribute the DIFs to different effects (i.e. oblivion processes).

= .00). The underlying latent variable shows an average of -.141 and a standard deviation of.277. The following chart shows the relevant coefficients.

Table 4: Regression results of the MIMIC model (unweighted sample)

Unweighted R² = 0,30	Absolute B	Significance	Effect size[12] Cohen's d	DIFs
Female	-0.221	0.000	0.800	0
Other language	-0.240	0.000	0.866	1
School leaving grade	-0.083	0.003		0
Year of studies	0.108	0.001		8
No previous vocational training training	-0.100	0.002	0.361	0
BA	0.042	0.351	0.152	0

The analysis shows that all covariants apart from the study model greatly influence economic knowledge and thinking. All in all, the included variables account for 30% variance in economic knowledge and thinking. The "gender" factor (Cohen's d = .800) has an especially high influence. Male subjects score higher by .221. German native speakers also have a great advantage (d = .866). Students who completed a vocational training before score .100 points more, while students with a low school leaving grade achieve .108 points less per grade. Per studied year the latent WBT value increases in average by .108 points. Eight differential item effects can be identified that can be explained by the different years of study. 7 DIFs favor students of higher semesters while only one item effect leads to better results in the latent score of students of lower semesters.

A study model effect cannot be verified when controlling the described influences. In total, BA students reach a higher latent score by .042 in the sample, however, this difference is non-significant (p = .351). The effect between the two study models shows a Cohen's d of .152 and is therefore very low.

Similar results were gained from analyzing the *weighted* sample. The model fit turns out even better: RMSEA = .022, CFI = .922, WRMR = .927, Chi²/df – Ratio = 1,362 (Chi² = 124, df = 91, p = .013). The underlying latent variable now shows an average of 0,201 and a standard deviation of .335. All in all, 37.5% of the variant of economic knowledge and thinking can be explained this way (cf. chart 5).

Table 5: Regression results of the MIMIC model (weighted sample)

Weighted R² = 37,5%	Absolute B	Signifikance	Effect size Cohen's d	DIFs
Female	-0.312	0.000	0.931	0
Other language	-0.310	0.000	0.925	1
School leaving grade	-0.047	0.230		0
Year of studies	0.197	0.007		6
No previous vocational training	-0.052	0.285	0.155	0
BA	0.154	0.107	0.460	0

This model also confirms the strong influence of gender (d = .931) and mother tongue (d = .925). The year of studies gains influence while the school leaving grade and previous vocational training are no longer significant. In total, the relevance of the study model increases. BA students score .154 higher than Diplom students. Cohen's d of .460 implies a moderate effect. However, the p-value of.107 exceeds the critical significance level of.05, so that a systematic effect cannot safely be assumed. The weighted model shows 6 DIFs that can be led back to the duration of studies and one caused by the mother tongue.

CONCLUSION AND DISCUSSION
The regressions of the sum score of the WBT as well as the MIMIC models show that BA students have the same expertise as "Diplom" students. Both the weighted and unweighted models showed no significant effects of the two study models. There are also no DIFs in which the two groups of students differ.

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[12] The forces of effect were only specified for dichotomous items to enable an evaluation of the effect among the respective groups.

The restructuring of decree courses at the University of Mainz began in 2007 and thus is still in its preliminary phase. It will be of high interest to see if the results will be repeated in the following longitudinal surveys and especially at the end of the BA course. Additionally, only economic expertise and thinking were compared. Further research has to be conducted on the question to what extend other competence dimensions get influenced by the study models. The second and third survey will assess the difference in development of the students of both study models and what types of development can be identified within the degree courses. When comparing the degree courses economics education and economics, the students of economics education scored higher. This effect only becomes significant among the BA students while there is no systematic difference among the "Diplom" students. The following surveys of the project will evaluate if the good results of the students of economics education (prospective teachers) can be confirmed and what the reasons might be.

When looking at considerable cause variables on the development of economic competence, all models confirm a high explanatory potential to gender and mother tongue. Similar results were gained in own performance tests and other German and international studies on general/specific knowledge (i.e. Walstad & Robson, 1997; Lüdecke-Plümer & Sczesny, 1998). This result is especially significant because of the increasing relevance of performance surveys in higher education and the increasing number of admission tests due to the change in course models (especially for MA courses). The reasons for better test results among male subjects will be scrutinized in the course of the project. It will be assessed amongst others, if the BAKT shows comparable gender-specific differences from the WBT. Other influences than gender differences, like the question/answer format and the use of study strategies will be assessed.

As suspected, German natives have an advantage in the WBT. The test consists of full, grammatically complex sentences and thus goes along with a need for certain language skills. There is also evidence which indicates that a vocational training and good school leaving certificate positively influence economic knowledge and thinking (cf. Beck & Wuttke 2004). Vocational training obviously teaches test relevant contents. The grade of the school leaving certificate could indicate ambition, study strategies and general test performance which are also good predictors for knowledge and university performance. However, the influence of the school leaving grade and job training is not (any longer) significant in the weighted MIMIC model. The upcoming surveys will check if there is an automatic influence. Further models include other latent variables (i.e. dimensions of intelligence, motivational and attitude features) as factors that explain economical competence.

Our analyses further show that the results of the weighted and unweighted samples do not differ significantly. In some cases, especially in the case of the MIMIC models, there are small differences in the results. These differences can be first indicators for potential sample effects in the first survey. Whether these differences will be visible in further samples and the eventually necessary weightings in the second and third survey will be scrutinized.

Regarding measuring methods it can be stated that the 2PL model of the WBT approximates the collected data significantly better than the simple (1PL) Rasch model. Based on the RMSEA however the 1PL model already accounts for a good approximation of the model-specific and data-specific covariance matrix. Nonetheless the 2PL model shows a superior adjustment of Fit indices and the Chi²-Difference-tests. The 2PL model reveals two items that could not clearly be separated.

With reference to the opening question to what extend this test is applicable to competence assessment in higher education, the WBT can largely be implemented as a measuring invariance. Ceiling effects have not been found and there are no signs of the test being too simple for university students.

Gender- and study model-specific DIFs could not be identified. Only one DIF was found that is caused by the factor "mother tongue". The items with DIF effects caused by varying durations of study were answered correctly with a higher probability by students in higher semesters with the same latent score - with one exception- than students in lower semesters. The MIMIC model here shows which answers depend strongly on the duration of study and thus on the curriculum of economics studies. The survey among lecturers at the University of Mainz also shows that the contents of the items are anchored in the university curriculum. Based on the thus far gained project results, the WBT can be seen as a tool sufficiently applicable and valid for measuring economic knowledge during the *first phase* of the BA and "Diplom" degree course.

During the further course of the project it will be assessed to what extend the WBT can be used to show individual developments regarding the expertise of students. Comparing the results of the first and second survey will provide further clues. During the next survey the BAKT (Business Administration Knowledge Test, Bothe, Wilhelm & Beck, 2005) will be assessed regarding its psychometric suitability for measuring economic competence. The performances of the students of different study models and degree courses can be compared again (lateral and longitudinal). It will be of great interest if and to what extend the two testing

methods WBT and BAKT illustrate one or different, easily definable dimensions of subject-specific knowledge. Additionally, the self-developed test for measuring subject-specific competence in economics will be validated as part of the following survey. It will be interesting to see how much the subject-didactical and subject-related dimentions correlate.

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82 - Developing the Pedagogical Sharing in the Preservice Teacher Education

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Abstract: Development instructional supervision encourages sustained reflection on practice and creates rich opportunities for personal and professional growth.

This research intended to understand the pedagogical sharing and the reflective practice that happens in the teachers' internship year and how it is related to the actions conducted by the cooperating teacher.

The results show that some cooperative teachers had an attitude mainly collaborative, others were mostly directive and forced their ideas on the future teachers and others accepted all the future teachers opinions with no discussion and let them on their own most of the time. Regarding the pedagogical practices shared within the groups, some student teachers shared tests and other teaching materials but also ideas, and opinions. Other groups of student teachers just worked together to prepare their extra-curricular activities.

To sum up, we argue about the importance of supervision for student teachers and the need for training of cooperating teachers.

Keywords: pedagogical sharing; preservice teacher education; professional development; reflective practice

INTRODUCTION

One of the most important steps in the student teachers' professional development is the preservice year in which he is able to develop a pedagogical practice with students under the supervision of a university's supervisor and a cooperative teacher.

The cooperative teacher is the high school teacher responsible for the classes to which the preservice teachers teach. Therefore he may be seen as a bridge between the student teacher and the school and he usually develops a very close relationship with the preservice teachers he works with. The preservice teacher's professional development is very much intertwined with the development of the preservice school year and the practices he experiences throughout that year may facilitate his adjustment to the school environment in the future.

The changes in school and the reality of the global world are challenges that the teachers must face nowadays. To face them, he has to accept his own experiences and make the best of them, learning as much as he can from his own life. In order to do so, the student teacher must be receptive to reflect on his actions and on his own reflections and to learn more about himself in order to change his own behaviour and improve his pedagogical practice.

It is common knowledge, at least within schools, that teachers still work very much isolated. The collaborative work is not yet a common practice in Portuguese schools and too much is lost in the lack of trust between colleague teachers. Authors as Stenhouse (1975), Shön (1987) and Alarcão (1996) defend the importance of collaborative work in the development of the reflective teacher. In the preservice year, future teachers are grouped with colleagues, so it becomes a lot easier to work as a group, collaboratively, since some of the activities are conducted by the group. The development of collaborative work throughout that year may promote the development of collaborative work with other colleagues in future years. On the other hand, if the preservice teachers isolate themselves that year it is very possible they will continue doing so in an environment where isolation proliferates.

In our study we accompanied thirteen groups of preservice teachers and their cooperative teachers. There were five groups of mathematics future teachers, two of physics and chemistry, five of informatics and three of physical education. We developed a qualitative search conducting interviews, observing meetings, administering questionnaires and organising a field diary to collect information that would lead us to characterize the cooperative teachers, characterize the pedagogical practices developed within each group and try to establish a relation between the characteristics of the cooperative teacher and the pedagogical practices developed by his group of preservice teachers.

In this paper we will present the general theoretical framework in which our study was based that was funded in the reflexive supervision model and the development of collaborative work in school community. Then,

we will present the methodology we followed and, finally, the data analysis. There are, naturally, some considerations to present.

THEORETICAL FRAMEWORK

The final decades of the twentieth century brought severe changes in the school environment. School was no longer the only space where children learned and new demands were made to teachers. As an answer to these demands, new paradigms emerged and teacher's education turned in new directions. Teachers' education focused less on quantity and more on quality since it became essential for teachers to acknowledge that their knowledge was not the ultimate truth and to become receptive to what their own students brought to school. Teachers must understand that their task, nowadays is much more than transmitting information to the students, it is mostly to enable them to search knowledge, reflect on the world and create bridges between daily life and knowledge.

Supervision is, according to Alarcão and Tavares (2007), "a process in which a teacher, with more experience and knowledge guides another teacher or candidate to teaching through his human and professional development" (p. 14). As a process, it combines different stages and happens during a period of time, a school year. This process consists of moments of observation and discussion combined with formative and summative evaluation.

The preservice teacher education is the first phase in teachers' careers where they live early field experiences. In the final year of their graduate studies, student teachers used to have an internship in a school developing supervised pedagogical practice under the supervision of a university's supervisor and a cooperating high school teacher. For this school year of supervised practice, the university organises groups of two to four preservice teachers of the same disciplinary groups. Each group is placed in a high school and the preservice teachers are, sometimes, given each a class of pupils or they teach the cooperative teachers' classes. The supervision conducted by both the cooperative teacher and the university's supervisor happens in a cycle in which the supervisors observe the future teacher's practice, meet to discuss it, and then observe again as many times as necessary. The intervention of the university's supervisor is usually rarer since he only observes a few of the preservice teachers' classes and discusses them. This process culminates in the evaluation of the preservice teacher.

Teaching the cooperative teacher's classes or not, the preservice teachers have regular contact with the cooperative teacher since he attends to most of their classes and meets them on regular basis, once or twice a week. The cooperating teacher, being the one that works closer to the future teachers, has to be able to develop with them a relationship of trust that allows the preservice teachers to trust and support on the cooperating teacher.

The cooperative teacher, being a supervisor, should have some important characteristics that promote the trustful relationship with the preservice teachers but also reflect confidence. Some of the most important characteristics are *flexibility* that allows him to accept the different approaches used by the preservice teacher in their classes; a *multi-perspectival view* that helps him to understand the supervisee and even the students point of view; *the capacity to manage and control anxiety* that, inevitably will appear throughout the relationship with the preservice teacher; *openness to learning* because new situations and the perspective of the student teachers might contribute to his own professional development; *be able to handle power* without dismissing from his responsibilities nor force his own ideas on others; *humour, humility and patience (Hawkins & Shohet, 2006).*

According to Glickman (1985, quoted by Alarcão & Tavares, 1997), there are 3 types of cooperating teacher: the *non-directive* – the one that is fully opened to the future teacher's ideas and wishes and lets him organise his own practice at will – *the collaborative* – the one that listens to the future teacher and presents him his own opinions and ideas promoting the debate and negotiation – and the *directive* – the one that is inflexible and forces his own ideas on the preservice teacher, seeing himself as a model that should be followed.

In recent years reflective supervision has become the most defended supervision model by many authors. The main characteristic of this model is the continuous questioning of the preservice teacher by the supervisor in order to promote reflection and the construction of knowledge by the preservice teacher. In this model, trust is built based on experiences and the preservice teacher and the supervisor decide together on the paths to choose. Negotiation is the key word.

Several authors, such as Dewey (1933), Schön (1987) or Zeichner (1993) recognise the importance of reflection in the development of the teachers' pedagogical practice. According to Dewey, reflection does not consist of a series of procedures to be used, it is specialized way of thinking.

Schön (1987) has written widely about reflective practice and proposes three types of reflection. The reflection in the action is the one conducted by the professional when the situation is happening and it allows

him to choose the right path. This reflection is based on the prior teacher's personal and professional experience. The reflection on the action happens after the situation and transports the teacher back to the situation allowing him to decide on a different path next time a similar situation occurs. In this reflection the teacher tries to understand the reasons for his choices. Finally, the reflection on the reflection in the action also transports the teacher to the action, exactly to the moment when the reflection in the action occurred. All these stages of reflection combined allow the teacher – or the preservice teacher – to separate himself from the situation and reflect on it conducting to changes in his pedagogical practice. However, for this development to occur it is essential that the teacher be opened to the reflection and the changes it might bring.

For the preservice teacher to develop the ability to question his own actions and judgments, analysing them and correcting in the future, it is important that the cooperating teacher act as a role model. Therefore, the cooperative teacher must also be able to reflect on his supervising actions, questioning them and correcting. Ribeiro in Alarcão (2001) refers that "the reflective attitudes of the supervisor will influence the development of similar attitudes on the preservice teachers" (p. 94).

No supervision model is entirely appropriate to every situation and every preservice group and no model is fully applied by the cooperative teachers. The integrated models commonly applied vary because of the theoretical structure of the final university's school year (that is also the preservice year), of the orientations provided by the university's department to which the student is connected and the characteristics of both preservice teachers and cooperative teachers.

Different preservice teachers have different characteristics and are often in different stages of their own development which will restrict the cooperative teacher's actions. A preservice teacher that is in the early stages of his professional development is very motivated but also very insecure about his own abilities, therefore, he will need the cooperative teacher's support. On a second stage, the preservice teacher becomes very defensive and it is necessary to try and break barriers and promote his reflection. On the other hand, when the preservice teacher is more confident on his abilities his own relationship with the cooperative teacher becomes more equal allowing free discussions of encouragement between them and promoting reflection (Thompson & Moffett, 2009). The professional development of the preservice teacher reflects on the relationship he establishes with the cooperative teacher.

Van Mannen (1977) refers to different levels of reflection: a) the reflection is focused in characteristics and behaviours on his own past experiences; b) the teacher reflects upon his choices and what is best for his students; c) the self knowledge that the teacher detains allows him develop an ethic and moral concern and be autonomous. In order to reach this final stage the teacher has to break barriers of defence and distrust and develop the common practice of individual and group reflection.

It is common knowledge in schools that teachers work mostly alone. Sá-Chaves and Amaral in Alarcão (2000) assume this common teachers' isolation and justify it by "the fear of exposure" and, less commonly, by "a pride that is unnatural and unhealthy for himself and for those he works with and works for" (p.81). Teachers offer resistance to present their work and their practices to colleagues. To Stenhouse (1975), it is important for teachers to be available to observe and discuss on each other pedagogical practices. The first reaction to the sharing of the teachers own ideas, work and practice is usually defensive but it is important to promote a relationship filled with trust among the group of preservice teachers and their cooperating teacher that allows them to share their work and reflections on the situations they live and those that happen in their colleagues classrooms. The school institution and those who introduce teachers to this institution – cooperating teachers and others – need to promote the collaborative work among future teachers in order to change the current practices and end the teachers' isolation.

The preservice year is the first contact of the future teachers with school and the practices developed throughout this year become familiar to the preservice teacher. So, in the future years, it is expectable for him to share his pedagogical practices if he did so his first teaching year.

Nowadays, the complexity of the projects developed in education has, step by step, brought the teachers together. In order to implement a common innovation, to deal with a difficult class, to explore a new notion that, for example, is directly related to another discipline, teachers seek the possibility of developing collaborative relations with each other, as referred by Boavida (2002). This collaborative relationship has every chance of succeeding if it is voluntary and if the participants in the relation welcome this partnership and accepts all as equals.

Ponte and Boavida (2002) present the main advantages for the development of a collaborative investigation. The commitment of a group of people in a common objective conducts to the concentration of a considerable amount of energy and strengthens the determination; on the other hand, a group of people with different experiences and skills enriches the resources of a project and adds security in the promotion of changes;

finally, the interaction, dialogue and joint reflection of a group of people create synergies that enhance the reflections and the possibility for mutual learning. Therefore, collaborative work is important not only for the result of the activities developed by the group but it is also important for the professional development of those that are part of the group.

The collaborative work developed within the preservice teachers' groups consists in sharing prepared classroom materials. By sharing them, the preservice teachers allow their colleagues to comment on their work promoting their own reflection and, therefore, the necessary changes and professional development. Oliveira and Serrazina (2002) argue that it is important that the teachers be opened to letting their colleagues observe their work. This, along with the questioning of their own practice, the will and skills to study their own practice and the interest in testing theory in practice are the main characteristics of the teacher who is focused on improving the teaching-learning process in which he is involved.

The development of reflective teachers that can work as a community will promote reflexive schools with members that support each other, discuss with each other and search and create knowledge that will ultimately be the support of the school's autonomy.

There is no doubt that reflection promotes changes in practices, innovation, professional development and the improvement of the teaching and learning process. Collaborative work within a group of teachers that share a common project (a class or a discipline) will benefit the individual reflection through the group sharing of ideas and reflections. Therefore we can easily understand that collaborative work is also an important tool to achieve professional development and the improvement of the teaching and learning process.

METHODOLOGY

For this study that we developed in the school year of 2008/2009, we formulated three research questions:

How can we characterize the cooperative teachers participating in this study?

How can we characterize the pedagogical practice developed within each of the preservice teachers' group?

What is the impact of the cooperative teacher characteristics in the pedagogical practice develop by their preservice teachers?

We opted for a qualitative approach in the study in order to create new paths in the development of an inductive analysis (Lankshear & Knobel, 2004). Our main goal was to understand the dynamics of the participant groups and achieve results that gained meaning within their context. Therefore we divided the data collection in three different phases.

In the first phase we conducted semi-opened interviews with each of the teachers and each of the cooperative teachers. In these interviews we intended to collect data regarding the activities developed throughout the supervised school year, the expectations of each of them of the year ahead and the characteristics of the cooperative teacher. In these interviews, the teacher was welcomed to add any information they thought might be important.

After the interviews we observed meetings of the preservice teachers groups with and without the cooperative teacher. These observations were oriented by an observation grid that had three parts of closed answers regarding the dynamics of the meeting and the behaviour of both cooperative teachers and preservice teachers and one part of opened answers that allowed us to add any information that seemed important.

In the last few weeks of the supervised school year we applied our questionnaires. There were two different questionnaires, one for the cooperative teacher and one for the preservice teachers. We used some of the information we collected from the meetings to organise a group of questions regarding the preservice teachers' meetings with and without the cooperative teacher. The two other parts of the questionnaire included questions regarding the matters taught by the preservice teachers and the pedagogical sharing among the group of the future teachers and with the cooperative teacher.

The general data collected on the encounters and informal conversations with the teachers was organised in a field diary. In it we registered some conversations with both cooperative teacher and preservice teachers that took place in an informal environment. We also registered some situations that occurred as well as the investigators view on those situations.

Table 1: Data collecting instruments

	1st phase	2nd phase	3rd phase
Instruments	Conducting Interviews	Meetings' observation	Applying questionnaires
Date	October to December 2008	January to March 2009	March and April 2009
Data	Preservice year organisation and cooperative teachers' characteristics	Cooperative teachers' characteristics and pedagogical sharing within the group	Pedagogical sharing within the group

After collecting all the data we triangulated it – crossing data from different sources and collected at different times – and triangulated methods by combining different instruments to collect information on the same matter.

In the development of our study, we worked with 13 groups of preservice teachers and their cooperative teachers from different initial formations, such as mathematics, physics and chemistry, physical education and informatics. Forty eight teachers participated in our study, thirteen cooperating teachers and thirty five preservice teachers from a total of six different high schools in Madeira Island.

DATA ANALYSIS

The analysis and interpretation of the collected and codified data was developed in three stages. In the first stage, we focused our attention in the general data trying to identify situations common to all the groups, general characteristics of the cooperative teacher and of the pedagogical practices shared within the groups. In the second stage, we analysed the data regarding each different disciplinary group, the similarities within each group and differences from the other groups. Finally, in the third stage, we focused on each different group of preservice teachers and their own characteristics.

From the information collected in the interviews with both cooperative teachers and preservice teachers, we were able to verify the diversity in the organization of the preservice year by different disciplinary groups or cooperative teachers.

Regarding the general characteristics of all the groups, we came across some interesting data. Although all of the preservice teachers were being prepared to teach secondary students, five groups did not teach secondary. Four of these groups taught the third cycle (7th, 8th and 9th grades) and one group taught second cycle (5th and 6th grades) which, according to legislation 1097/2005, does not prepare them to teach higher grades.
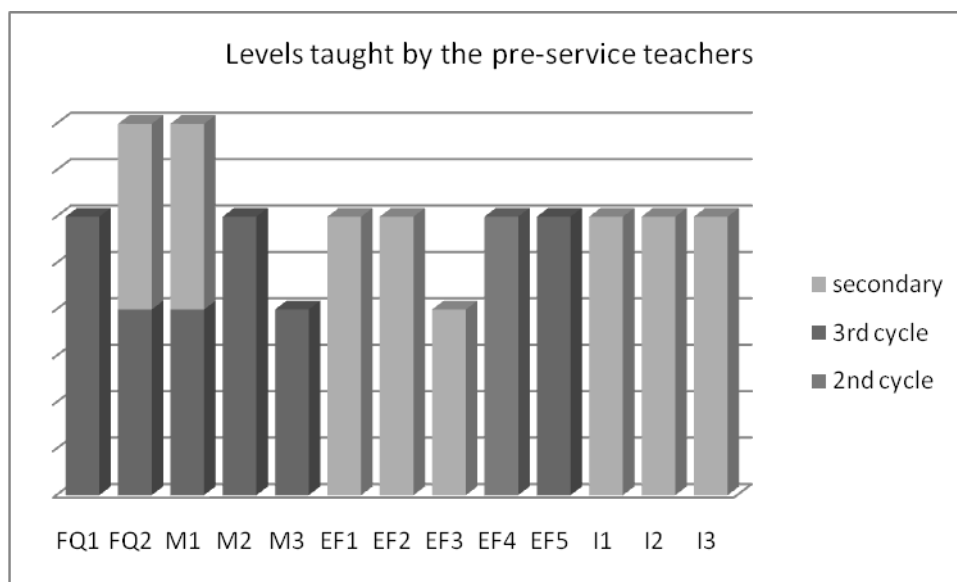
Figure 1: Levels taught by the preservice teachers of each group

Analysing each disciplinary group separately we find some resemblances among different school's groups of the same disciplinary group.

In the physics and chemistry groups there were no written indications to the cooperative teachers and the supervisor from the university limited his work with the preservice teachers to the evaluation observations. On the other hand, the physical education disciplinary group had a series of documents elaborated through the years by cooperative teachers and university's supervisors to indicate the tasks the preservice teachers

should do and how these tasks should be evaluated by the cooperative teacher. However, the preservice teachers of this disciplinary group taught a great variety of levels. The analysis of the table above might lead to wrong conclusions regarding the informatics disciplinary group. Although all the informatics preservice teachers taught the same levels, not all of them taught the same disciplines or even the same number of disciplines. Some groups taught three disciplines and two different levels while others only taught two. As we noted through the interviews, most preservice teachers felt some kind of injustice because of these differences. Some of the preservice teachers felt there were over-working compared with their colleagues from other schools and some felt they did not spend enough time with the students, teaching.

Through the interviews and the observations, we identified some of the cooperative teachers' practices that led us to their characteristics. We noted that some of the cooperative teachers let their preservice teachers lead their practices with no intervention from the cooperative teacher. These cooperative teachers did not attend all of the preservice teachers' classes and did not review the preparation of those classes acting, when necessary, after the class was taught. Using Stenhouse's words, they were mainly nondirective.

Other cooperative teachers worked along with the preservice teachers discussing their choices but leaving them space to implement them. These cooperative teachers had very frequent meetings with their preservice teachers and did most of the work in group. They shared discoveries, materials and reflections. They gave their own opinions but welcomed the preservice teachers' opinions and discussed them all as a group of equals. By so, they were mainly collaborative.

But most of the cooperative teachers presented characteristics associated to the early notions of supervision in which the supervisor was seen as an example. They gave directions to the preservice teachers and expected them to follow. They were very strict with their deadlines and they wanted the preservice teachers to conduct their classes as a copy from the cooperative teacher's classes they attended to. Some of these cooperative teachers even intervened in the preservice teachers' classes if they considered the preservice teacher was not conducting them properly and needed help. These cooperative teachers were, therefore, mainly directive.

Four of the cooperative teachers that participated in our study presented collaborative characteristics, one was clearly collaborative and three others mainly collaborative. The other nine presented collaborative characteristics but also directive or non-directive characteristics.

The mathematics cooperative teachers were the least directive and most flexible regarding deadlines. These cooperative teachers worked very closely with the preservice teachers and usually gave them suggestions instead of forcing their own ideas on them.

On the other hand, the informatics cooperative teachers were the most directive, taking charge in every situation and intervening during the preservice teachers classes. They were very strict regarding deadlines and the scientific preparation of the preservice teachers and they intervened in the preservice teachers' class if they understood it was needed.

The physical education cooperative teachers had frequent individual contact with the preservice teachers and had as a major concern the integration of the preservice teacher in the school dynamics but some of these cooperative teachers did not attend all of the preservice teachers' classes and did not even check their class preparation before the class was taught. The most non-directive cooperative teachers were physical education teachers.
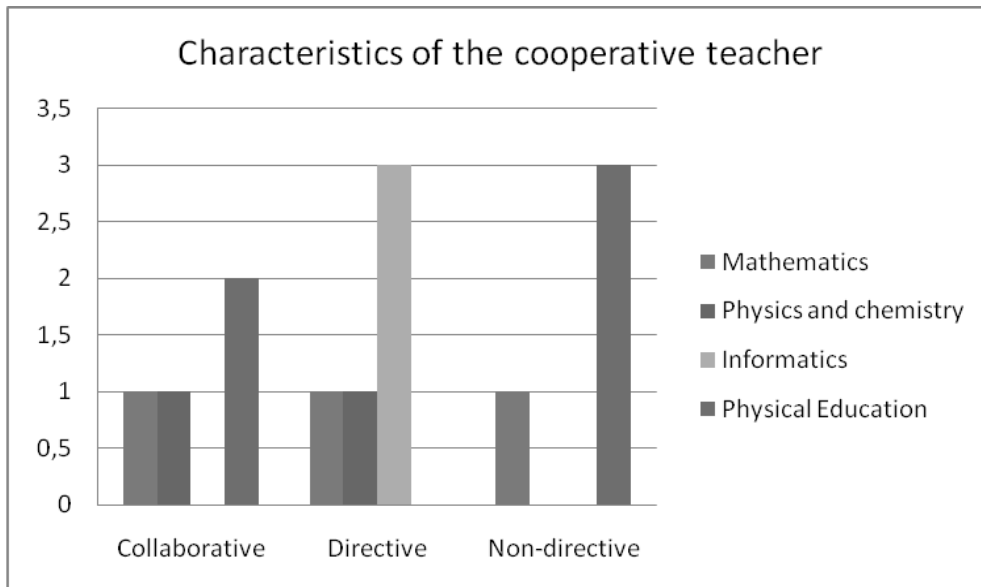
Figure 2: Characteristics of the cooperative teacher of each disciplinary group

The observation of the meetings allowed us to collect important data on the pedagogical sharing within the preservice teachers' groups. These data were then used to organise the questionnaire in order to obtain more information on these pedagogical practices. We collected some other general information in the meetings' observation such as the fact that, in some groups, not all of the preservice teachers attended the group meetings on regular basis.

Using the questionnaires, we collected information both on the sharing of classroom materials and preparing activities and on the sharing of reflections. In this last part, some of the questions had the purpose of understanding the cooperative teacher's and the preservice teachers' opinions on pedagogical sharing.

In general, most of the student teachers prepared their classes and materials alone; developed the students' evaluation grids with the cooperative teacher and planned the extra-curricular activities with the other student teachers.

The informatics preservice teachers developed most of their work together and communicated several times a day to share materials with the colleagues and the cooperative teacher. This communication was not always physical but also virtual and every classroom material was previously inspected and "corrected" by the cooperative teacher.
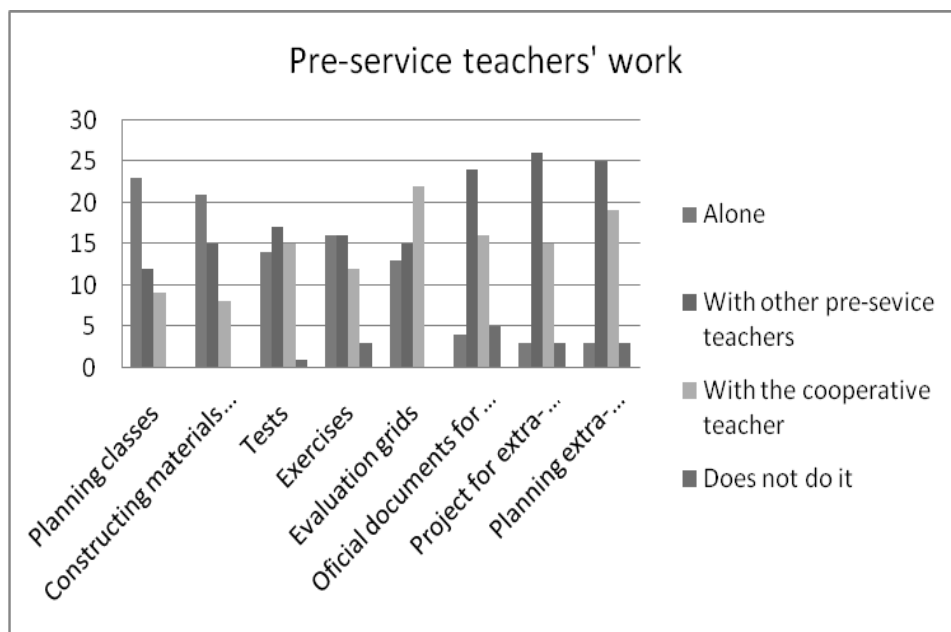
Figure 3: How preservice teachers conducted their pedagogical practices

The preservice teachers' reflections on classes and students' evaluation were conducted mostly with the cooperative teacher but also alone, while the reflections on the group activities were developed mostly with the colleagues but also with the cooperative teacher. Some preservice teachers expressed they reflected both alone and with the colleagues and/or the cooperative teacher. Strangely, some preservice teachers referred not to reflect on their classes.
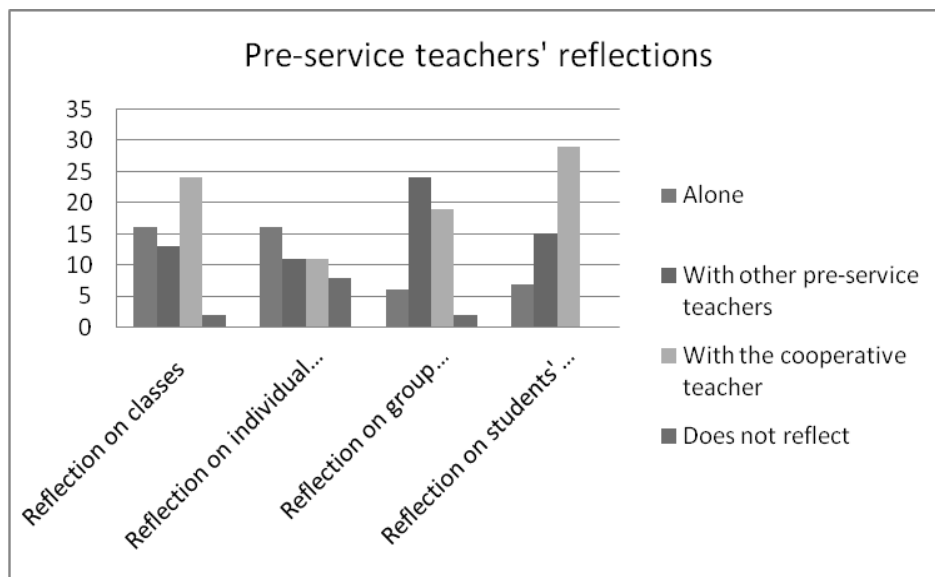
Figure 4: How preservice teachers conducted their reflections

The physics and chemistry preservice teachers worked mostly together within their group and reflected upon their pedagogical activities with the cooperative teacher.

Despite their cooperative teachers' effort, the physical education student teachers did not fit in the schools in which they were teaching and worked mostly in the university. Anyway, these preservice teachers worked and reflected mostly alone. We noted, when attending to the meetings that some of the physical education preservice teachers did not attend to every group meeting.

Final considerations and recommendations
In our study we identified collaborative, directive and non-directive cooperative teachers among the participating teachers. We also verified that some preservice teacher preferred to develop their classroom materials and reflections alone while others chose to develop them with their trainee group colleagues and others with the cooperative teacher. It is important for student teachers to develop the capacity to reflect on the classroom events and on the classroom materials produced. Preservice teachers should feel confident enough to organise their work and develop their reflections on their own but should also be encouraged to work in group, with their colleagues, on a collaborative environment that can end the isolation of teachers in the schools.

The preservice teachers that worked with collaborative cooperative teachers prepared their classroom materials and developed their reflections both with the colleagues and the cooperative teacher but also individually. The preservice teachers that worked with directive cooperative teachers prepared their classroom materials and developed their reflections mostly in group with the colleagues and the cooperative teacher. The preservice teachers that worked with non-directive cooperative teachers prepared their classroom materials and developed their reflections individually.

In our study we realized the immense influence the cooperative teacher and his actions have on the pedagogical practices developed by the student teachers. The cooperative teachers may promote or restrict the development autonomous and reflexive teachers. It is important for the cooperative to be aware of his influence and have the knowledge to develop the skills that will most benefit the student teachers he works with. Therefore it is clear that the cooperative teachers must have a special formation in teacher's supervision (Reiman & Thies-Sprinthall, 1998), which does not happen currently. The entire supervised practice should be well organised so that, no matter what is the school in which the preservice teacher has his supervised practice, every future teacher has similar activities to develop and teach the same number of classes and disciplines in order to minimize the feeling of injustice.

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88 - Personal and Professional Development of Teachers of the Early Years of Schooling in Higher Education Distance: Reflections from Brazilian's Research

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Abstract: In the decade 2000 to 2010 the higher education in distance mode got a rapid growth in Brazil, especially after the promulgation of the Law of Directives and Bases of National Education (Law No.9394/96). Most of these vacancies allocated the initial training of teachers to basic education. Due to this situation, this paper aims to analyze the effects that these courses have been leading to the personal and professional development of teacher-students who attended higher distance courses in Pedagogy and Normal courses at superior level. To develop the study, it was done a data collection of the postgraduate production on the subject in the last decade. The analysis made from the collected material showed that contributions were brought by the distance education courses, both in terms of personal and professional contexts. However, there was often the inadequate use of technological resources, which has caused damage to the offered training.

Keywords: teacher training, initial years of schooling, personal and professional development, distance education.

INTRODUCTION

The decades from 1980 to 2000 brought considerable changes to the educational systems in Latin America, mainly due to the new educational paradigms propagated by the central countries. Economic and social changes were some of the justifications brought by neoliberal upsurge that was set in that period.

In that context, it was attached a fundamental role to education in order to assist in overcoming the problems facing the world: social inequality, a large number of people not trained to the new demands of the labor market, which includes the use of new information and communication technologies (ICT) among other issues.

International meetings were held, such as the Jomtien, Thailand in 1990 in order to discuss the issues facing those imposed problems. From that meeting, it was created a guiding document of the following reforms entitled World Declaration on Education for All (*Declaração Mundial sobre Educação para Todos)* to enable the participating countries to assume commitments in relation to their educational systems.

Speeches made by international organisms came to a massive spread, presenting the needs and solutions for the issues related to education and training of teachers have emerged as one of the central issues to be considered.

Due to the emerging new educational paradigms and towards the pressure from international institutions in making the educational indicators reach higher levels, similar to central countries, numerous educational reforms were implemented in Latin America.

In Brazil, the Law of Directives and Bases of National Education - Law N.9394/96 (Brasil, 1996) was a landmark in the educational changes followed from the year 1990 on. Among the changes brought by the law, the superior level training of teachers of the early years of schooling appeared as one of the targets to be achieved in order to happen, as a direct consequence, the improvement of the education in

	2002	2003	2004	2005	2006	2007
■— Total	1.712	4.005	6.746	12.626	25.804	29.812
◆— Federais	769	1.120	2.171	6.615	1.127	1.895
▲— Estaduais	943	2.862	4.575	1.005	10.271	1.508
●— Municipais	0	0	0	515	748	106
✳— Privadas	0	23	0	4.491	13.658	26.303
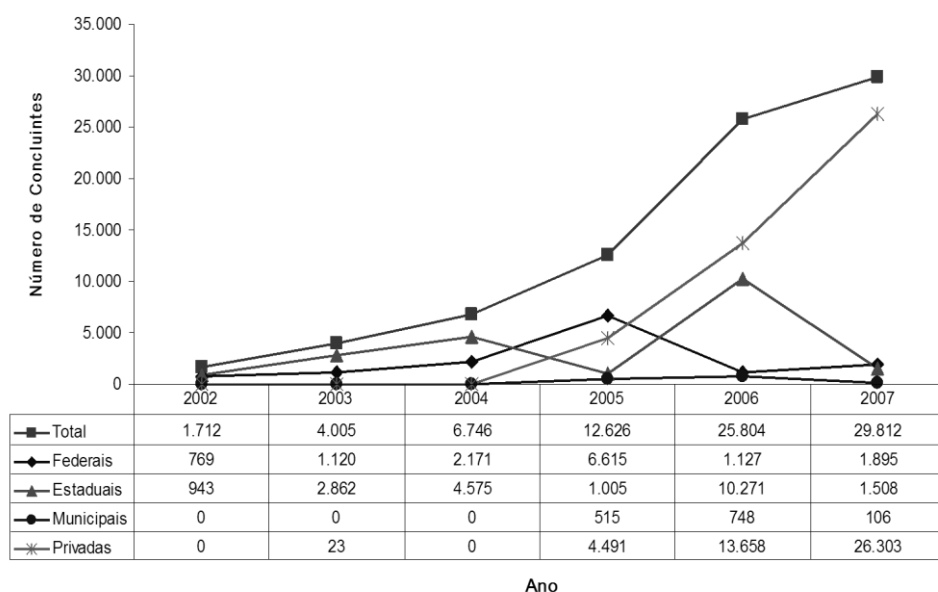
Picture 1: Evolution of the number of graduates – Graduate in distance mode by administrative body[13] - Brazil – 2002-2007[14]

the country. As Imbernón (1994) stresses, "it seems to have reached a consensus in all areas that people cannot mention education, innovation or change without considering the training of teachers"(p.36)[15]. To that end, the distance education was identified as an alternative. The offer of training courses in the distance modality for teachers has been seen by the State and groups of experts in the field of education as a viable and efficient way of providing the teacher training for a large mass of teachers in the shortest and possible time.

Through the necessity raised by the law, it began in the country a process of program implementations and post-secondary courses offered as distance modality by public and private universities. According to the data from the National Institute of Studies and Research Anísio Teixeira - INEP (*Instituto Nacional de Estudos e Pesquisas Anísio Teixeira)*, an agency linked to the Ministry of Education, in Brazil, about 50% of the enrollment in Pedagogy today are concentrated in the distance modality (Brasil, 2010).

Thus, the vacancies in this modality have grown substantially over the last decade. According to information provided by INEP (BrasiL, 2009), in mid-2008 the Brazilian higher education institutions relied on the sum of 222,446 enrollments in undergraduate courses in distance mode to teacher training to work with the early years of schooling. In more recent publication (Brasil, 2010), referring to 2009 data from the Brazilian higher education it was revealed the sum of 287,127 students enrolled in the Pedagogy course while 286,771 students were enrolled in Pedagogy course distance modality.

In this context, it is worthy to clarify that the Pedagogy course, a body which is now responsible for the initial training of teachers to the early years of schooling, is the course that has the highest percentage of enrollment among the undergraduate courses in distance modality, accounting for 34.2% of all students enrolled in this type of course in Brazil (Brasil, 2010).

Given the aforementioned context, this paper aimed to analyze the effects and impacts of training courses offered in distance modality to teachers of the early years of schooling on the professional and personal development of students-teachers. Such analysis was made from the academic production of postgraduate programs. The production's summaries of Brazilian post graduation courses are available in the database of theses and dissertations of CAPES, an agency of the Ministry of Education that is responsible for the accreditation and oversight of these programs. From the research made in the bank of theses and dissertations it was done a selection of productions that dealt with the subject and after that, the entire work was accessed on websites and libraries from the involved universities.

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[13] The vertical column refers to the number of graduates. The first line represents the total; the second represents the federals, the third considers the states, the fourth the municipals and the fifth privates.
[14] Source: Higher Education Census 2007 - Results of the main variables.
[15] Translated by our own.

In this context, it was wondered: how a higher education offered in the distance modality with the use of technological resources and without the daily presence of a specialist teacher could contribute to personal and professional development of teachers who have already been teaching and future teachers?

This study reveals itself of a fundamental importance, considering the recent use of distance education in our country. In addition, thousands of teachers are being trained in this modality, which makes it essential to conduct research on the effects of this sort of graduate on Brazilian teachers.

This paper is organized into three sections. First, it discusses the expanded use of distance education modality through the country, especially in regard to its role in the process of superior level training of teachers teaching the early years of schooling. Following, it presents research's results of postgraduate on the issue on the matter of offering distance modality in courses and initial training programs and discusses the consequences of such training on the Brazilian education. Finally, the conclusions are drawn, and it indicates new possibilities and needs for the conduction of research on the subject.

HIGHER EDUCATION TRAINING OF TEACHERS OF THE EARLY YEARS OF SCHOOLING IN BRAZIL AND THE DISTANCE EDUCATION MODALITY

The problems related to schooling in the country, often evidenced in school routines and in external evaluations of the basic education, are the highlight themes divulgated by the media. The failure of the teaching-learning process is usually attributed to teachers who have the task of training citizens considering the demands of globalization. For this reason, the training of teachers has integrated on the agenda of the Brazilian government and it has been changing substantially. This paradigm is related to the context of an age that questions the effectiveness of education and, consequently, those who work in schools (Imbernón, 1994).

In Brazil, the graduate degree for the practice of teaching in kindergarten and in the early years of the elementary school was recommended in Law No. 9394/96, requiring the expansion of opportunities for jobs in teaching courses and the creation of courses that met the demand for teachers who work in educational institutions. In this context, policies to expand the courses to serve this population are thought, considering especially, the use of new technologies of information and communication technology (ICT).

The entry of distance education mode in higher education in Brazil is recent. In the last decade, after the legal opening provided by the Law of Directives and Bases of National Education - Law N.9394/96 (Brasil, 1996), the mode of distance education was intensified. In this law, the distance education found a legal space for its institutionalization. The 1990s marked the period of an effective beginning effective of distance education in higher education institutions in the country.

From 1995 it began to emerge some experiments aimed at training teachers motivated primarily by the induction of state governments. Regarding the offering of undergraduate courses in distance mode, the Federal University of Mato Grosso – UFMT *(Universidade Federal de Mato Grosso)* is considered one of the pioneers to start the course of Pedagogy's Degree, on a trial.

Other experiments have emerged mainly at undergraduate level for the training of already working teachers, in partnership with education departments of states and municipalities. The *Projeto Veredas*, for example, was the result of a partnership among universities, universities centers and other institutions of higher education with the Education Secretariat of Minas Gerais, offering jobs for teachers in the exercise of state and municipal schools. In 2000, the State University of Ponta Grossa - UEPG (*Universidade Estadual de Ponta Grossa)* started the Superior Normal Course with interactive media for the attention of municipalities of Paraná. This course was originated from a partnership between the Eletronic University of Brazil *(Universidade Eletrônica do Brasil)* and the State University of Ponta Grossa *(Universidade Estadual de Ponta Grossa)*, being offered to the working teachers in public schools. This technological model was adopted in 2001 by the Educational Department of the State of São Paulo - SEESP (*Secretaria de Educação do Estado de São Paulo)*, in partnership with the University of São Paulo – USP *(Universidade de São Paulo)*, Paulista State University – UNESP *(Universidade Estadual Paulista)* and Pontifical Catholic University of São Paulo – PUCSP *(Pontifícia Universidade Católica de São Paulo)*, providing a training program for teachers of the early years of schooling. The University of Brasília – UnB *(Universidade de Brasília)* also offered a pedagogy course in distance mode for teachers, in partnership with the Department of Education's Federal District (Kipnis, 2009).

As shown in Picture 1, it is clear that the distance education mode has entered in the Brazilian scenario comprising the government agenda and motivating the expansion of higher education. In this context, since 2005 the federal government implemented the Open University of Brazil *(Universidade aberta do Brasil-*

UAB) [16]. The Open University of Brazil was established by Decree 5800 of June 08th, 2006. It was created in partnership with the National Association of Directors of Federal Institutions of Higher Education and states enterprises under the State Board of Education with a focus on Policies and Management of Higher Education. It is a policy of coordination between the Department of Distance Education and the Directorate of Distance Education of the Ministry of Education, seeking the expansion of higher education under the Education Development Plan. Participate currently in the UAB System, the public universities and Federal Institutes of Education, Science and Technology. The adherence of governments and institutions of higher education to UAB occurs within the State Forums Permanent Support Teacher Training, created by Decree No. 6755 of 29 January 2009 establishing the National Policy on Education of Professionals of the Teaching of Basic Education and discipline the actions of CAPES in promoting the programs of initial and continuing trainings.

Thus, it is found that the distance education mode has turned to Brazilian government into an important ally raising the academic titration of its population, in a quickly and massive way, especially with regards to basic education teachers, a topic to be discussed next.

WHAT THE RESEARCH REVEAL ON TEACHER TRAINING IN DISTANCE MODALITY

In Brazil, the undergraduate courses in distance mode have been used primarily for training education teachers already working in public schools in the country and also for those wishing to enter into the career. The higher enrollment offered in distance mode focuses on the Pedagogy course (Brasil, 2010). Through such a scenario, the postgraduate programs of the country began their research about the functioning of these courses and perceptions arising from the course participants[17] and trainers who have participated in this type of education. From the analysis of the exposed situation, a question emerged: what research reveal about the contribution of the courses in distance mode to the personal and professional development of teachers already working and future teachers?

Regarding the aim of this paper, a survey was made on the data bank of theses and dissertations from CAPES, an agency attached to the Ministry of Education, in abstracts of papers produced on the subject. By these abstracts, there was a new selection of theses and dissertations that have been read and analyzed. The table below shows the total number of theses and dissertations analyzed and the year they were defended:

Tabela 1: Production of Brazilian Postgraduation 2000-2009

	YEAR OF PRODUCTION					
	2004	**2005**	**2006**	**2007**	**2008**	**2009**
Total per year	01	08	05	01	02	05
Grand total	22 PAPERS (05 THESES AND 17 DISSERTASSIONS)					

The courses examined in the theses and dissertations were mostly focused on the initial training of teachers who have already been working in public schools in the country and had an emergency feature, as they sought to meet an immediate and prompt demand, that is, to raise the titration of working teachers. Only two courses offered by private institutional education did not have this profile, as shown in the table below:

Tabela 2: Courses researched by the academic productions

Pedagogy UFMT	Pedagogy Ponta Grossa	Normal Superior Level (Projeto Veredas)	Pedagogy UDESC	Citicizen Pedagogy	PEC São Paulo	Pedagogy Un. Blumenau (private)	Pedagogy Un. Caxias do Sul (private)	Normal Superior Level UNITINS
05	02	**07**	02	01	02	01	01	01

According to the data provided, it was noticed that there are common elements among the courses in relation to the physical structure and human resources involved. Typically, the courses relied on decentralized units

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[16] The information regarding Brazil Open University are available at: http://www.uab.capes.gov.br.

[17] Denomination given to students who attend such courses. It has the same meaning from other denominations found in the papers analyzed here and used, such as "student-teacher" or simply "student ".

called "poles" linked with universities through the World Wide Web. These poles, devices for transmitting images and data were installed. In the learning environment the course participants received a guidance from a tutor, an attendance agent as a mediator between students and the resources available (printed materials and computers, basically) and also organized the calendar of activities. The coordination of the courses is normally located at the headquarters of the university responsible.

Through videoconferencing and teleconferencing the course participants came into contact with the specialist teachers from different areas. In the poles, or in locations previously reported, it was carried out attendance tests which are mandatory by law. These tests as well as printed teaching materials and activities available in the learning platforms were designed and organized by the university professors. However, as we shall see below, even in present paper, not all technological resources could be used in the analyzed courses, which harm the original planning.

Right now, it is needed to clarify what is meant here by professional development. It is understood this phenomenon as an individual or collective process that must contextualize themselves in school and that contributes to the development of professional skills through different experiences, both formal and informal (Marcelo, 2009). Accordingly, Imbernon (1994, 1999) points out that thinking on professional development is refer to something that relates to change in professional life of teachers and not just to the new learning. Training is one of the parties that make up the professional development process.

One must consider that in many cases the professional knowledge of teaching is related to routines, habits, institutions and ideas that when learned and mastered they are applied mechanically. Encouraging the reconstruction of common pedagogical thinking requires a process of deconstruction of the patterns of thought and action and consolidated empirically and uncritically (Pérez-Gómez, 1999). The teacher considered alone is an easy victim of their deformities, weaknesses and interests, social and institutional pressures, which are still nourished by the inertia of the group, institutional and environmental pressure. The generality of investigations into the evolution of pedagogical thought of practicing teachers, their beliefs and attitudes, shows the inexorable tendency to the sclerosis of thought and action, to develop stereotypes increasingly resistant to the change that feeds themselves of the reproduction of an uncritically professional tradition (Pérez-Gómez, 1999; Barquín Ruiz, 1991).

Accordingly, in the sphere of the offering of such courses, it is expected that the working teacher can develop conditions to deal with the pedagogical knowledge that Imbernón (1994) calls as specialization, which is what differentiates and sets the teaching function and requires a concrete process of training that gathers specific characteristics such as complexity, accessibility and social utility that, in a given context, will enable the issue of situational judgments based on experiential knowledge, in theory and practice teaching. The specialized pedagogical knowledge legitimizes in the practice of the profession, and is united to the action. Therefore, some of that pedagogical knowledge is a practical knowledge from experience that generates information constantly and is processed in its daily work. Moreover, as emphasized by Marcelo (2009), besides these aspects, the professional development seeks to promote the growth of the professionals as people. Although the studies analyzed did not allow us the analysis of the legitimacy of this knowledge and these changes since they do not focus on the practices developed in the institutional work environment from teachers, they show the indicators relating to the possibility of developing the knowledge in question.

From this understanding, the analyzed production on the subject brought subsidies in to understand broadly what it meant and what the effects were until the graduate of teachers in the distance education modality recently introduced in the Brazilian educational context. The surveys were developed, mostly through the field observation and interviews with students and trainers (tutors and academic advisors). So, the perception of those involved in the process was the main source of data of the researchers. The reading done by the researchers themselves towards the learning environment was also a source of submitted data.

Students and trainers of the courses were mostly women who worked in public schools and belonged to different age groups, that means that were together in distance education mode courses and programs, people in the beginning, middle and end of the teaching career.

Regarding the professional and personal development of students who took part in the studies selected, good common points have been repeatedly highlighted by the people involved and selected to be discussed here. Even establishing relations and influences among them, these points can be categorized into: a) *aspects related to professional identity [18], b) issues related to academic education and instruction* and *c) aspects related to the person of the teacher [19]*.

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[18] Professional identity is how teachers define themselves to themselves and others, being a construction of his professional self, which evolves during his career and that may be influenced by the school, by the reforms and political contexts, incorporating the personal commitment, availability to learn how to teach, beliefs, values, knowledge about

In the first category, in line with Imbernón (1994), it was highlighted by the students the following: it was created a sense of belonging to a specific professional group, especially because of the constant exchange of experiences with peers (solving common problems in classroom, suggestion of activities, sharing joys and frustrations relating to the profession), it was promoted the construction of a professional identity; it was woke up the critical sense in relation to their position in society through the function they perform. Finally, according to the perception of the course participants, the possession of a diploma came to legitimize their place as professionals in education for society and for themselves.

In relation to the academic training, important elements were cited. The improvement of writing, the comprehension of academic texts and the developing of a taste for reading were some of the major changes brought by the courses. The relation between theory and practice during the courses was also highlighted as a significant point that has brought meaning to what was being discussed by several authors quoted in the printed materials, which valued the academic education. In addition, the students revealed that the interest to continue studying was aroused, as well as the desire to be responsible for their self-training [20]. They stressed that as a result of the training received, there was a significant improvement in the quality of their classes. It is evidenced that, to the researchers, it occurred an enrichment on the knowledge of the craft, which is characterized by including the practical knowledge of the representation of the subject, of teaching, built from the interaction between content representation of the subject and practical action, schemes of work and understanding (Ângulo Rasco, 1999).

As a consequence of the aspects above, and in line with Marcelo (2009), aspects of the person of the teacher were also highlighted. Lifting self-esteem, more critical sense, respect for human diversity in its various dimensions (race, gender, ethnicity, etc.), reliability in relation to what they say and what they do and achieving a personal dream are some of the major changes.

Negative aspects were also mentioned by the actors involved. What became apparent, however, is that the criticism fell mainly on the ways of using technological resources and the organization of courses. Namely, support for the offering of the courses - which is the new element brought by distance mode - was the main target of criticism. Among the complaints made, it points up: technical difficulties, lack of adequate equipment, lack of knowledge on the use of equipment, lack of training for the trainers on videoconferencing facilities, teleconferencing and chat rooms. Furthermore, the lack of familiarity in the use of computers and other technological resources from the course participants were a critical point, especially pointed up by the trainers, which cost the utilization of available resources. The printed standard material was distributed in the courses, in its turn, was nominated by the students as the main source for study and attendance tests. The presence of tutors in the learning environment was considered essential to dispel the doubts of many areas of knowledge that arose during the course. According to the information brought by the research, it is understood that the gaps left by the elements that characterize the distance modality were supplied, mainly, by the common facilities to the attendance classes.

It can be seen therefore that the potential uses of information technologies and communication technologies (ICTs) in such courses have not been adequately explored, as revealed in the research, either through lack of technological mastery of trainers and students or by technical failures. This demonstrates the need to rethink the planning of such programs in light of the experience gained so far.

Anyway, according to the perception of the researchers, the use of ICT in teacher training represented for the people involved, an opportunity to obtain a diploma at a superior level, which would not be possible in another way because of financial difficulties and lack of time. Most research have revealed that despite the problems found out, the modality of distance education was of paramount importance, playing a fundamental role in the society for those who have been benefited. It was considered an important alternative to democratize the access to higher education in the country.

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the subjects they teach, and how they teach them, the experiences and their own professional vulnerability. The teacher identity is the reality that evolves and develops individually and collectively. It is something that develops throughout life (Marcelo, 2009).

[19] Professional development seeks to generate changes together with teachers so that they can grow as professionals and as people (Marcelo, 2009).

[20] In this context, speeches that show the assignment of value to the possibility of a personal permanent training, non-transferable, that depends on them were propagated. Thus, teachers in initial higher education contexts try experiences that clarify that their becoming does not cease with the diploma, which seals the professional position, since they are related to a permanent training that will combine periods of experiential training with the ones more formal, according to alternations to be created for each subject (Pineau, 2004).

However, while the democratization of the access to education is fundamental, the state generated from this new way of promoting higher education needs further studies that examine the changes brought about these courses on the practice of teacher in the classroom, making possible, thus, to develop a more comprehensive analysis of the process of distance training set in a rapid and massive way in our country. After all, consider that the minimum qualification of teachers is better than nothing reveals a clear inconsistency between discourses and practices.

CONCLUSIONS

This study deals with central issues on the post-secondary education regarding the personal and professional development of the teaching profession of the early years of schooling in order to point up the effects of the courses offered in the core of expansion policies of providing vacancies in Brazilian higher education in undergraduate courses for the diploma of teachers already working in public schools and future teachers after the promulgation of the Law of Directives and Bases of National Education (Brasil, 1996). Along the way, it was emphasized the results of the developed research in the country that as the main corpus analysis the higher education courses offered in the distance mode, pointing out positives and negatives results that emerged repeatedly in the development of the analysis defended in the Brazilian postgraduate programs.

The collected data refer to aspects categorized as related to professional identity, academic training and instruction, to the person of the teacher and to uses made of technological resources. These aspects aroused from the analysis conducted by researchers from the manifestation of those involved in the training process for the certification of teachers who are already working in a massive and rapid way. It was observed, however, that there are significant gaps in the academic production, especially regarding the analysis of practices developed in schools of basic education by the graduates of these sorts of course. It is also necessary that more comprehensive research are conducted in order to examine the implementation of distance education college courses as part of a public policy that has pre-defined statistical targets to be reached and, above all, that has been establishing itself as one of the main ways to train teachers in basic education of Brazilian public schools.

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90 - Convergence Between Practice and Professional Development of Teacher Educators in Pedagogy Courses in the Light of Curriculum Development Theories

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Abstract: This paper is a reflection on the practice experienced in the period from 2001 to 2008 as a teacher educator at the Faculty of Education at the State University of "Vale do Acaraú, Pólo-Natal", in Brazil. It aims to analyze the underlying processes to the educator´s practice and professional development in the curricular context. It is noticed that at the pedagogical discourse in recent years, the teachers' role and the education have been posed as essential in order to educational institutions from ahead the challenges of modern society. In Brazil, according to the Law of Policy and Bases of National Education, number 9.394/1996, the Article 13, I, determines that one of the teachers' role is to contribute to the development of the curriculum design in the institution. However, in most institutions such participation has been given much more in terms of operationalization of the official curriculum, that is, it has been restricted to the technical or functional level. At the University, as it constitutes a decentralized Pole of education, teachers' educators are often invited to act as developers of the proposed work and reviewers of the educational curricula, as well as they are challenged to think and decide about possible alternative methodologies appropriate to the teacher education context. This experience highlights two relevant aspects: the first one is that curricular management and the autonomy are intervening and dominant variables in teachers' practice and professional development and secondly, the practice as profession can provide teachers with a training and self-education that promote a broader dimension of professional development. Thus, the selected theme refers to the complexity of pedagogical, political and ideological relationships that compose the education, in broad and restricted sense, that is, it demands teachers acting, building and rebuilding themselves, being a teacher at the individual and collective fields. In this perspective, teachers are reflexive agents, builders and managers of the curriculum with ability to become agents of their own biography (Freire, 1996; Pacheco, 2008; Morgado, 2000; Goodson, 2001; Roldão, 1999). The research to be presented was based on a qualitative methodology involving discourse analysis, document analysis, as well as field research with survey questionnaires with open questions to a sample of five teachers from "Vale do Acaraú, Pólo-Natal" University, Brazil. The partial results will be addressed during the communication. It should be noted also that in order to develop the proposed analysis we used the theoretical framework from the master on teachers´ education, as well as those from the ongoing doctoral project in the area of education.

Keywords: Curriculum. Teacher. Practice and Professional Development.

INTRODUCTION

The discussion of the practice as professional development inplies placing it in a conceptual discussion on the epistemological field, political and ideological of training, and in particular the very term "Professional Practice" as this, throughout history, has been used with different meanings and understandings. The pedagogical discourse from the 1990s, in Brazil, examines the discussion of professional practice in two dimensions: 1) professional practice as the practice of teaching. 2) Professional practice as a curricular component, as a body of knowledge, strategies and techniques learned in the school process.

Buriolla (2001), Tardif (2002), Ramalho et al. (2003) and Pimenta (2004) emphasize these two dimensions of professional practice as inseparable processes with mutual involvement. In this study, the practice will be addressed from the perspective of the profession combined with teacher professional development. The text contains four sessions: first, to discuss the concepts and methodology of the study. After, we will establish the context in which subscribes to the experience and perspectives of teachers. Finally, the considerations and references.

CONCEPTUAL AND METHODOLOGICAL DIMENSION OF THE STUDY

The question of the epistemology of professional practice is at the heart Movement the Professionalization of education[21] and of Teachers, launched in the United States of America, in 1980 and 1990, in a paradoxical context, that required professionalism of teachers at a time when all professions, including the professions most outstanding (Medicine, Engineering, Law) went through a period of deep crisis. This movement represented an attempt to reshape and renew the epistemological foundations of the profession and teacher education (Tardif, 2002).

Ramalho et al. (2003), citing Braslavsky (1999), says that during this period, in the context of Latin America, the movement to professionalize the teaching and the professor was supported by the finding of a technical deprofessionalization linked to an increasing devaluation of their work, in that the teacher was thought of as a consumer of scientific knowledge. Due to this design, in Brazil, it was developed an emerging hybrid training model based at technical and at training Academicism traditional. But also emerging movements driven Anped (1999) and Andes (2004)[22], that invoke and pointing to a new reference and training teachers' professional practice, based on the articulation between theory and practice.

At the time, in Brazil, the question of building a framework for understanding the professional teacher is complex, since it is mediated by various contextual variables, such as massification, devaluation and various interference: of parents, the state and the of administrators in the teacher's work. The process of professionalization, in fact, sought to overcome the inertia of intellectual, social and political activity of faculty, more than questions of competence and qualifications, meant a matter of power, autonomy and authority public and social Because "the teacher builds knowledge, skills, not to individualistic and competitive autonomy, or for an authoritarian power, but to educate in the perspective of socialization, namely by promoting the inclusion, not exclusion" (Ramalho et al., 2003, p.39).

Corroborating this discussion, Pepper (2004) emphasizes that profession and professionalization refers to the characteristics and ways to pursue a particular activity and the objective conditions of their practice as well as the requirements to enter thereon. However, teachers in the profession have specific knowledge that are mobilized, used and produced by them as part of their daily tasks. [...] Which is proposed from this assumption is to consider the teachers as individuals who possess, use and produce knowledge specific to their craft and of their work (Tardif, 2002, p. 113).

To Buriolla (2002), the basic reference of the action in professional practice is conceive the man as a historical reality in which relations emerge mainly from the correlation of forces determined by the dynamics of social reality. With regard to the teaching profession, the teacher is a professional man that helps the personal development of the students, being a facilitator of access to knowledge; is a being of culture that dominates his area of expertise and scientific-pedagogical education and its contributions to understanding of the world; a critical analyst of Society, that it operates with her professional activity, a member of a scientific community that produces knowledge about their area and about the Society (Pimenta & Lima, 2004, p.88).

Teaching is a specific field of professional intervention in social practice - not is just anyone that can be a teacher because the teacher identity is constructed along its path as professional teaching and in the process of their professional development, in that are consolidated the options and intentions of the profession. It is in the scope of practice that teachers live the experiences of objective conditions. Often these places are marked by situations of wear, fatigue and disillusionment and social problems whose solution is far from your area.

Methodological dimension of the study

This reflection in form of communication has at its base the understanding that, given the frequent changes to educational institutions, the challenges posed to the teaching practice, the requirement of teachers assume your professional Develop, it is necessary to recognize as a subject with critical skills, reflective and to have some professional autonomy.

"As an agent of the curriculum, the teacher becomes a professional who critically analyzes your work. Their role is not merely a executor or consumer curriculum as you attribute the centralized curriculum models, prescribed and closed" (Pacheco, 2001, p.164). In this sense, give voice to the teacher to think and analyze

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[21]The movement of the professionalisation of teaching faculty is an urgent appeal to university researchers in the field of Education to build a repertoire of professional knowledge for teaching (Tardif, 2002).

[22] ANPED National Association of Graduate Studies and Research in Education.
  National Union of Teachers of Higher Education Institutions, ANDES-SN.

their own practice is a step change in paradigm and effective changes within the school (Giroux, 1986; Schön, 2000; Alarcão, 2001).

Seeks to rescue the authorship of the teacher in the field of discourse and pedagogical practice, therefore, the authorship, "which is a unique appropriation of reality and way of intervening in it, leads to the opportunity of the authors (...) produce skills more or less relevant and the feasible in managing the complexity of the events quotidiano (...) and make visible the hidden face of his being in the world (inter)-action and (inter)-training "(Silva, 2007, pp. 303-304, emphasis added).

Thus, we selected five subjects from the universe of ten teachers whom were actively engaged in curriculum practices in the Faculty of Education in the State University Valley Acaraú at the general level of administration the curriculum and the classroom, in the period 2001 to 2008. These teachers were inquired through a questionnaire with open questions that focused on the legal requirements on teacher participation in educational projects in the institutions and their perspective about their professional development and teaching practice in the context of the institution. The teachers' answers were analyzed in light of discourse analysis, considering the subject of reflexivity, which "refers to the fact that humans are self-conscious beings capable of thinking about themselves" (Jardine, 2007, p.33). In the field of collection and data analysis we also use the document analysis.

We emphasize that the study fits into the paradigm of qualitative research, in which "the data were not collected in order to confirm or disprove hypotheses built previously, instead, the abstractions are built with private data that were collected and that are be grouping "(Bogdan, p. 50). We recognize that the qualitative and quantitative aspects of the events and social relations "are their inherent properties, therefore, indivisible and independent, thus occasioning the dissolution of dichotomies quantity/quality, macro/micro, interiority and exteriority" (Minayo, 1999, p.11).

CONTEXTUAL AREA OF EXPERIENCE: between theory and practice

The institution that was the experience is a dismemberment of the State University Valley Acaraú, who works at another federal state of Brazil, Ceará State. This university, since 2001, took over the project and expansion of internalization of higher education for all teachers in different Brazilian states, with support of the Law of Directives and Bases of National Education, Law 9.394/1996, which states: The training of teachers for working in basic education will be taught in undergraduate courses at universities and institutes of higher education, as allowed for minimal training exercise of teaching at the kindergarten and the first four grades of elementary school (Brazil, Law 9.394/1996, Art 62).

This legal determination was contrary to previous reality, in which the middle-level teacher training (that occurred in secondary schools) was requirement to work in the early grades of basic education. And also sought regulatory the table irregular teacher training that did not meet the new demands of current social reality, as shown in the table below.

Level of Training of the teachers working in elementary school 1991 to 2002

TRAINING / YEAR	1991	1996	2002
Until the level of basic education	17,4%	15,3%	2,8%
No formation of teaching	5,7%	1,8%	2,9%
Formation of teaching high school	57,7%	61,1%	64,0%
College without formal training in education	0,9%	1,8 %	3,9%
College with formal training in education	18,3%	18,5 %	26,4%

Source: Derived from the INEP, Statistics of Teachers of Brazil, 2003.

The Law 9.394/1996 caused significant change in the context of teacher education considering the low level of training: largest percentage the formation in teaching high school, even, different situations from subjects who barely finished his elementary school and has joined as a professor in the education system and also the situations with professionals working without proper training.

The legislation, in a sense, forced to supply and demand for higher education at undergraduate level, from a total of 2.512 courses in 1991 for 5.880 in 2002. The growth of enrollment was 90%, involving a quota of 1.059.385. In 2001 completed courses in teaching profession a total of 176.599 students (INEP, 2003)[23].

It is noteworthy that such requirement of Law 9.394/1996 must be understood within in the framework of international and national policies for teacher training, as well as within the framework of reforms in the Brazilian national system of education in the 1990s. It was understood that teachers will be the protagonist of

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[23] INEP, Statistics of Teachers of Brazil, 2003. http:www.inep @ gov.br

the reforms within the classrooms and basic education a cornerstone for achieving the nation's development. Thus "the politics of teacher education should emphasize the recovery and ongoing qualification of teachers" (Silva, 2006, p.75).

Widened the range of locus of professional training of teachers and different actions and programs have emerged. In this context, the State University Valley Acaraú (UVA) have been decentralized their training activities from partnerships, expanded teacher training courses, initially at the level of the course of bachelor in Pedagogy.

This institution, with its headquarters dismemberment of Sobral, a city of Ceará, in different Brazilian states, has served various municipalities in the state, with regard to teacher training. The Course of Pedagogy Undergraduate Full Degree, offered by the institution is recognized by CEC[24], through Opinion nº 0994/98 of 21 October 1998. The UVA has offered, with great success the same way throughout the State of Ceará and 12 more states in the federation of the Northeast, North and Midwest "(http://www.ibrapes.com.br/graduação _pedagogia.php).

In the state of Rio Grande do Norte, Acaraú Valley State University, public institution in the format of an agreement with the Brazil Institute for Research and Higher Education (IBRAPES), of private ownership, operates in 50 municipalities offering training in the initial series Basic Education, also has operations in training courses Postgraduate.

The teaching staff consists of former teachers with extensive experience in the field of training for teaching, being a retired professional Brazilian public universities and also professionals who have their first experience at this institution as teacher trainers in higher education courses. To act in the training courses is required Postgraduate Sensu Lato (specialization) or Stricto Sensu (master's or doctorate).

It can be seen, under the circumstances and political and ideological beliefs that teachers occupy a space not only in classrooms, working knowledge of the modules, but also outside of the classroom, in group work with its partners under the coordination of the educational institution's Board. These spaces are discussed and decisions regarding curricular issues involving the updating of knowledge learned in the different modules based on the analysis and selection of content as well as through development of methodological proposal for the organization and implementation of work plans. The Professor A caveat to that participated in the survey questionnaire: "Where are inserted into new disciplines teachers who work in these are called by management to participate in drawing up menus, programs, select bibliography, etc. ...". In the same direction, says Professor B: "I have selected authors, scholars in this field, working in the training of students the favoring to improve school practice."

According to Morgado (2000) there is a direct relationship between the curricular autonomy and responsibility displayed by the teacher assigned to it in this sense that autonomy is usually referenced to a base in aspects of the teaching process: objectives, content, activities and teaching resources, textbooks or textbooks or in relation to assessment of student performance. In each of these respects the autonomy of the teacher suffers varying degree either in regard to wide autonomy, whether at the individual and the community. According to the author, for teaching purposes, the choice of textbooks, manuals, and assessment of student achievement, autonomy takes place in the collegiate level leading to the exchange with other teachers, while the activity and teaching resources on individual and personal the teacher has broad autonomy. Regarding the content has lack of teacher autonomy due to the existence of programs previously prescribed.

In centralized or decentralized management, however, autonomy may happen for different reasons. The teacher autonomy in relation to the contents can happen due to the ineffective control the instruments curriculum and the can occur at the perspectives of autonomy built, that implies a political decision. In author perspective, the autonomy built as a collective process that no disregarding the principles and objectives of the national educational system, is structured according to specific goals of the school determined in accordance with their specific local conditions. "Thus, the autonomy of the teacher is always limited because it comes under the focus of responsibilities (functional domain) and compliance with goals and values macros (Morgado, 2000, p. 53).

Actually studied, decentralized management under the functional approach and teaching is linked to the curricular autonomy, requiring teachers to participate in the plan of course. Professional autonomy is limited to educational and Formation goals of the institution but to the extent that teachers work on curriculum development as managers in the specific context of the classroom, as well as in the broader space of the institution will constitute, knowledge and consciousness that boost your professional development triggering

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[24] Board of Education of Ceará

other processes of self-education and administration. As evidence in the argument of a teachers who participated in the survey:

"My academic practice and profissonal has changed a lot since my tenure in the institution UVA, while teacher. When I joined in 2002, the my highest level the expertise courses Postgraduate Sensu Lato (specialization). Had three and one of them was the Curriculum: Theory and Practice. Hence, while teacher, realized my students in difficulty and lack of reading and writing and noticed that these hindered the formation and continuity of studies. So I had to also seek to enrich me as an apprentice how to minimize this situation and the solution,, I sought help through my own continuing education at another institution, to delve into the matter further and also develop the research as an object of study" (Interview to teacher).

In this sense, it seems that the practical knowledge and knowledge derived from professional practice mediated by self-reflection, as well as coping with the constraints can lead to decision making in the daily practice of the teacher constitutes mechanism or means for his development professional. Seems that there is a process of imbrications, while the teacher reflects on professional practice and has his classroom as a space for reflection and pedagogical renewal happens your professional development from skills acquired through critical reflection and self-criticism.

Schön (2000) argues that when teachers have opportunities to find degrees of freedom to reflect during and after their practice, give meaning to their own work and thus put to test his own understanding of the process in which they are immersed.

We also understand that this process plays a fundamental role of the moments and movements that involve the teaching course, as the planning of pedagogical actions that involves the selection of methodology and evaluation and also the dialogue with his students and colleagues. In this work through reflection and self-reflection and collaboration, the teacher makes reframing the knowledge and to do it also reframes the practice.

In this process of change from inside to outside, the teacher becomes critical and self-critical of your professional activity, autonomic in the process of decision about their further education and their teaching praxis. Thus, the critical reflective and practices and coexist with professional development. The decision-awareness requires continuous questioning of their ideas and knowledge (Carrilho, 2002) therefore "focuses on the professional capabilities of the teacher being seen as an all in their cognitive, affective and relational" (Herdeiro, 2010, p.156).

This sense, based on the theoretical and our experiences as a teacher trainer in the institution, we understand professional development as a process that occurs in two dimensions, namely: the external organization of professional development and internal organization. The external professional development can be understood as a synonym of training courses organized by training institutions[25] and managers, aiming to foster completion of initial training or as rewarding difficulties, or even to meet changing demands and curriculum policies. In this dimension of professional development, training institutions assume the management of this process, constituting a "serious and decisive basis to maintain and improve the quality of teachers and managing school"(Herdeiro, 2010, p.162) and teaching. This process can is being managed by the school where the teacher works. Thus, the school can play an important role in Develop or professional teacher, becoming in space and moments of reflective learning (Roldão, 1999) and training in considering their beliefs, values and sociocultural and political environment (Veiga Simão, 2007).

The professional development in the internal dimension happens from certain specific knowledge acquired in professional practice with and referenced by Tardif (2002) and intrinsic factors. There is a movement of professional growth from the inside out, with the teacher who runs the decisions and projects that seek to develop, as well as the way want to run (Herdeiro, 2010, p.31). Here learning also happens in the context of one process of reflection, self-reflection, awareness and decision-making as an autonomous individual. Professional development is a continuous process of learning, recognizing "the need in each school, creating conditions curricular and pedagogical practices of teachers whom work there" (Morgado, 2007, p. 48). We can represent the two dimensions of professional development as follows:

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[25] Christopher Day, analyzing the Draft Continuing Professional Development of Teachers (DPC), implemented in the United Kingdom, warns that focusing on school-based has gained popularity in European countries, through partnerships between schools, organizing themselves into learning communities Network (Day, 2007, p.30).

PROFESSIONAL DEVELOPMENT

External professional development

Involved:

. Institutionally organized course plan, training to supplement initial training or as rewarding difficulties, compliance and evaluation of curriculum elements. Physical space for training and professional mediation. Systematized learning from the outside.

Comportamentos Mensurados.

internal professional development

Involved:

Organization staff from the processes of reflection, self-reflection and collaboration, professional practice, processes intrinsic to the subject, making awareness of the complexity of practice, autonomy and decision of the teacher. Learning from the iinside out

It is noteworthy that both processes are different in their aspects and procedures involved, but also complement each other. In external professional development, which involves the intentional organization of educational activities based on "measurable behaviors (competencies and skills), also professional development occurs intrinsically, in that the teacher mobilizes different knowledge and experiences. This process is unique to each professional because it involves several variables, such as: social, political and ideological motivation and processes of identification with the profession.

It is worth mentioning, though, the influences of policies that guide the professional development process and the pedagogical practice, in which autonomy teacher the information processes become much more discourse for regulation of education systems that emancipatory practices. According to the five professors who collaborate in this study there is agreement that despite the experiences in the institution, the issue of autonomy and assumed as manager and co-manager of curriculum development in general, is still much more found in legal texts than in the practice of teachers.

For Lima (2007), cited by Formosinho (2008) in the context of current reforms are given to teachers and education institutions the autonomy in a logical transfer of certain powers, becoming a technical or functional autonomy. "Although the rhetoric of curricular autonomy, the practice is quite different" (Pacheco, 2001, p.164).

In this context, even that the policies are training for teachers covered by a facet of technical rationality coupled with the logic of the market (Goodson, 2001), curriculum while the text is written by the teacher in daily life of the institution and the classroom interacting with students and according to their personal and cultural experiences (Pacheco, 2009). It in is contradictory this field, the teaching practice is fundamental to trigger professional development processes in two dimensions placed in the text. The experience here is discussed in view of the possibilities and realms of practice, autonomy and curriculum development processes genuine promoters of professional development.

CONSIDERATIONS

The convergence of practice and professional development of teacher educators from the Faculty of Education at the State University Valley Acaraú, seem to go through the learning context leaven in the spaces for reflection, study and collective decision-making around the methodologies of Grela review of content and student evaluation, fostered by the autonomy and decentralized management curriculum, although the functional format, can be represented by the chart below.

CONVERGENCE BETWEEN PRACTICE AND PROFESSIONAL DEVELOPMENT
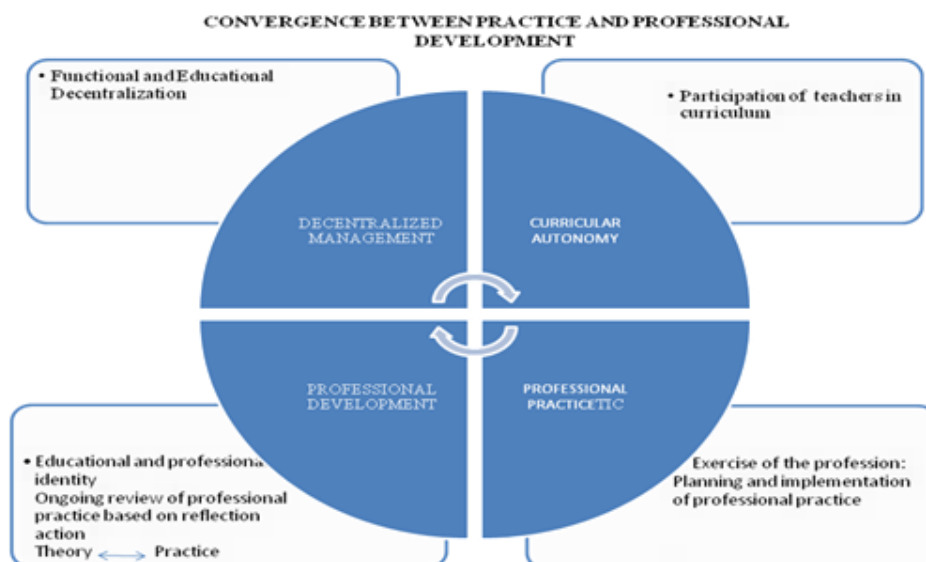
Thus, under the decentralized management and curricular autonomy, with the participation of teacher educators in a complex network of relationships that intersect in internal and external factors, the group of teachers has the opportunity to do an ongoing review of professional practice with based on the narrow relationship between theory and practice.

We understand that professional development is interwoven in practice that the teacher aware of the complexities and implications of teachers' action is open to change processes and a self-questioning of the exercise of its function in the individual and as a member of a collectivity. In this sense, professional development, whether in internal or external dimension is a complex process and concerning the different learning experiences (natural, consciously planned and carried out by direct or indirect benefit, helping improve the performance of the teacher in classroom (Day, 2001), likely to impact on student learning.

Finally, we note that this communication is a brief reflection of my experience as a teacher educator, in order to contribute to the discussion in the field of practice and professional development, in view of the conceptual paradigm of the subject teacher as critical and reflective capacities (re) invent the process of training and professional practice.

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95 - Education Policies and Teachers' Professional Development: The Perceptions of Elementary School Teachers

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Abstract: This paper is part of ongoing research undertaken for a PhD thesis in Education Sciences, specialty of Curriculum Development. The objective is to understand the impact of recent legislation – Teaching Career Statute (TCS) and its respective Evaluation of Teacher Performance (ETP) – with particular emphasis on the (re)construction of the identity, career and professional development of teachers.

In this context we were able to formulate these research questions: do the government's education policies encourage teacher development? Will opportunities for teacher development be created in schools? Will the goal of improving the quality of teaching be achieved in education contexts sustained by teaching *malaise*?

In this paper we shall explain the perceptions of elementary school teachers recounted in written and oral biographical narratives and in three discussion groups set up for the purpose. In addition we present some of the results yielded by responses to a questionnaire sent out to 396 elementary school teachers and their statistical analysis using the chi-square test and t-test.

The professional experiences recounted by the teachers suggest outcomes different from those foreseen by Portugal's policymakers, emphasising the weaknesses and inapplicability of the core objectives established in the legislation on the Portuguese system.

Keywords: education policy; professional development; teaching quality.

INTRODUCTION

At a time of complexity and change, European schools, and particularly their teachers, have often been faced with (new) demanding challenges that entail ever-more refined professional skills, with repercussions on the teacher's work, professional development and career.

In recent decades the changes have "challenged the professional autonomy of teachers and raised the question about what it means to be a professional under public scrutiny that is increasing all the time" (Day, 2001, p. 21), arousing in the European Community a concern to stimulate education contexts for change.

So policies for change have to be instigated that promote healthy education environments, i.e. ones that see school not simply as a source of information, but more importantly as a place of motivation and learning – for students and teachers alike.

Education requires highly qualified teaching, acquired in different forms from those used so far (Dean, 1991), basically focused on teacher professional development with "emphasis on collaboration, cooperation between teachers and anyone else who is legally responsible for education" (Day & Sachs, 2004, p. 7), without teachers abdicating their status of "custodians of their professionalism" (Silva, 2007, p. 162) during their teaching career.

PORTUGUESE EDUCATION POLICIES AND PROFESSIONAL DEVELOPMENT OF TEACHERS IN THE SCHOOL

Schools have always been influenced by a country's historical and cultural changes in the economic, social and political sectors which have interfered in school organisations, specifically in teaching and in the skills and content to be taught to students.

The consolidation of the right to education that has led to the appearance of educational communities whose characteristics are heterogenic and changeable, which has implications for the need to coordinate the action of teachers, has paved the way for discussion and consideration of schools and their main actors.

These circumstances have led to a new conception of professional performance based on strategies that can ally quality of teaching with quality of learning (Morais & Medeiros, 2007), leaving no alternative but to

review attitudes, conceptions and methods and create a climate of professional development within the school.

With the publication of the Basic Law for the Education System[26], another milestone in Portuguese education was built. It determined that schooling for nine years (elementary education period) should be universal, compulsory and free, and repeated other aspects, including the right to and the democratisation of education, as established in the Portuguese Constitution of 1976.

But the major innovations of this law were its reorganisation of the education system (elementary, secondary and higher), and the broadening of the concept of school, taken as an education community belonging to a system of relations with parents and local political bodies, based on an autonomous educational project and shared by all the interested parties in the process (Afonso, 1998; Correia, 2000).

In this context it has to be mentioned that, in the wake of the publication of the Basic Law for the Education System and identification of the economicist intentions of society, the issue of teacher assessment reappeared on the political agenda. The first assessment model emerged in the early 1990s[27] and its aim was "to strengthen the autonomy of schools and foster the professional development of teachers" (Curado, 2002, p. 39).

The Teaching Career Statute, published after extremely vigorous trade union action, favoured the introduction of the most innovative element in the teaching career – the creation of a *single career* (Alves-Pinto, 2008), consummated with the publication of Decree-Law 139-A/90.

With the publication of this law, performance assessment became a necessary and meaningful premise, but trade union leaders believe that its operationalisation needs to consider very carefully the *kind of assessment* to apply (Alves-Pinto, 2001). Following discussions between the unions and the ministry of education, the TCS ended up containing an intrinsic form of assessment, because the assessment could not be a bureaucratic process. It was basically a report of what each teacher had done and, if it was made at a specific point in the transition from the 7th to the 8th scale it was based on the preparation and discussion of the person's professional CV before a panel.

The law under discussion has now been amended, leading to another one[28] – designed to optimise resources and reduce the weekly lesson load for students, by cutting the 'project' area from the list of non-subject curriculum options and placing more emphasis on supervised study so as to encourage autonomy and improve school outcomes. The intentions of this law are being contested by the teachers, backed by the unions, because they once again disagree that the economic woes of the country should obstruct the course of education and hamper the adoption of high quality education.

In Dean's words (1991), professional development suggests a process whereby teachers become more professional. So professional development can be seen as growing in certain aspects of professionalism and can be legitimately applied to the development of a teacher or group of teachers, in the work context, where the emphasis is on reflection (Herdeiro, 2010).

Morais and Medeiros (2007) add that the most important part of professional development "is the broadening and self-development of professional knowledge" (p.33) thereby valuing essential premises like teachers knowing their individual mental structures, the thinking that influences their actions/attitudes in the classroom and peer relations.

According to Day's (2001) line of research, we see that the interaction of various professional experiences that happen during their teaching life with the contexts in which they work – from the classroom and school to the social and political contexts – derives from teachers' reflection and action. This conditions their attitudes towards the need for professional development.

For Morais and Medeiros (2007), the professional development initiatives promoted by school groupings/training centres should help teachers to "acquire and develop teaching strategies and techniques which may effectively promote the active construction of the students' learning's meaning and its self-regulation" (p.35).

So we may ask: does the latest legislation passed in Portugal stimulate teachers' professional development in the school? Or does it help to drive the factors that inhibit their professional development?

Very recently an international study by Flores, Veiga Simão, Rajala and Tornberg (2009) has confirmed the influences mentioned earlier and was able to pinpoint a range of factors that inhibit teacher development in social environments (economic crisis and devaluation of teaching profession), personal environments (professional demoralisation), education system-related environments (legal uncertainty, too much red tape),

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[26] Law no. 46/86, of 14 October.
[27] Regulatory Order 14/92 of 4 July implemented the first teacher assessment policy.
[28] Decree-Law no. 18/2011

and environments related to school organisation (lack of stronger leadership, activity overload, increased red tape).

This obsessive legislative frenzy by governments to impose targets on teachers, regardless of the culture and context of the educational contexts has been hotly opposed in schools, preventing teachers from developing professionally and significant changes from being introduced (Pacheco, 2002), the latter remaining "in the field of expectations that they have generated" (Morgado, 2005, p. 76).

The upheaval and conflict in the world of education continued throughout the decade and reached its peak in 2007 when the Ministry of Education, unmoved by the theoretical considerations of experts in education, reformulated the TCS[29] and regulated the teacher assessment process[30] based on the policy of the 'need for change' without preparing educational contexts.

The unrest, challenge and resistance of the teachers to the changes has lasted, on the whole, until this year, forcing the ministry of education to undertake a series of revisions of the TCS in response to the climate of *malaise* and inability to establish conditions favourable to the implementation of the assessment process in schools.

So, after yet another (re)appraisal of the various stages of the assessment process, particularly the most fiercely contested ones, the Ministry of Education decided to simplify it to make it easier to apply.

After three years of constant strife (2008 to 2010) with the Ministry of Education, teachers and unions finally saw equality between teachers restored, putting an end to categorising them as 'classroom teachers' and 'senior teachers', and so reinstating a single category for the teacher career structure[31].

The principles governing the change in the TCS were established in Regulatory Order nº. 2/2010 of 23 June. The criteria of rigour and appreciation of professional merit were maintained, and it was established that performance assessment should be carried out under simplified procedures, with the rapporteur[32] monitoring the assessed teacher's performance and permanently interacting with him/her.

But more legislation has been passed very recently to account for an assessment process which, from the very start, was clearly unsuited to the Portuguese educational contexts. Its implementation on the ground remains dubious, regardless of being patched up, and this is creating significant and widespread mistrust in those most directly affected by the assessment – the teachers.

Through the theoretical contextualisation and the content of current education and curriculum policies in Portugal it is wholly pertinent to mention the perceptions of elementary school teachers with respect to the main factors that hamper their professional development in school: competition and individualism; the escalation of tasks; excessive red tape, and professional demoralisation.

METHOD

Our reference was the contextualisation outlined briefly above, to undertake research as part of a PhD project with elementary school teachers. Some of the results are presented in this paper. The main purpose was to identify the elements involved in teacher professional development and the (negative) implications that recently passed legislation has for professional development in the school.

Among the goals of this research – those that interact most directly with the outcomes presented and discussed here – are: i) to identify the views of elementary school teachers on the recently passed legislation; ii) to learn the impact of the laws on teacher professional development; iii) to examine the factors that inhibit professional development in school.

We thus chose to combine quantitative and qualitative research approaches for our study.

In phase one, in 2008, the eight elementary school teachers recounted their perceptions after the TCS and EPT laws had been published, with implications for the (re)construction of identity(ies), for the career and for professional development.

In phase two, in 2009, a questionnaire was designed. It contained closed and open questions and Likert scales and was based on the outcomes of the narratives, the legislation and a literature review. It was sent out to 396 elementary school teachers who are working in the same schools as the eight teachers whose accounts had been collected. This was our sample.

The questionnaire was returned by 63% of the teachers (249 of the total) and these were then processed and analysed with the SPSS programme (Statistical Package for the Social Sciences), version 17.0.

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[29] Decree-Law no. 15/2007, of 19 January.
[30] Decree-Law no. 18/2011
[31] Decree-law no. 75/2010, of 23 June
[32] The rapporteur is the member of the assessment panel responsible for monitoring the professional development process of the assessed teacher, with whom they remain in permanent interaction so as to enhance the training aspect of performance assessment.

In 2010, the last phase, the teachers who had volunteered to take part in the next phase when they completed the questionnaire were put into one of the three discussion groups that were formed to identify the internal aspects of the issue under discussion, through subjectivities shared and assimilated by the group to construct their own discourse in the context. Later on in this phase the key-informant eight teachers were again asked to give an oral account of their perceptions and experiences in school, in recent years.

Table 1: Summarise of our research

	Phase 1	Phase 2	Phase 3
Informants	8 elementary school teachers	249 elementary school teachers	20 volunteer elementary school teachers 8 elementary school teachers
Data collection method	Written biographical narratives	Questionnaire	Discussion groups Oral biographical narratives
Period	October - December 2008	June - December 2009	March - May 2010

The operationalisation of the phases enabled us to get useful information, almost to saturation point, to obtain valid responses to the research questions, i.e. information that ensured the comprehension and appreciation of the *voices* and *feelings* of the teachers in their professional practice, in light of recent changes in education.

Characterisation of the sample
Of our sample we should note those who have been with us since our Master's thesis (2006/2007): the eight elementary school teachers who have been hugely important, giving the information very easily because they have real knowledge of the events and because of their willingness to impart this knowledge in a spirit of constant cooperation.
These teachers are still our "key informants" (Gómez *et al*., 1999), especially in **phases 1 and 3** of our study. Table 2 summarises their relevant personal and professional details.

Table 2: Characterisation of the eight key teachers

Teacher	Characterisation					
	Grouping (Vertical)	Age	Length of service	Category	Duties	Education
Sónia	B	36	14	Teacher	Establishment coordinator	First degree
Patrícia	C	39	13	Teacher	-----	First degree
Amélia	G	47	21	Senior teacher	Establishment coordinator	First degree
Carolina	E	39	14	Teacher	-----	First degree
Elsa	D	39	13	Teacher	Establishment coordinator	Master's
Catarina	F	38	13	Teacher	Establishment coordinator	First degree
Diogo	A	53	27	Senior teacher	Year coordinator	First degree
Gabriela	H	43	22	Senior teacher	Teachers' council coordinator	First degree

Of the 249 respondents to the questionnaire, 80.7% are female and 19.3% male, which signifies the predominance of women teachers in the groupings surveyed.
In terms of age, there were more in the 31 to 40 age bracket (39.0%) and in the 41 to 50 bracket (30.5%).
In terms of education, 85.1% of the teachers have first degrees (licentiate), 5.6% had already shown a personal/professional interest in doing a Master's and 8.8% have the qualification provided by their initial training (Bachelor's degree).

Most of the teachers (48.2%) are in an insecure professional situation because they are still under contract. The teachers with the most professional experience in the Grouping Table and Pedagogical Area amount to 51.9%, balancing the percentage of teachers under contract.

Finally, another significant figure characterising the respondents is length of service, with the highest percentage being those with less than 10 years' service in teaching, or 37.8%. Next highest was the percentage with 11 to 20 year's service, 30.9%.

Teachers with up to 20 years' service (68.7%) is a well-established group in terms of career and professional experience.

After this brief description of our sample, we should stress the longitudinal nature of the research. This aspect makes it somewhat unusual among studies that investigate the *experiences* of teachers with respect to how they develop and perceive themselves over their professional career.

In this article we shall explain the perceptions of elementary school teachers recounted in written and oral biographical narratives collected in the two phases mentioned and in three discussion groups set up for the purpose. In addition we present some of the results yielded by responses to a questionnaire sent out to 396 elementary school teachers and their statistical analysis using the chi-square test and t-test.

RESULTS

Factors impeding professional development

Competition and professional individualism
Teachers currently feel more anxious about the *birth* of a (new) professional and personal relationship in the competitiveness that dignifies the rivalry between teachers so as to achieve some gain, as we were told:

> *"(...) I've noticed a certain rivalry and I see that people, when they do something that they even think that it's, that it's good, that has results, that leads to people making progress and they notice, they try to hide it (...)"* (Patrícia, oral account/2010),
> *"(...) because, I'm the one who's going to benefit from my assessment... and worse, I'll gain advantage from my assessment if the others don't, because if I stand out from my colleagues, I'm going to benefit"* (Mário, GD2).

Competition is an acquired reason that our culture chooses to strengthen, not caring about the professional goals of others, ignoring team work in schools, inevitably ruining all the efforts that have been made in schools to sustain teaching in a relationship of collaboration, as teachers explain:

> *"This is no good, it's terrible, it's not bad, it's appalling, it means that I'm getting ready to stride ahead of all my colleagues (...)"* (Mário GD2).
> *"They don't share, or if they do it's a lot later, so that someone will know that it was their work, and I'm not used to this, I've come from somewhere where this didn't happen, where teamwork really was the norm (...)"* (Catarina, oral account/2010).

So teachers are 'shutting themselves into their own world' and forgetting about the others, choosing the times to show themselves publicly, preferably when their superiors are around, to please them and show that they are doing different *things* and doing them better than the others, believing that they shine in the group, as we were told:

> *"And people are starting to close up, I mean they show something as a good result, but don't tell you anything else, really so that you won't do the same (...)"* (Patrícia, oral account/2010)
> *"Teachers like to be noticed for new things when their superiors are around (...)"* (Elsa, written account/2008)
> *"(...) the people who do well are those who do really nice things, I think that's it, I really think that's it..."* (Moura, GD1).

In a competitive environment, it is rare to find teachers helping one another, since they are fighting for their own objectives to get the advantage, the reward, the position they want – a "Very Good" or "Excellent" rating on the performance assessment, the coordination of a project, for instance – pleasing the students'

parents and showing indifference to the (negative) consequences that can affect the teaching body, even finding that this type of relationship does nothing for teaching professionalism:

> *"(...) we're looking to see who's doing nice things in the classroom (...)"* (Camila, GD2)
> *"(...) with my colleagues there's a lot of interest in wanting to be better, mostly with the parents, showing more (...)"* (Ana, GD1).
> *"(...) not being synonymous with a good professional"* (Q. 106).
> So the culture of teaching competitiveness leads to the reinforcing of an individualist culture, discouraging a collaborative culture based on sharing and a spirit of solidarity found in some schools which, finally, once again fell into the realm of individualism, as Diogo says:
> *"(...) sharing, the spirit of solidarity, not now common in schools, apart from exceptions that break the mould, they've definitely descended into individual kingdoms (...)"* (Diogo, written account/2008).

In the perception of the teachers, individualism is linked to defensive behaviour, to mistrust and professional anxiety, as they told us:

> *"(...) mistrusting everything and everyone, it seems that there's always someone that wants to intrigue against us"* (Amélia, written account/2008)
> *"This kind of assessment does nothing to improve a teacher's performance, since it creates a great deal of anxiety in a teacher"* (Q. 56).

Through the complicated and constraining situation existing in schools today, individualism is seen not as a personal failing of the teacher, but as induced by the conditions in the workplace that requires an organisation of priorities:

> *"(...) will [the assessment model] conversely contribute to the emergence of a selfish and competitive professional culture that is demoralising and inspires insecurity?* (Carolina, written account/2008).
> *"(...) people shut themselves off a lot, spend a lot of time on themselves (...)"* (Catarina, oral account/2010).

Intensification of teacher work
The teachers taking part in this research feel that they are being seriously overloaded with tasks: they have more responsibilities, are more accountable and need to struggle with a wide range of skills in and out of the classroom; it is hard and affects the teaching role because far too many demands are made in school, as they told us:

> *"This change tried to place more responsibility on schools and teachers (...)"* (Elsa, written account/2008).
> *"(...) we've got so many things to run there, from behaviour (...)"* (Fátima, GD3).
> *"I feel that my job has been made harder (...)"* (Catarina, written account/2008).
> *"(...) my teaching work may be affected; there are so many demands (...)"* (Elsa, written account/2008).

Furthermore, teachers are forced to tackle administrative assessment tasks, and supervision and educational guidance in schools. They spend a great deal of time on guidance and/or attending meetings of all kinds – of teachers, year coordination, parents and guardians, management, school coordination, teacher assessment, not to mention informal meetings – leaving them little time for useful work in the classroom, or time for themselves (as a person and a professional) and their families, as our participants make clear:

> *"(...) teachers' activity is so taken up that most of the planning, support materials for classes, organisation of files, reports, preparation for meetings ... is done at home (...)"* (Gabriela, written account/2008).
> *(...) they really prejudice actual teaching because the teacher has countless parallel duties as well as teaching (...)"* (Manuel, GD1).

"(...) in addition to being, to having a class, I'm the establishment coordinator, too (...) and I'm feeling a bit lost at the moment, I'm not managing to reconcile the two jobs, establishment coordinator requires a lot from me (...) the class is suffering because I'm doing the other job (...)" (Catarina, oral account/2010).

So teachers see this job overload as a factor that hampers professional development, with adverse effects on the student teaching and learning process, and on professional identity.

Too much bureaucracy

Overall, the elementary school teachers find the reformulation of the Teaching Career Statute (TCS), especially the performance assessment model, to be a policy that has a negative impact on the their conceptions regarding their development, with particular emphasis on excessive bureaucracy, as Table 2 shows.

Table 3: Impact of recent legislation on professional development

Indicator	Positive	Negative	CST*
I've got too much red tape to sort out	**92.8**	7.2	182.2***
Schools/groupings suffer constant legislative attacks	**65.5**	34.5	23.8***
The teaching profession is being stripped of its character, and its main function forgotten	**83.5**	16.5	112.0***

* CST = Chi-Square Test

This discontent applies especially to the statement that schools/groupings are subjected to constant legislative attack (65.5%) and naturally leads to too much red tape in the school (92.8%), stripping the teaching profession of its character since its chief function is being forgotten: teaching.

The teachers think these education policies are inappropriate, lacking recognition from the authorities in charge of the groupings and the education community, and they also prevent good pedagogic practice in the classroom because of the inordinate amount of time spent discussion bureaucratic issues at the so-called pedagogic meetings.

"Unsuitable education policies, a lot of red tape and no recognition". (Q. 80)
"The more effort we make to try to improve the way we teach and to see that the students learn, the more we're criticised or observed". (Q. 146)
"The bureaucracy that's forced on schools at the moment means that teachers are asked to do far too much work". (Q. 7)
"Being a teacher is being a man of papers, red tape and abandoning the students". (Q.10)
 "(...) we're drowning in bureaucracy, that's not been mentioned yet here, loads of red tape, and then we go to meetings to deal with more of it, because information comes from the pedagogical council, goes to the meeting, information associated with the bureaucracy (...)" Moura, GD1).

Lack of professional motivation

At the conference on *Professional development of teachers*, organised during the Portuguese Presidency of the Council of the European Union, Canário (2007) underscored the importance of professionally motivating teachers as an alternative to fighting the increasing complexity of the profession, which corresponds (as we have been saying) to more papers, fresh demands and an expansion of the profile of its professional mission.

But when we asked the elementary school teachers if they felt motivated and satisfied in their daily work, given the policy implemented in their country, they said that the recent legislation (ECD and ADD) interfered negatively with their professional motivation (62.6%), impeded their professional development in school (95.5%), and so compromised the quality of their teaching performance in the school context.

Table 4: Lack of motivation for professional development

Indicator	Positive	Negative	CST*
Motivated	37.4	**62.6**	15.6***
Do you feel that the new Teaching Career Statute and performance assessment are encouraging your professional development?	4.5	**95.5**	204.0***

Note: *** p <0.001 ; CST = Chi-Square Test

The lack of motivation for profitable teacher development is basically due to the extra demands made of teachers in the workplace, the lack of recognition and comprehension of social contexts, particularly government responsibility, as the following observations by the teachers show:

"Given the situation with respect to current education policy, I think that what teachers actually do is not recognised, and is sometimes undervalued, which makes me feel discouraged and dissatisfied". (Q. 18)

"This situation causes teachers to feel discouraged, and this is inevitably reflected in their work." (Elsa, written account/2008).

"The climate of tension and discord in schools is such that it's become impossible to foster motivation and self-esteem (...)" Patrícia, written narrative/2008).

"At present, in professional terms, I feel discouraged, dissatisfied, because of the way society now sees teachers (...)" (Q. 141).

We believe that the latest changes and widespread criticism of teachers' work are the main reasons for the problems in the education system, and this has led to significant *teaching malaise* in schools. The teachers taking part in this study are clearly frustrated and tired, showing lack of motivation and inability (largely because of too little time and too much red tape) to meet all the demands made of them without jeopardising student learning.

"Teachers feel tired, disheartened (...)" (Catarina, written account/2008).

"(...) and it seems not, I end up disheartened and sometimes start to think: perhaps I won't bother with this, because it'll mean more paperwork, more papers, more papers (...)" Catarina, oral account /2010).

"Right now, thanks to the hours I work and the bureaucracy I have to deal with, I'm feeling more and more discouraged." (Q. 54).

This is what is happening in teaching at the moment, with all the damaging consequences this entails for teachers' professional development.

CONCLUSION

Faced with the need to respond to the greater complexity and incessant changes in today's society, teachers find themselves with the uncertainty of their professional roles being changed and having to adapt to new working contexts, in the name of new professionalism.

We can understand teachers' the present situation in school much better if we consider it in the school and social context in which they work, so that we may perceive the resurgence of cultures like individualism and the birth of others like professional competition.

In school, not only have teachers gradually got to the stage of being controlled by prescribed programmes and compulsory curriculum but they have seen their job become more intense and bureaucratic; they are required to respond immediately to the pressures and, above all, they have been conforming to multiple innovations in conditions that are all too often controversial.

Teachers see professional development as a route to gaining new knowledge and skills; but their experience in school suggests that there is no interest in motivating them to develop their teaching practice. Indeed, we can see the entrenchment of professional disenchantment that goes back to 2007, dragging with it the discredit of the profession and social disrespect, which affect the identity of the teacher.

In this context, the success of students is secured by teachers' personal attitudes – responsibility, diligence and interest – which, despite the social/professional complexity existing in schools today – lack of time, too much pressure, mistrust, unfairness, isolation – they believe that it is worthwhile to keep fighting for a better education.

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97 - Research as a Regular Part of the Subject Didactics in the Teacher Education

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Abstract: The transition of primary education asks a general review of teacher education for teachers for primary schools. The improvement of the teacher training consists of different points, esp. actualization of the content of academic disciplines, improvement of educational practice and new methods of teaching of the academic disciplines (active learning, critical thinking, research activities etc.). The text will present the research possibilities of becoming teachers for primary schools and the impact of the results for improvement of the teaching at the faculties of education as well as at schools. As a part of the presentation the concrete project for improvement of reading literacy, as a result of one field research, will be presented.

Keywords: teacher training, primary schools, reading literacy, action research

INTRODUCTION

Teacher education in Czech Republic has been recently undergoing radical changes. The innovation of teacher development/preparation has become a major aim in the sense of professionalization. Current requirements are diametrically different from demands teachers were exposed to twenty years ago. Primary school teachers are expected to be real professionals in the area of education and their performance has to be multidimensional. Namely, teachers have to be experts in pedagogy, school management, subjects didactics, special pedagogy and, of course, even experts in various fields of our students' education. Creating new ways, setting up new demands in education and their evaluation are parts of professionalization in teacher development. That's all is facilitated by methods of education of future teachers and gradually and help them to become professionals in their profession.

The process of becoming a teacher is long-lasting and it doesn't end up by reaching magisterial degree in the programme Education for primary school teachers. Essential continuation of this phase of education is process of life-lasting education that provides further development, better orientation, challenges and offers answers to questions and problems in-service teachers have to deal with. Considering above mentioned facts education of teacher cannot be static process but a very dynamical development that is reflecting actual findings from explicit scientific disciplines, psychology of learners, social contexts and the others.

INNOVATION OF TEACHER TRAINING FOR PRIMARY SCHOOL - MODEL OF SUBJECT DIDACTICS

Teacher education in Czech Republic has been recently undergoing radical changes. The innovation of teacher development/preparation has become a major aim in the sense of professionalization. Current requirements are diametrically different from demands teachers were exposed to twenty years ago. Primary school teachers are expected to be real professionals in the area of education and their performance has to be multidimensional. Namely, teachers have to be experts in pedagogy, school management, subjects didactics, special pedagogy and, of course, even experts in various fields of our students' education. Creating new ways, setting up new demands in education and their evaluation are parts of professionalization in teacher development. That's all is facilitated by methods of education of future teachers and gradually and help them to become professionals in their profession.

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CONCRETE EXAMPLE OF THE MODEL DIDACTICS – "DIDACTICS OF INITIAL READING AND WRITING"

For the development of initial literacy, future teachers are being trained in the discipline of the Didactics of initial reading and writing, which the contemporary conception of the subject defines more broadly than before, i.e. as the didactics of the development of initial literacy, including not only reading and writing but also verbal expression. The change in the concept of these didactics is reflected specifically in the model of the transformation of subject-didactics which concretely means the change in its content, teaching methods and organization.

Change in the Contents of the Didactics Reading and Writing

Strengthening the educational-psychological element psychodidactics

In teacher training in general there is increasing emphasis on the integration of educational and psychological disciplines and the importance of the latter, The effective linking up of general didactics, general and developmental psychology and the Didactics of initial reading and writing is making possible the emergence of what is known as psychodidactics, which focuses on the development of educational psychological competence in future teachers (diagnostic, prognostic, interventional and communicational) rather than simply on their professional academic competence in a given subject.

Strengthening the importance of practical training

The contemporary concept of teacher training involves the perception of teaching practice asan essential part of training. The emphasis in the Didactics of initial reading and writing is placed on integrating practice of a progressively more demanding kind into the whole course given to workshops, seminars and directed discussion to encourage the activity and creativity of the student.

Use of reflection and self-reflection in Practical Training

One of the most important methods of developing teaching skills in the future teacher is to make use of the students own reactions, views and self assessment in individual phases of teaching practice in the Didactics of initial reading and writing. Student reflection and self-reflection is based first on his or her observation of the outputs of the teacher, then on various forms of practice as an assistant, and linally on the student's own experiments in teaching. Through reflection on practice and self-assessment the student's competence as a teacher develops; he or she becomes aware of the problems of specific teaching situations, learns howto solve them, and draws conclusions for his or her personal development.

Changes in the Organisation of the Didactics of initial reading and writing

Modular Organisation

Change in content and teaching methods brings with it the need for change in the organization of the Didactics of initial reading and writing. Modular organisation, in which each module represents a particular area in teacher training, is proving highly effective.

At the CU Faculty of Education, the Didactics of initial reading and writing are included in the Educational-Psychological module and students may take it only after completing General Didactics and Practical Teaching. This condition ensures that the knowledge and skill acquired in General Didactics can be applied in the subject.

Efective Integration of Theoretical and Practical Elements

It has already been stated that the effective training of teachers required systematic integration of the theoretical and practical elements. In the context of the Didactics of initial reading and writing, content integrations is encouraged by an organisational structure that links up a seminar series and practices in one bloc, which is conducted directly in a primary school. The advantage here is the opportunity to undertake practical work at any time in the course of the teaching bloc, to use the experience of the teacher in assessing and discussion practice, and to use the chance of working with primary-school pupils within the time-frame of the seminars. Although this kind of organisation is extremely complicated and demanding, it is proving so effective that there is no doubt that such close co-operation between subject didactics, the teacher, the primary-school pupils and the students of the faculty, is beneficial for all concemed.

<u>Flexibility and Individualisation</u>

One common trend in change in teacher training is toward a flexibility in study programmes that respects the individual personal development of each student. In the Didactics of initial reading and writing this flexibility and individualisation affects not only the length of studies and the choice of disciplines in individual study trajectories, the choice of school and teacher for teaching practice, and the choice of final output for completion of subject disciplines (theoretical, research or methodological-didactic work submitted at end of year), but also the choice of lecturer; content and method of work (in the form of advanced courses).

RESEARCH AS THE METHOD IN SUBJECT DIDACTICS

One of the current European trends in the transformation of the training of teachers is including research into the subject - didactic training. The reason is above all the fact that it is research which makes it possible to monitor the quality of education by way of observing the individual development of a pupil or of a group of pupils, while at the same time the obtained results offer specific didactic application. On the other hand, however, it turns out that a number of teachers do not make use of action research as specified above, and if they do, it is mostly at random and without any link to the subsequent activities, which support the further optimum development of the pupils. In the model, which we present here, research is one of the substantial methods, which helps the student to develop a didactic competence of his own.

To sum up the importance of research, it may be said that research as a component part of subject didactics fulfills two basic functions:

It is through research that students learn to formulate a research hypothesis on the basis of theoretical and practical knowledge and skills, acquire the skill to organise research methodologically and to evaluate it according to specified hypotheses. They use the results to formulate conclusions, on whose basis they formulate specific recommendations for practice, which they also try to implement. But through research students acquire not only the experience with the application of the individual research techniques for monitoring a specific pedagogical phenomenon, they also develop the skill to reflect on research at all its phases - starting with the formulation of a hypothesis and finishing with the formulation of are commendation for practice on the basis of the respective conclusions.

In subject didactics research concentrates on the monitoring of a specific pedagogical phenomenon (e.g. individual development of pupils in a certain educational sphere) and it is this monitoring which makes it possible for students to acquire a deeper insight into a specific pedagogical process, whose reflection and self-reflection is utilised by students in the development of their own competence (diagnostics and subsequent individual work with the pupils).

Making use of research activities brings a new dimension into the process of the training of teachers. Students are not only 'recipients' of generally valid or anticipated conclusions. They become 'researchers', i.e. persons through whom research helps to find answers to independently formulated hypotheses resulting from current didactic problems. Students learn to look for these problems, to construct research projects to monitor them, and then to evaluate the achieved conclusions and utilise them further in their teachers' education. In teachers' education these independent activities of their own are extremely valuable, because students are in a close contact with pedagogical practice and make a maximum use of and verify in practice the acquired knowledge, skills and abilities, which are needed for the preparation, organisation and evaluation of' research activities.

It is obvious that making use of research as a method used in training of future teachers is very demandig also for a concrete subject didactics specialist, who is the closest collaborator of students in this process. Besides introducing a close co-operation of school practice, which will also make it possible to implement the feedbacks (results of research, remedial measures, etc.), an indispensable prerequisite of an effective utilisation of research is also the incorporation of research into the program of seminars of specific subject didactics (at the seminars, students have the possibility to hold regular discussions on the problems of their own research activities).

To provide a concrete idea we can give a concrete example of the utilisation of research in subject didactics - the Didactics of development of initial reading literacy, which is one of the didactics innovated according to the presented model. In the Didactics of initial reading and writing students prepare their own research projects, or they can choose from several offered joint research projects, which are prepared in such a way that they make it possible for students to achieve a certain variability and individualisation. Most students prefer all-year-round research projects, whose target is above all analysing the present situation in the development of the initial reading and writing in present-day primary school. In these research projects the process of development of the specified skills and attitudes is analysed in detail with the individual pupils

including the factors influencing this process. An important component part is also a long-term monitoring of didactic procedures of the teacher, co-operation of parents and of other subjects. Students have the possibility to participate voluntarily in all the phases of research projects. The conclusions of research projects are regularly discussed as a part of didactic training and utilised for the development of individual didactic competence of students, but also for the development of didactics as a research specialisation.

One of the "joint" research projects is specified below as a concrete example: "Development of initial reading literacy in present-day Czech primary school".

General target:
Analysing the process of development of initial reading literacy with pupils of the first forms of elementary schools

Partial targets:
Analysing the process of development of initial reading with the individual groups of pupils (various methods of teaching of initial reading size are dislocation of schools, educational programme etc.)
Determining the factors, which influence the process of development of initial reading
Analysis of the didactic work of teachers and determining, who teaches in the first forms
Formulation of recommendations for the practice of school education and for the development of the respective didactics

Investigated sample of pupils:
Pupils of the first forms of Czech primary schools of various sizes, dislocations, manners of organisation, educational programmes etc.

Research methods:
Standardised and non-standardised examinations determining pre-school state of preparation for the teaching of reading development of initial reading in the course of the first form on the basis of simple characteristics of the reading output, determining the level of reading ability of the pupils, controlled observation of the teaching process according to criteria determined in advance, controlled discussions with teachers and pupils.

Organisation of research investigation:
Entrance (September), continuous (January), exit (May) exams. In the course of the school year, besides these examinations students perform controlled observations aimed at monitoring the methodic and didactic work of teachers and the individual development of pupils.

Evaluation of research, conclusions:
Evaluation of research is prepared by students jointly with the respective subject didactics specialist. They formulate the conclusions and recommendations for practice of schools and for training of teachers. These conclusions and recommendations are presented to all students studying the respective discipline and at the same time they are also offered to the participating teachers at schools. On the basis of the results of diagnostic exams and observations, students prepare and implement the individual developing programmes for pupils, and they do so jointly with their teachers.

CONCLUSION
Using research in teacher education is very important for future professionalization of novice teachers in all different areas of their theoretical and practical training. Future teachers meet with both theoretical and practical problems and they can suggest/design research projects. These projects than become parts of their subject didactics and formulate conclusions accordingly to different target groups. The research projects have positive impact event on actual teaching practice. Finally, students together with their teachers can design or suggest and make real practical changes in order to improve described situation.

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103 - Memory, Youth And Culture Education: A Focus On Development Of Teaching

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Abstract: The article aims to present and share thoughts on an educational research on the topic: "Memories of being a teacher in training" It aimed to recover the records, the memories that have been woven in the constitution of becoming a teacher of students from the Preparatory Course to became a teacher, in its initial formation. It also proposes to understand the complex world of school culture that includes the training of future professionals, articulated discussions of educational quality and the need of building pedagogical alternatives for the first years of basic education, taking into consideration the continuities and changes in teaching careers. The research has been developed since the year 2008, with an average of sixty young from the Training Course for Teachers, from 1st to 4th year of the Preparatory Course of João Pessoa State School located in the municipality of Campos de Goytacazes, Rio de Janeiro, Brazil.

Keywords: Memory - Teacher Training - Culture - Youth school-narratives of self.

INTRODUCTION

Being a teacher today is to live intensely, his time with awareness and sensitivity. One can't imagine a future for humanity without educators. Educators, an emancipating vision, not only transform information into knowledge and critical awareness, but also train people. They do know the flow - not given the information, the pure knowledge - meaning they build into the lives of people and for humanity and seek together a fairer, more productive and healthy for everyone. Therefore, they are essential (Gadotti, 2007, p.22).

A title that reflects how we perceive we are presenting today the challenge of being an educator, as it involves going beyond the parameters that have forged us to embrace new / old theories and practices that are committed to training future teachers in search of questions and answers that nourish reason and human sensitivity.

This work brings an institutional effort to monitor and record the trajectory of young students in a teacher training course for the beginning of the normal school, in Campos, Rio de Janeiro, Brazil. In an attempt to understand the universe constructed memories of school culture as an area of social and educational practices that are developed, since the year 2008, a survey involving sixty young people in this public institution, claiming: 1) identify, interpret and describe the dialogues about experiences and memories of the school, through the space created what we call Creation Workshops, 2) question the policies for the training of teachers in High School Normal, considering the expectations of these young students in relation to teaching and further education.

This investigation relates to the context of the guidelines for teacher training, and especially with respect to reflections about "the pressure for the professionalization of youth after the school, which puts a huge contingent of young people in the teaching profession and finding professionalization " (Freitas, 2009, p. 86). Thus acquires new importance of the research carried out we ask about the kind of intellectual and cultural experience that the young trainee teachers, coming from the poorest are given the opportunity to experience.

According to Sposito (2007), would be structured with some level of significant relationships for new learning or training institutions have offered only one accreditation, whose only important reference becomes a vague memory of a teacher who knew how to interact more intense with the students, strengthening their personal and professional development?These and other questions guided the study.

CONSIDERATIONS ON THE PATHS TRODDEN BY ESTADUAL JOÃO PESSOA HIGH SCHOOL

To conduct this research, the University of North Fluminense "Darcy", through research projects of Undergraduate Research and Extension, has partnered with the State College "John Person," in order to develop research activities in the field of teacher education. The college is located in the city of Goytacazes and is characterized by having maintained a continuous process of struggle for many years to ensure a proper space in the city. This process of cohesion within and outside the school required some sedimentation about values and attitudes that were recorded at different times in the Proceedings school. With this, the Training Course was earning the respect of the school community, focusing on a symbolic structure built on a particular culture and tradition.

When the training course for teachers was abolished, to meet the demands of the new Law of Directives and Bases of National Education, number 9394, the year 1996, attempts by the reaffirmation of its recognition and permanence were taken, discussing the contributions of school in youth training.

Thus, a set of propositions was developed by school teachers, for the return stroke.In 2005 and 2006, gathered documents to justify, with the Education Department of Rio de Janeiro, the appropriateness of continued progress for the community. Upon approval for its operation, there was demand for the poorest youth, who sought a better qualification for the job, surprising the increasing enrollments in education institution surveyed.

This has been the reality we face through the various research projects that propose to promote the College.

To broaden our understanding, just remember that, throughout the State of Rio de Janeiro, according to Coordinator of Vocational High School, teacher's course mode, are in operation ninety-six school units, including four located in the City of Rio de Janeiro.

LEGAL FRAMEWORKS: GUIDELINES FOR YOUTH TRAINING IN THE TRAINING COURSE FOR TEACHERS

With respect to legal measures to expand the proposal to the Normal School, many actions are required.To monitor the operation, we consulted the opinion number 122, November 10, 2009, SEEDUC Resolution (State Department of Education of Rio de Janeiro) number 4376 of December 18, 2009, and Ordinance SEEDUC number 91, March 29, 2010.

Listed below, some points that deserve attention on these legal provisions for the training of teachers in secondary education, teacher training mode, which represent a controversial issue. This is because the resolution of the CNE / CEB n.1, 20/08/2003, according to Brezezinski (2008), provides for the rights of education professionals trained mid-level, being an instrument that reaffirms and supplements the prescribed in art. 62 of the Law of Directives and Bases, admitting "as formal education for the practice of teaching in kindergarten and the first four grades of elementary school, offered at the secondary level, the mode teacher training" (p.123). Although the author argues that, from the perspective of personal, nontransferable right, the resolution represents progress, considering that protects, for life, the right-graduated student in high school vocational course. From the perspective of the movement that advocates the training of teachers in higher grades of education, the resolution represents a step backwards. This level of training serves as an obstacle to the search, the young, the Faculty of Education.

Given this analysis, we are interested in deepening the aspirations of youth who choose this professional course, to grasp the meaning of professionalization. To do this, it is necessary to refer to elements that determine education policies, among them the historical conditions of its production, the correlation of forces involved and the theoretical perspectives shared.

Referring to Resolution number 4376 SEEDUC of 18/12/2009, we found that the body of the text is mentioned for consideration and approval of the adequacy of NCM Course for schools in the State Public Education Network, with an emphasis in Early Childhood Education in Education for the early years of primary education, special education in the context of the Inclusive Education and Education for Youth and Adults.

This resolution also informs that the curriculum submitted is the work of the Center established in 2008 at schools, and that during the meetings were discussed issues facing the professional teacher training, trends in the field of training of teachers, curriculum organization, the basic national policy, the diversified part of the practice while training space. These changes, introduced after 2008, would require a full-time workday working with a workload of 5,200 hours (50 minute class) distributed in three series of the course.

The school investigated in the city of Goytacazes in 2008 and 2009 worked with another NCM totaling four years of training, starting the internship in the second year and the workday was part time. Even the

institution went through reforms initiated in 2003 that were only completed in 2009, the year he was graduated the first class. No labs, library and playroom, the lack of resources was apparent.

The students, Undergraduate Research Fellows of the University of North Fluminense "Darcy Ribeiro, who participated in the study, questioned the problems observed. Thus, many challenging questions remain to be overcome by teachers and administrators: for example, the new organization proposed by the Resolution and Ordinance on the integration between the areas, since the teachers meet double shifts, also teaching in private schools.

Remember, the college's Educational Policy Project were based on the diversification of learning environments in line with the grade designated as Pedagogical Practice / Start / Pedagogical Laboratories.These laboratories would consist of Toy Library, Art, Practice Psychometric Languages and Literacies, Educational Assistance, Life and Nature, among others, that should be developed at schools.

The dynamics of research carried out revealed that lack of physical infrastructure for the implementation of these laboratories, the lack of professional training for development represent some of the concerns of management and teachers who worked at the institution studied.

Turning back to the current legislation, we note that in Art 8 of Resolution 4376 shows that the enrollment of students from high school, graduating or transferred, should occur in the first year, considering the specifics of the training course. This change, as some managers interviewed argued, could lessen the demand for teacher training in high school.

THE EMERGENCE OF TRAINING YOUNG STUDENTS AND THE SCHOOL CULTURE EXPRESSED IN THE CREATION WORKSHOPS

Returning to the design goals, we emphasize that the text intended, through the investigation, identify, interpret and describe the conversations about the experiences and school experiences, the contributions of the school opposite the mid-level training, the expectations of these young students about and to work on their projects of life and future. Moreover, it is proposed to understand the complex world of school culture that includes the formation of future professional, articulate discussions of educational quality and the need to build pedagogical alternatives for the first years of basic education, in view of the continuities and changes in teaching career.

In this scenario, we construct a space that we call creative workshops, which took place at weekly meetings. Initially, in the State College area's own "John Person", and from the second half of 2008, for reasons of work in school, are held at the Universidade Estadual do Norte Fluminense "Darcy Ribeiro", totaling an average of sixty hours activities.

We chose the qualitative research approach, seeking to prioritize the dynamic / complex / subjective nature of human nature, which made us look in experiential meetings, facilitate the listening space attentive participants' (Luck & Andrew, 1988).

As the workshops were aimed at creating meaningful experiences creating opportunity, we take the category Experience as one that enables one to know through the experience of all the parties. A life may favor targeting the meetings with potential, considering being in its multiple forms of expression. An experience or a learning experience enable a circular, favoring the inclusion of the subject in the globalization of its internalization / externalization, providing you aware of the whole, through action, or a notice in action.

At this point, we have included considerations of Larrosa (2002), in order to expand the idea of experience. He points out that experience in Spanish, is "what goes on," in Portuguese, experience is "what happens to us." So it may be what we pass, what happens to us and what touches us.

Thus, through workshops, expanded and qualify the visual and poetic language that, intertwine, allowed each participant to experience aesthetically its formation process, bringing the memories of themselves in their own training as a student. The proposals were often the individual to the collective, and other times of the collective to the individual, using diverse materials and always creating opportunities for the use of spoken and written word.

With this perspective, many stories have been woven, making room for imagination. Drawings, clay sculptures, sculptures with clay, paper dolls came on the scene and, collectively, in the alchemical process, turned into creative stories that dazzled the moment (the) authors (as), the moment (as) were thrilled with the memories!

These records were made in her diary, everyday kind of field, which was creatively constructed by each.We found, through creative writing, as each student (a) throughout the process, would build the capacity to reflect on their own training, which Souza (2007) states:

The process of reflective writing allows the subject to produce a knowledge of oneself, others and about their daily lives, which enhances the contact with their uniqueness and reflection about their identity.It is therefore the process of training and knowledge based on experiences of the subject (p.76).

It was found that there was an expectation of young people who participated in the research that would improve personal life from education.Although aware of the precariousness of public schools, one realizes that there are wide variations about the chances of continuing their studies or the possibilities of acting as professional educators.

Memories of school culture you experienced interruptions to ensure family survival have been revealed in the structured interviews and creative workshops. These records will be shared in this text, aimed at questioning the quality of education, beyond the possibility of reviewing the testimony of the young about the importance of having access to school. About this issue was concluded that, although they felt that access to schools was low, yet the (as) felt certain young to walk on trails uncertain.

Along the way, was prompted by significant educational activities, which mainly students, future teachers, could express past and present during the workshops, with encouraging you to deal with their perceptions, their values, their knowledge and their own languages, so giving new meaning to learning for teacher training.

In the excavation of memories, they were unveiling the pace and organization of school experiences in elementary school, where the content displayed by teachers demanding activities with reading instructions such as: the exercises, research on various topics, group work, which ends with carrying out tests to check learning.

These experiences showed that this pedagogical framework could not always be met by many of these young people, who could afford to purchase school supplies.

On this issue, Mogarro (2005) admits that the school culture has a deep nature and natural history. It consists of a set of theories, principles and ideals, norms, rules, rituals, routines, habits and practices that are related to ways of thinking and doing behaviors sedimented over time, presenting themselves as traditions, rules and regularities shared by educational actors within the institutions.

The production of this culture and its understanding requires not only a work of preparing and looking for sources, but also, according to Felgueiras (2005), gathering together the people, of memories that are permeated with symbolizations and assume the dynamic processes of conflict and change.

In the space of narration itself, it became clear that many questions are posed for reflection on the specificity of "being a teacher," such as the experiences and school experiences involving teaching and learning, the ability to study, depending on family income and relations between study and job prospects. All this was to be experienced by the ability to access memories, individual and collective reflections related to pedagogical practice witnessed by young students.

Heading toward the motto, in interviews and workshops, we captured:

> I enrolled in the course of encouragement from my mother and was initially not very motivated today and with the stages and the support of some teachers, I think that I'll get a university and to teach in a private school or public (student 18 years /2008).

And what memories / memories about the school and on the educative experiences expressive brought to the meetings? How was your doing and inventing ways to make themselves through writing?

> My childhood was very happy, everything was colorful. I remembered when my mother took me to school. It was great to see my friends, play dough, for apron to make paintings. In the experience was all so magical I got to smell the chocolate.
> I remembered when I was a little girl who was studying at the nursery. Reminded of many colors, music, chocolate. I remembered the nursery and children had to sleep all afternoon, but I could not preach his eyes.
> My mom took my sister and me to the nursery. When we got there my sister opened her mouth to cry.
> My childhood was very fun. I learned a lot. I remember the smell of cornmeal cake that my grandmother loved to do. I remember my teachers at school, my paintings in the book
> (Diary, March 2008).

The opportunity to recover memories, record them or express them visually through images, is one possible path can lead to a reflection on the process itself to learn and live the aesthetic experience, since light doing, what Chamlian (2008) signals:

> The autobiographical narrative lets bring to light the difficulties and weaknesses, but also the capabilities and qualities, choices that may have settled, and to strengthen them.Allows, especially to understand the process of learning and involvement in the acceptance of stereotypes of theoretical explanations for learning (p.136).

In this sense we bring Vygotsky (1988, 2001, 2003 a, 2003b, 2003c) that theorizes language as it develops the subject, stressing that the creative expressions of the subject, potentiate the language as an instrument of thought. States that when the individual appropriates the culture and language, it organizes itself, since both the language and culture are dynamic, moving and have not crystallize.

Dominicé (1990) believes that the formation of youth and adults does not occur only through an educational action, but is the result of a life trajectory and reflection on the way adults have appropriated a particular time and space education.

We can interpret that from these studies, "the life stories, focusing on training, relate to the territories, and how the whole are generally related to issues of belonging and, therefore, issues of identity that at the heart of the stories, as in contemporary autobiographies" (Joss, 2008, p. 23).

It was in search of those territories themselves, the research evolved, materializing the possibilities, that through the use of language forms liberating and thoughtful, future teachers find their own means to access their memories and stories of themselves.

The personal accounts that are engaged in the course students present themselves as invested with commonly shared representations in the registration of acquisitions of new skills and search for the professorship. We made records: "To be a competent teacher you must have a vocation, profession love, love children and this is born with us." (Registration done in the "Diary" on November 19, 2008). "There is no investment in the career of the teacher, so who does the same teaching has to give much love children. Doing the work of teaching with caring for improving education to enhance the teachers who is very underrated today" (Registration done in the "Diary" on November 19, 2008).

With these records, we can observe the naturalization of the meaning of teaching, demonstrating the priority the production of practical knowledge. The call, according to Bruschini (1981), is associated with the idea that people have natural gifts and a predisposition to perform certain occupations, being one of the most effective mechanisms to induce women to choose occupations that are less socially valued.

Thus, some myths attached why the Magisterium have the female predominance, and highlighted in the workshops, the debate about the actual conditions and the devaluation of professional achievement in many ways: economic, social and cultural.

Listen to what these young girls know about themselves can be a way to value them and to contribute to the debate mentioned on the professionalization of teachers, explaining the various angles of the issue. According to Arroyo (2007), there are many ways in which students talk about their lives, their careers and humanities students, and these "words" can give voice to those who have long been silenced.

ENDNOTES: POINTING OUT SOME CONCLUSIONS

Recovering the history of women in teaching is crucial, at the time the debate about the teaching profession has been enhanced through the revitalization movement of training courses in which they question the pedagogical and knowledge involved in the training process.

Given these specificities, Roland (2007) discusses the specificity of the teaching profession, questioning the criteria of the transmission of theoretical knowledge as a key function of the act of teaching. For the author, in light of new research tools that promote the availability and the democratization of information, the teacher should take, above all, the role of mediator of knowledge.

Through the testimonies, we try to develop some analysis that have been outlined as a product of reading, among others, even if preliminary and to be built. So we try to discuss the precarious occupational positions among young people opting for the course, the familiar stimuli for further study, especially the mothers' participation in this process, expectations about work, motivation and progress in studies by teaching career.

Dayrell (2009), to analyze the school as a social and cultural points out the need to understand it through the lens of culture, which takes into account to understand the daily life, reviving the role of these young people in the social context, considering a set of standards and rules that appear mediated by ownership, development or revulsion expressed in established relationships (p.137).

For the author "who are these girls? What will get in school? "Based on these questions, it was to make an analytical approach and the survey data, found that 18% of young students came to complete the regular high school, and returned to school with expectations of school experience, with the intent of achieving better working conditions. A more focused look at the relationship between school and youth shows that 32% consider the imposition of interest for their training. It also highlighted the belief in personal and professional development through education, in the testimonies of 52% of young people who participated in the survey. Grievances about the school history are explained not only by the shortcomings of the course, but also were justified by the school career interrupted by material shortages and deficiencies in levels of education prior to high school. For Gatti (2009), one should take into account that the choice of teaching is often presented as an alternative if there is no possibility to exercise another activity.

Another point that attracted our attention, and which was registered in Abramo (2008), the reference population is familiar, though the mothers heard more participatory and the recognition of the investment that must be done through education. In general, it confirms the research done with young people by other researchers as being the education of youth for this layer, a question of your personal sphere, discussing it in that context, with family members, as a matter of sphere public, that should be examined by society.

While 12% of a stand about the precariousness of the institution and teaching, it was perceived as distancing to questions raised about the lack of resources, crowded classes, as nearly 30% emphasized the vocation for the profession as one of the key points confronting the educational problems. Also, the students reported that they believe they have a vocation for teaching, defined as "very fond of children, they take way to be a teacher who believes he can with love and passion for what you do make school more fun and dynamic" (graduating student in 2009).

In this sense, the priority is to develop more studies in the area of teacher training in order to evaluate the activities and propose new training programs. One route might be to take into account the perceptions of students in training and their representations of their lives, or how are built and how they view their careers.

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106 - Teachers' Professional Development and Primary School Educators: First Approaches

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Abstract: This article has been elaborated as an intervention research; having collaborative nature, it presents and analyses partial data taken from an ongoing research made in a primary school, from a city in the west of São Paulo State, Brazil. It aims to build knowledge on the process of teachers' professional development and primary school educators at work environment; to make interventions in the school environment, to provide actions for knowledge construction and reconstruction involving all participants; moreover, consolidate a research group which contemplates the participation of all subjects engaged in this process. The first conclusions show teachers' expectation toward the researches looking forward ready answers to help them in the school challenges; they indicate the inclusion of researches in a school environment is a process which demands permanent negotiation, also, that the most pressing difficulties are related to educational policies´ implementation processes.

Keywords: professional development, teacher's education, teachers' trainers

INTRODUCTION

The present article brings in and analyses partial data obtained by an ongoing research[1], which is being carried out together with a primary school situated in medium size city, in the west of Sao Paulo State, in Brazil.

In general words, the project involves nine researches working in two universities[2] from São Paulo State and twenty seven professionals who work for the partner school, they are: the director, the vice-director, the educational advisor, the person in charge of the library, the teachers and the children development assistants.

The project as a whole has triple characteristic: build knowledge on the process of teachers' professional development and primary school educators in their work environment; get involved in the school surroundings where those processes take place, in a way to provide actions capable of stimulating the construction/reconstruction of knowledge with the participants' collaboration - researches and professionals from the school – who are able to contribute to enhancement in teaching and professional learning of teachers; and; simultaneously, promote the consolidation of a study group which involves the researches, the undergraduate and postgraduate students in both universities involved, in addition to the school staff.

More specifically, the objectives of the research are: produce knowledge about teachers' professional development processes and educators in their work place, considering it beyond its training praxis, linked to aspects which are not formative, but, the ones related to the professionals of this career; come up with specific and pedagogic knowledge (related to the teaching and learning processes and the educational reality the school faces regarding school failure), thinking of possible actions to be developed through collaborative work; incite professional development by making the subjects of the study reflect upon their teaching practice, based on a constructive and collaborative pattern focused on school, in a way they can examine their implicit theories, their practice, their attitude, etc. in order to keep a permanent self-assessment which can provide some guidance for their job; establish a partnership between the university and the school, recognising them as knowledge producers, capable to convert this study into mutual benefits (investigative and formative) and, specially, achieve long lasting results in the school which keep on acting even after the researches have left, causing impacts, in medium-term, to the teaching and learning processes offered and developed by the school and to the participants' professional development; promoting and evaluation of the formative and investigative strategies applied.

Concerning the methodological aspects, this study can be described as an intervention-research of collaborative nature. This is a kind of investigation that requires the development of several procedures which provide a process of partnership and mutual learning (Cole & Knowles, 1993) among the involved people (school and university staff). This perspective includes a systematic investigation about the

consequences caused by the works done in the sense of changing the social relations in the investigated community's context (Aldena, 1989). It means that, at the same time answers to the investigation's questions are being searched, intervention actions are being developed to facilitate the establishment of strategies to have the initial questions answered, meanwhile other questions may arise, that is a continuous and non-linear process which makes possible the continuing qualification of teachers and educators in the school context.

The collaborative research can be understood, in general lines, as a component of an articulated dialogue between the researches and the school staff, it's aimed at investigation and construction of new knowledge, besides looking for solutions to the concrete problems the school faces daily. This type of investigation considers the different roles taken by the pairs (teachers, teacher's trainers and researchers), recognising that this is a multi-faceted relationship and not a hierarchical one. Due to its collaborative nature, Imbernón (2010) assures that this sort of research is favorable to professional development, because teachers can benefit from the continuing qualification which best fits to their professional needs in the educational context they're inserted. Teachers can be recognised as social agents, able to plan, manage and modify the teaching and learning process, furthermore, they can intervene in the complex systems which constitute the social and professional structure.

Given the space available for this text, and considering the fact that the search is still under development, it's surely impossible to end the considerations about this experience, that's due to the multiple elements which may emerge throughout the process. Because of that, the present article intends to present and analyse partial results obtained by the investigation, more specifically, look forward to answer the following questions: In which context is the school inserted and what is the professional profile of teachers working in there? What`s the meaning attributed by the school staff to professional education? Which expectations do teachers have concerning the partnership university-school?

Aiming to answer the research's general questions and taking into account the peculiarity a process involving an intervention research of collaborative nature, we have initially looked for the school staff's personal views, for that purpose, activities which could make easy the coming out of their knowledge and beliefs were used. In a more specific way, a study and an analysis about the school planning (2010-2012) was made, collective meetings in school environment, in which all the people involved in the research participated, were held, also, a questionnaire was applied to them so that an initial diagnostic could be obtained to enable the researches to understand how the school staff being examined conceives that work environment, the subjects acting in it, their role in that space and identify the expectations concerning the establishment of the partnership university-school; those actions taken bearing in mind the minimization of school failure in the first years of primary education.

It's important to say that a study made about what people usually know comes from an analysis about what they say they know (Freeman, 2000).

This way, words are taken as a vehicle for thought representation and the people "are considered about what they say". In this study the representational reading was adopted as the analysis perspective about what the school staff (teachers and teacher's trainers) said about the community in which the school is set into, it's work context, it's students, it's role in that context and the managing staff's role (director, vice-director and educational advisor), its perspectives, worries, assuming that the words can represent their thoughts, beliefs, knowledge and feelings.

TEACHER'S EDUCATION AND STUDENTS' LEARNING: SOME CONSIDERATIONS

It's known that the society as whole, in a more emphatic way in the last years, claims the teaching quality is improved, which results in fundamental changes about what the students learn and how they should be taught. The perspective is that the students present compatible performance to the guidelines established for the States (*School Evaluation and Performance System* –SARESP), for the country (*Primary school evaluation system* – SAEB) and for the world (*Programme for International Student Assessment* - PISA). As indicated previously, it's emphasized that they are able to understand the school content; think critically; create and solve problems; summarize information and express themselves with proficiency. When it comes to international external evaluations, PISA is applied each three years by OCDE (Organization for Cooperation and Economical Development) with the objective of producing indicators that promote the discussion about primary education quality, as well as, the proposition of public policies aimed at improving this teaching level. The exam measures the educational performance of 15-year-old students, based on Reading, Math and Science tests; it's applied to the thirty-two countries integrating the OCDE and invited countries, which is Brazil's situation. The tests have been applied each three years since 2000. The fourth cycle of evaluation from this program was completed in 2009. Taking as an example, the reading

competence throughout PISA's four editions, Brazil was in the last positions of the ranking among the countries evaluated. It was placed in level "1a"of the Reading proficiency scale, being the higher level 6.

This information reveals the low Brazilian Education quality and the difficulty to change this situation, considering that, throughout a decade, the country hasn't shown relevant and consistent advances regarding the students' reading competence.

When we think about the process of external evaluation in the national context, SAEB, which had its name changed in 2005 to ANEB (National Primary Education Evaluation), appears as a first initiative with the intention of establishing a diagnostics of the country's educational system. In a publication titled *'SAEB 2005 – Primeiros resultados: Médias de desempenho do SAEB/2005 em perspectiva comparada'* (MEC/INEP, 2007), It's highlighted a historical series of results through which it's possible to follow the performance achieved by the students from 1995 to 2005. In a proficiency scale in which '250' is the expected average for the students finishing the 8th grade (the last year of cycle II called 'Ensino Fundamental[33]' in Brazil) in the Portuguese test, it can be observed that the grade obtained by students decreased from 256.1 to 1995 to 231.9 in 2005 (Op cit, p.6). It's worth mentioning that SAEB's proficiency scale for Portuguese varies from 0 to 500. Those results show that students which conclude the first eight years of school in Brazil, considering the national average, haven't achieved a desirable grade, in other words, they can't read text relatively long or complex in Portuguese.

Concerning SARESP of 2007, which is the evaluation the State applies, the exam's final result have shown that 23.8% from 4th grade students were below the level considered basic for this grade in the writing test. SARESP's writing scale is divided in four levels: below basic (the student has difficulty to write a text according to the instructions given), basic (the student does the activity reasonably), adequate (the student executes text production well) and advanced (the student accomplishes the task given very well).

On the other hand, in 2009, 10.1% of the students evaluated were classified in the basic level, while, 40.4% of them reached the advanced level. Even though the results obtained n 2009 show an improvement in the indicators comparing to 2007, the high number of students which conclude this initial teaching in a level below the expected, keep on being a matter of concerning.

Facing this new perspective, the teachers are now the on the spot of the educational changes, they have the responsibility of conducting students through this duty, besides doing their job in order to attend the educational demands delineated.

In the last years, the idea that good teaching is more complex than the way it was thought to be at the beginning, is getting stronger. Teaching, each time more, has been recognized as a "complex knowledge mixture that encloses specific and pedagogic content, abilities to teach various students, and, the knowledge and understanding about the context where the teaching takes places" (Tatto, 1993, p. 87), opposing to the idea that anyone can teach. This new way of conceiving the teaching has resulted in a deep change of knowledge, abilities and dispositions teachers should have.

Besides seeing the teacher as a professional, the research in the educational area points to the importance of investigation its role in the delineation and implementation of public policies, also for defining the necessary knowledge to a well succeeded teaching.

Frequently it's possible to observe that policies are formulated by specialized groups which are not familiar with the educational system's structure, especially with the school culture, or the teachers' participation is just bureaucratic, usually they are required for less important roles, though they are expected to act as protagonists. The policies' implementation occur through decrees and the teachers are conceived as passive agents in this process, that can generate resistance and negative behavior towards the changes suggested, or even worse, a discourse to be assumed, without following the transformations prescribed. For that reason this process is many times conflicting and dilemmatic, its effects originate from the interaction established between the teachers and several limiting factors, for example, the definition of unreal levels of requirements. In this sense, a political discourse, heavily influenced by ideology is used, however, it's distant from the daily problems the school has, what, in this case, creates more anxiety than stimulates actions to be taken by the teachers (Oyafuso & Maia, 2004).

A study published by the Program for Promoting Educational Reforms in Latin America (PREAL, 2006), reports the results of global performance exams taken by students, in which Latin America has had the lowest results among the evaluated countries.

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[33] Brazilian Mandatory Educational System is divided into 'Children Education, which is aimed at 0 to 3 year-old-children; Preschool 4 to 5-year old children; 'Ensino Fundamental' which is divided into cycle I, 1th to 5th year and cycle II 6th to 9th year and it's aimed at children from 6 to 14 years old.

[...] Though the sincere and impressive efforts, most of the schools keep on failing when it comes to giving the children the necessary abilities and competences to achieve their personal and economic success, besides the practice of citizenship. […] In the key-measure of success (quality, equality and efficiency) the levels continue low and the advances are little or almost non-existing. Low learning level, lack of systems based on performance, not much responsibility and the teaching crisis conspire in the sense of preventing the majority of Latin-American children from knowledge and necessary abilities to have progress in the modern societies.

These indicators cannot be taken into account as a ´straitjacket´, which reflects the current school reality in its total form, although they point to important aspects of the Education System which should be considered and evaluated by public policies, specially the following aspects: equity, quality and teacher's education, which are stuck in a bad standard.

It's seen in countries as Brazil, Mexico and Uruguay that 15-year-old teenagers got grades close to the minimum expected in Reading, Math and Sciences. [...] Almost half of Latin America students have shown serious difficulties in using the reading to amplify their knowledge and abilities and most of them (3/4 in Brazil; 2/3 in Mexico and almost half students from Uruguay) weren't able to consistently apply the basic math abilities in order to exploit and understand daily situations.

Specially in Brazil, several educational indicators can be pointed as revealing for the precarious situation of the Education received throughout the time by the population, despite the investments made in the last years (Klein, 2003). For example, data from the Ministry of Education indicates that only 10% of the children enrolled in public schools achieve the adequate performance in Portuguese and Math for that teaching level.

Although the access and the students' permanence in the school is a reality, a high number of students conclude 'Ensino Fundamental' without having total command of their mother language and other school contents considered elementary and indispensable to the life in the contemporary world. Even so, researches show that an approved student can be considered unsuccessful '[...] because he doesn't think from his own ideas, he doesn't allow himself to express his own thought, because he can`t write. He only register and copy the other's thoughts' (Dani and Isaía, 1997, p. 1). According to these authors, the failure is also presented in 'the student who wins, who has good marks at school and is seen as a good student because he repeats what the teacher says.'

The school failure phenomenon is one among many problems the school faces. The institution needs to look for answers to the challenges presented in its context, which are directly related to its capacity to offer high quality Education to all its students. More than ever, it's necessary to reflect about the social role and school political function verifying how and what we should do so that this institution can become an efficient instrument for promoting social changes. Nevertheless, the reflection must be followed by practical actions which surpass legal publications and the researches. They have to work as reference which allows the school community to determine directions and think of practical strategies focusing the reality the school is inserted. Having that exposed, it's valid to say it's high time a more global understanding about the institution context was promoted, as well as, the identification of teachers' perception on the school reality in order to delineate actions which consider and amplify themselves gradually, conducting them to a professional development process in the work environment.

THE COMMUNITY AND THE SCHOOL

The partner school is located in the North part of Presidente Prudente city, in a peripheral area 10 km away from downtown. That area is characterized as being socially excluded, which means, having lots of needs from different natures, among them: low schooling rating, unemployment, poor housing conditions, etc. The neighbourhood started as part of an urbanization project from the municipal government, which conventionally was called slums removal policy. In the neighbourhood surroundings there are several rural areas and houses where no one is living, which form a barrier between the neighbourhood and the rest of the city, causing a sort of isolation. The school is the only teaching institution in that community and it assists children on Children Education (0 to 3 year-old kids) and the first years of Primary Education (6 to 10-year-old kids). In that location there is no health center, although they can count on a programme called '*family health strategy*- ESF', the professionals to assist the people are not enough to fulfill the needs the families have. There are several commercial buildings in the neighbourhood such as supermarkets, a tire maintenance shop, bakery, snack bars, butcheries, sawn wood shop, construction supplies shop, a shop where you bus cooking gas, and others.

According to data taken in 2010 from a statistics institute, *Censo,* most of families (77%) of the children enrolled in the school live in the same neighbourhood and 23% live in other more distant locations. Among

the families living in the mentioned neighbourhood 80% live in their own houses, 12% live in rented house and 8% live in lent houses. Concerning the family monthly income, nearly 30% of families live with up to a minimum salary[34] and 65% of them receive about 2 and 3 minimum salaries.

When considering the parent's schooling level, it was verified that 1% of mothers and fathers have more than 15 years of schooling, (they have a university degree), those who have more than twelve years of schooling are 19% of mothers and 14% of fathers (they have concluded high school), there is also the group which has studied for about nine and eleven years, 15% of mothers and 14% of fathers (incomplete high school), those parents which have studied for eight years belong to a group of 20% of mothers and 24% of fathers (they complete 'Ensino fundamental'), there is still a significant percentage of parents which have one to seven years of schooling, 40% of the mothers and 44% of fathers (incomplete 'Ensino Fundamental') and, finally, 1% of mothers and 2% of fathers who have no or less than one year of schooling.

It's worth saying that, in a general way, this region where the school is located is composed by parents with a lower schooling level than the city average percentage, they constitute a poverty grouping in the city. As stated by Rinaldi, Morabito and Tachibana (2009), the average worker income is related to his schooling level; people whose schooling levels are higher tend to have higher income than those with low level schooling. This fact indicates that having a low schooling level affects, among other things, the access to basic consumer goods, culture and leisure, directly affecting the necessary conditions to school attendance.

It was found out that due to the families' lack of financial resources, most of the time, there is no money to buy school stationary (pencil, eraser, notebook, glue, scissors) for the kids. According to the school school planing, in the beginning of 2010, 27% of the families bought all the stationary requested, 43% bought only a few items and 30% didn't buy any stationary. In that situation, it's the school duty, besides providing education, also to provide the families in need with the stationary throughout the year so that the children have the access to school, permanence and learning rights assured.

Generally speaking the families present, in their majority (68%), nuclear compositions (father, mother and kids living in the same house), though there is a significant percentage of students who live only with the mother (29%) and 3% of them live with other relatives.

The partner school's features

The school has poor infrastructure and little physical space. It's organized in two blocks with classrooms, one for the students coursing the first years of 'Ensino Fundamental' and other for 'Children Education', administrative department, rooms for HTPC (Time for Pedagogical Collective Work) meetings, secretary, director and pedagogic advisor's rooms, reception, reading room, pedagogic support room and warehouse. The school has no adequate and well organised rooms for extra assistance to the students as, multimedia room, library and video library. In order to supply this need, some environments were improvised and adapted. The material resources, however, as very diversified existing in a sufficient number to the development of a teachers 'good work. These resources are both pedagogical and technological, for supplying and consuming.

The teachers' board is composed by seventeen teachers (working on 'Children Education' and the first years of 'Ensino Fundamental') and 4 educators (management staff). A great part of these professional have a university degree or they are about to graduate from university. Some of them have taken some kind of specialization course. Complementing this scene, the school relies on a library auxiliary (a readapted teacher), three professionals who work as ADI's (assistants for children development), three employees who are in charge of general services, a porter, three cooks and two scriveners

The institution has a total of four hundred and seventy five (475) students enrolled; ninety-two (92) of them have some learning difficulty. From that amount, twelve are diagnosed as having some disability (intellectual, multiple, visual, physical, global development and hearing disorder). The others have being supported by a competent department in the city or they've waiting for a vacancy in the list to be examined.

It's important mentioning that students who attend this school are poor children at the age of three to thirteen years old. Most of them live in the neighbourhood the schools is located or come from distant parts of the city.

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[34] In Brazil, the minimum salary established for the year of 2010 was R$ 540,00. In the year of 2011 this amount corresponds to R$ 545,00.

THE PARTNERSHIP BETWEEN THE UNIVERSITY AND THE SCHOOL: FIRST APPROCHES

The project started as an initiative from the city Municipal Secretary of Education, intending to develop a partnership with researchers from university, looking forward to understand and overcome the difficulties and challenges struggled by the city schools, in order to improve the low results obtained by IDEB, a national indicator of Primary Education Development. Because of those results, a new municipal policy was created focusing on the improvement of school failure condition. The partner school was indicated due to the fact its result in IDEB was one of the lowest in the country.

The development of a formative and investigative work with teachers and teacher's trainers in the school context demands the establishment of a trustful relationship which is gradually constituted; it requires collaborative working among the school staff and researchers; it implies the development of many procedures that are favorable to a partnership and mutual learning process(Cole & Knowles, 1993) in a way that professional development is the spot for the main work, no matter which policies are valid at the time. This perspective includes the systematic investigation on the consequences caused by the work done to change the social relations in the community been investigated (Aldenam, 1989).

A process of such nature offers challenges related to the peculiarities of the context and subjects involved, as well as, to the model chosen to the project's development, based on collaborative intervention-research.

That supposes the adoption of a methodological approach which allows understanding, interpretation and description of the teachers and researches' decision making process and the actions they take, in addition to the difficulties mentioned by the teachers and their professional development process aimed at the construction of possible solutions to the problems faced by the school. On the other hand, this approach must make possible the educational process's understanding, those which take place in the school context and in each classroom of the different partners (teachers and researchers).

The project's development has shown through the first analysis that:

- Teachers' thoughts are expressed by their testimonials in the meetings, a tool used to make an initial diagnosis, indicating their expectations about the researchers having ready answers to help them surpass the challenges they're facing.
- The inclusion of the researchers' group in the school environment and the collective construction of a common for professional development is a process which can be considered as having instable balance and which needs to be reformulated at any time, it demands a high level of involvement from the participants and a permanent negotiation process.
- The main challenges mentioned by the teachers and teacher's trainers are strictly related to indiscipline; lack of interest and family support in the schooling process; and the teaching of children studying the mother language (literacy process), they just don't learn despite not having any diagnostic showing disability or learning difficulty.
- The most evident difficulties were related to the implementation of public educational policies, most of them do not come to the school ad classrooms, or when they do, it happens in a vertical way, they have difficult comprehension language, layout and concepts to be applied to daily pedagogical activities (for example, 'Reading and Writing Programme', adopted by the municipal politics as a strategy to overcome the low results obtained by the public teaching system).
- During the first year of this research, we are dealing with situations which make us reflect about the actions taken, we deal with narratives in which the participants' beliefs, values and inner theories emerge. It's possible to realize that the situations which consider the teacher's and teachers' trainers context, seem to mobilize deeper beliefs which escape from the dominant speech censorship, for example the public policies, the democratic management, the teaching quality and school inclusion.
- The beginning of interventional activities in the school, which is, the development of collaborative practices present signs about the importance of permanently investing in the construction of a school collective, which aims, as the time goes by, make teachers accept and talk about their teaching practice, confronting them with their peers, and discussing about it in a less offensive way, having objectives, systematizing, suggesting strategies, allowing the gradual access to their secret stories. Such expectation is also strictly connected to understanding the partner school cultural dynamic. The challenge continuously faced in the execution of this research is the construction of new formative and investigative strategies in the school context, that, in a procedural way, show an answer to the problem investigated. On account of the teachers understanding their professional qualification as an external experience to the school context, for example, the participations in events (congress, lecture, course) and the qualification course offered by the Municipal Secretary of Education.

CONCLUSION

This article has presented and analysed partial data taken from an ongoing research being carried out at a primary school located in a city in the west of Sao Paulo State, in Brazil. The referred study involves researches from two universities in the same city and twenty seven professionals connected to the partner school.

By investigating learning processes and teachers' professional development, one of the main goals of this project was to plan and execute a program which could involve the school teachers in their professional development. For that reason, an intervention-research has been carried out; this research of collaborative nature implies a partnership process and multiple-learning among the participants.

Through this perspective, building knowledge on the process of teachers' professional development and educators in the work context is essential to analyse and understand the problems faced by teachers daily in the school. Regarding this experience it's expected to bring improvements as much as to the school staff, as to the children enrolled in it, as well as to their families. It's also expected that, in short period of time, the program causes an impact on the teaching and learning processes developed in and by the school.

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109 - Survey – Intervention: Teacher Training from a Professional Development Perspective on On-line Continuous Training Courses

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Abstract: This text presents some reflections on the first stages of a Doctoral research project, an investigation-intervention, focusing on the training processes of teaching staff that teach the initial years (1st, 2nd and 3rd) of primary education in Brazilian public schools with the aim of developing and assessing professional development indicators. The study is methodologically grounded on a constructive-collaborative reference of investigation. These indicators are conceived as reference parameters for the work developed by the staff and constructed by them. The process of constructing such indicators is being undertaken by training-investigation using the internet as a tool that provides learning spaces. On reflecting with the teaching staff on how the definition of the specific teaching content to be learnt by the children is done, the degree of proficiency to be achieved, how the students learn and why they should learn and articulating this with teaching knowledge, the aim is to construct and assess professional development indicators with the teachers that have worked in these years.

Keywords: Educational Indicators; Professional Teacher Development; Teacher learning; on-line teacher training.

INTRODUCTION

The reflections presented here refer to an interventionist investigation registered in the "Professional development of teachers – construction and assessment" Project financed by the CNPq and undertaken on the Post-graduation in Education program of the Federal University of São Paulo, Brazil. This focuses on the teacher training-investigation process which is in its final data collection phase. In this study the aim is to construct and assess professional development indicators for teachers that work in the initial years of primary education in municipal, public schools in Brazil.

When thinking of the construction of educational indicators, we thought of them as professional development indicators based on the process, since teacher professional learning is founded on processes and not on fragmented episodes. They would be reference parameters on the work carried out by the staff involved in the study and constructed by the teachers themselves. The teachers will construct the indicators, will experiment with them and will assess them. The axis used for their construction will be, firstly, the definition of the specific content to be learnt by the students followed by the knowledge required in order to be able to teach them.

This process is being undertaken in the form of training-investigation with the use of the internet as a tool for learning spaces. The intervention in this study consists of an extension course for teachers who work in the initial years of primary education with the aim of

> contributing to the professional development of teachers allowing them to reflect on their teaching and learning experiences within the context of their work, using as a reference the indicators for the construction of a knowledge base of the students and articulated for exercising the job of teaching (Rodrigues, 2009, p. 4).

On the course we are therefore reflecting on the process of defining the specific content to be learnt by the children – what should be learnt (content), the degree of proficiency (how much), how the students learn and why they should learn it (how and why), as well as mapping and analyzing what the teachers know how to teach and which kind of professional behavior dominates the execution of their activities in school – their knowledge base, what and to what degree they should know as well as what and why they need to learn, and how this can be achieved, as argued by Rodrigues (2009) in her research project.

For the purpose of organizing this text, we will first deal with the educational indicators of professional development followed by teacher learning and knowledge base for teaching articulated with the processes of continuous teacher training by distance learning. It is important to remember that when speaking of

indicators we are relating them to the specific content that needs to be learnt by the students followed by the knowledge required by the teachers in order to teach them. The issue is the student knowledge base allied with the teaching knowledge base which are essential focus points for this study.

THE ON-GOING INVESTIGATION

The construction of professional development indicators for educators, together with the reflections on the knowledge base required to teach, will aid the decision making processes, both on an individual level as well as on a group level, on the processes present in the teaching work, allowing for the participants to reflect on the work carried out.

This construction process is intertwined firstly with the definition of the specific content that the students should learn in the initial years articulated with the knowledge the teachers need to have in order to teach them in their work contexts - their knowledge base for teaching. A discussion is held on a continuous training course since we believe that this best suits our enquiry process. We therefore want to establish the position of the teacher training whilst professional development extends for a whole lifetime and is based on life experiences and a number of different modes of knowledge which, according to Cole and Knowles (1993) permeates all professional practices.

According to Mizukami et al. (2002) this base means "a collection of understandings, knowledge, abilities and dispositions necessary for effective action on specific teaching and learning situations" (p.67). Here there are different types of knowledge the teacher can use to make decisions and according to Shulman (2005) these types of knowledge can be categorized in the following manner: knowledge of the content, general pedagogical knowledge, knowledge of the curriculum, pedagogical knowledge of the content, knowledge of the students and their characteristics, knowledge of the educational contexts and knowledge of the aims, purposes and educational values and their philosophical and historical fundamentals.

Furthermore, according to the above-quoted author, we can unite the knowledge of the curriculum, the students and their characteristics, knowledge of the educational contexts and knowledge of the aims, purposes and educational values and their philosophical and historical fundamentals into three types of knowledge.

One of these is knowledge of the specific content that includes the basic concepts of one area of knowledge. General pedagogical knowledge is the knowledge that transcends the dominion of a specific area and includes knowledge of the aims, goals, educational purposes, teaching and learning, classroom management and interaction with the students, teaching strategies, other content and knowledge of the curriculum and pedagogical knowledge of the content that is constructed during teaching (Mizukami, 2002). This is thinking pedagogically about what we teach consisting therefore of the understanding of the teaching knowledge base. This is why, in this study, we are reflecting on this base together with the educators.

When reflecting on what teachers should be able to learn, in terms of learning indicators of what was taught, we point out that this issue is related to activities that are directly connected to the educator and learner as well the teacher as a person which goes beyond teaching classes. This is a way of thinking that is interlinked to the participation in broader processes within the institution of a school

This learning and professional development of teachers are aspects that can influence teaching quality in our schools. Thus, we believe that by reflecting on teaching knowledge we need to implement ways of reconstructing and constructing such knowledge, aspects that are referred to in this investigation in relation to the student's knowledge base – what they need to know at the end of the first three years of primary school.

Thinking in this way about professional development and teacher learning, the investigation-intervention has been delineated with the focus on continuous training of teachers by distance learning. This training-investigation is justified by issues that are present every day in our schools, the teaching act that needs to be understood with the aim of providing feedback from the whole group of teachers being investigated.

The teachers that participated in this are spontaneous collaborators in this study, since we considered that teacher participation, in any training context, needs to be voluntary, by choice, because we believe that the learning processes must be suitable and not passed on. Based on this, the registrations for the course were opened in August 2010 and those interested could register directly at the Teacher's Portal. In this phase, we received 866 registrations from the whole of Brazil. However, we could not deal with such a large demand and we started the training with 42 participants who were teachers that worked in the public, municipal school network and who taught the initial years of primary education.

After the selection of the course participants, the continuous training started in which the content is organized giving emphasis to reflexive and contextualized teaching divided into four modules totaling 120 hours. The first and second modules were given from September to December 2010 and the final two

modules are being held between February and April 2011. These aim to provide digital literacy since not all of the participants are familiar with the Moodle platform. Also included are lessons on municipal and school policies, class content given by the teachers as well as their own knowledge to develop their own work. At this moment, in the month of March, we are finishing the third module.

The procedures used to enable the training and data collection will be the communications between researchers and teacher-collaborators which take place in the online learning environment. For this purpose, there are some technological tools available on the Moodle platform used as resources for presenting activities such as: a forum, a wiki, email, assignments, diaries etc.

In the this training process the researcher is the mentor (trainer) of the course and will mediate the whole training course for the participants within the concept that (re)building will take place at every instant in the coming and going that presupposes the uptake of some of the steps established. Thus, the reflection, negotiation and reorganization of the training and investigative actions will be prominent aspects in the training. To achieve this and for the individual follow-up of the assignments we have a forum for communication between trainer and trainee where access is available only for the two teachers. This is a tool that allows for individual intervention during the training program.

When emphasizing the training aspect based on professional development, we should highlight the fact that there is an implicit need for constant reflection-investigation- assessment. The training path needs to be reflected on from a self-learning point of view whereby each teacher (Weffort, 1996) in training can progress at their own pace enabling them to perceive the observed, reflected and recorded reality (of teaching practice) and therefore be able to seek the mechanisms that allow them to think about and interpret it. Thus, we approach teacher assessment in both a qualitative and quantitative way. In the former we turn to pensive reflection and in the latter we consider the more structural aspects of the course and the participation of each trainee. However, the two are mutually complimented in the assessment process.

In order to aid the qualitative dimension of this training program, a reflexive recording instrument is used at the end of each module. This is a partial assessment that includes the training reports whereby each trainee registers their reflections pointing out the learning points that were constructed and quantitative mapping (of the number of participations in the forum and/or other activities, the number of times assignments were handed in before by the deadline and, furthermore, why and how each trainee can improve in the following module) of the frequency of participation in each activity. This as a self-assessment of the actions developed in the training program, and at the end of the course, in April, a reflexive report will be produced whereby each teacher will reflect on the impacts of the course on the execution of their professional practice based on the recognition of the situations experienced on the course and a self-assessment of the professional learning attained.

We emphasize that the training assignments proposed on the course aim to provide a space for the teachers to reflect on what they are doing mainly in terms of the content that they are teaching; the school knowledge that the students should acquire, what they need to know to ensure student learning etc., and record this in their narratives. This takes place within a perspective whereby the teachers can learn with their students whilst they carry out their teaching activities and reflect upon them, as according to Darling (1997). Furthermore, they observe the work carried out by the students and take part in what they see.

The online narratives collected during the course will the essential source for the production of training-investigation data since we understand that, as according to Cunha (1997), there is no point in just saying that the teacher has to teach based on the students' experiences if they don't become the subject of their own stories in the processes of training, constructing/deconstructing from teacher experiences. This can cause change in the form of how people understand themselves and others and these are considered to be important training strategies in the reflective processes of teaching practice.

Thus, the internet is an element of information technology and communication that is essential in this investigation-intervention. It is a tool that allows access to distance education with the Teacher[35] Portal

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[35] Website of the Federal University of São Carlos, the Education and Human Resources Center of the Education Faculty, Department of Teaching Methodology. Created with the main aim of developing a set of projects and activities by means of a virtual space directed towards meeting the training needs of teachers of different levels and modes of teaching. The research activities are considered to be a complimentary aspect of the professional development programs and activities in the Teacher Portal. The in investigations made here aim, on the one hand, for the programs and activities to contribute to the professional development of teachers, the promotion of distance education, the establishment of a professional learning communities and, on the other hand, to reflect the contributions to and from educational research.
(www.portaldosprofessores.ufscar.br).

acting as a technological instrument of access for the course participants and as a space to access continuous training as well as for collecting data from the online narratives by the teachers within a virtual learning environment.

This virtual portal, in this investigative-training context, is a training and research tool. According to Rinaldi, Dal-forno and Reali (2009), distance education, mediated on the internet, used in teacher training processes

> can allow for approximation and follow-up of professional practice in the work context regardless of geographical context which leads us to build paths that aim for differentiated practice by those involved as well as the broadening of the knowledge base and the possible construction of communities or learning networks between professionals in different locations without the barriers of time and space (p. 2).

However, this process is complex, dynamic and challenging for the trainees as well as for the trainer-researcher and one of the authors of this article. This is because the training path is in constant movement and therefore the activities are being organized according to the collective training needs with the main axis being the achievement of the training objective articulated to that of the research. This is a unique process in the training-investigation that requires the researcher-trainer to mediate the trainee's learning process.

From this viewpoint, the continuous distance training in the form of intervention, was planned to allow for the generation of information about the state of learning of the teachers and at the same time build up other learning with the collaborators (research subject participants in the form of training-investigation).

However, working with continuous distance teacher training is still full of challenges in Brazilian education despite being, as stated by Belloni (2002), a phenomenon that is part of a wider educational innovation process that is integrated with new information and communication technology in educational processes. Mizukami (2009), referring to these challenges, presents the existence of two: "that of learning new ways of thinking about teaching and learning processes and that of unlearning practices (of some crystallized ways) in relation to the teaching training processes" (p.310). This means that the investigation-intervention in discussion has the intention of pervading these feelings since their focus is the training of educators.

This investigative process is methodologically structured in research and constructive-collaborative intervention. This is consistent with the possibility of ensuring the most satisfactory conditions for the professional development of the teacher collaborators in this study as well as for the researcher. For Clark et al. (1996), this occurs bearing in mind the process of shared dialogue established by the group. This is a process where one learns from another and become partners in reciprocal learning based on the assumption of collaborative works between teachers and researchers as stated by Cole and Knowles (1993). This is guidance directed towards enquiry into the purpose of generating new knowledge by questioning the daily teaching actions.

When a study is based on a constructive-collaborative model of investigation for the construction of intervention-investigation strategies, the path that has been followrd was set out from the beginning, however, process actions are constructed and redirected throughout their development and act to aid future steps that are to be taken in training-intervention (Rinaldi, Dal-Forno & Reali, 2009).

A collaborative investigation, such as our study, should induce teachers to

> theorize on their practices, questioning, in their contexts, the actions and their consequences and understanding the relationship between circumstance, actions and the consequences for their own lives. The collaborative work of investigation-action presupposes the joint work of investigators and practitioners with subsequent implications for both. It presupposes a learning process focused, fundamentally, on the planning of action and the assessment of results (Simão, Flores, Morgado, Fortes & Almeida, 2009).

This is a path which is being laid out in this investigative study still in progress. A route supported by the reference of professional teacher development, signaling the involvement of learning and, essentially, of change. Soon, our understanding of the training process is that it is contextualized historically and socially constitutes a political act whereby there is the occurrence of articulation between people, professionalism, context and institutionalism.

CONCLUSION

This research is in the final phase of data collection and therefore we still do not have the results of this investigation. However, we expect to achieve the construction of indicators in relation to the student knowledge base and the teacher knowledge base. Thus the analysis categories will be related to the two large

sets of inter-related data: those related to the student knowledge base and those related to the teacher knowledge base.

It is hoped that these indicators will aid, with a set of knowledge on the topic studied, the decision-making process of the school community, teaching system and other sectors of educational interest. Knowledge that is linked, mainly, to teacher action and their individual and collective training needs that provides professional development for each teacher. Such indicators will be able to be used as base elements for the construction of actions that are unique to each school context and culture, taking as a reference point the characteristics of each group studied – the investigation collaborators that belong to the different Brazilian states and who are in different stages of their careers. Also, that may still act in the way teachers think and act (Reali, 2001).

The construction and assessment of educational indicators will provide reference points to describe and support the complex and varied nature of teaching work and this will detail what teachers need to know, understand and be able to do as well as offer guidance to the structures that can support the training and development of teachers.

We also believe that success in the context of any continuous teacher training program is intertwined with the capacity of the school units to implement the individual and collective projects that respond to their concerns and thus build up some platforms to help overcome the problems that they deal with in their own universes.

An investigation, such as the one being reported here, aims to allow the participants to "interact and modify their ways of thinking, learn new actions and transform their professional identities" (Reali, Tancredi & Mizukami, 2006, p.158) and begin to build themselves up into a learning community, albeit virtually, so that they can reflect on their professional roles, as the context of the work is conceived as a place for constructing professional teaching knowledge where it is possible to diagnose, propose and intervene.

Thus, by reflecting with the teachers on how the definition is reached of the specific content to be learnt by the children, the degree of proficiency to be reached, how the students will learn and why they should learn articulated with the teacher's knowledge, we propose to construct and assess professional development indicators for teachers that work in the initial years of primary education.

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112 - Contextualistic Insight to Judging Good Practice: Dynamics of Professional, Situational, and Personal Contexts in Teaching

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Abstract: This paper addresses the contextual nature of teachers' pedagogical activities. Findings suggested that teachers' activities can be judged upon in line with three intertwined contextual dimensions of teaching: professional, situational and personal. Each of these contexts had different characters and categories, based on which the teachers acted in the classroom. The teachers argued that their practices were good enough because they were done according to the realities of these contexts. A meta-analysis on the findings suggests that foundational epistemology should be replaced by contextual, if one wants to judge the "goodness" of teachers' practices.

Keywords: Contextual epistemology, practical argument, teacher thinking,

INTRODUCTION

The "contextual character" of teaching has been discussed from different perspectives. A group of teacher educators and educational researchers reflect on the pedagogical dimension of teaching and argue that life in the classroom is volatile. Thus, the theoretical pedagogical knowledge may not fully meet the demands of teaching context (Gholami, 2011; Clandinin, & Huber, 2005; Elbaz, 1981; Meijer, Verloop, & Beijaard, 1999; Pendlebury, 1990; Toom, 2006). From this perspective, teachers use their practical knowing to acknowledge the unstable environment of teaching profession. This perspective suggests that judging good teaching may not be obtained from the viewpoint of others; therefore there would be no fixed criteria or standards to see if teachers and students were engaged in suitable activities in the classroom.

From a different perspective, analytical philosophers raise a simple question: how does one, as a third-party i.e., an external inspector, knows that teaching practice is taking place in the "sound" way upon entering a classroom (e.g., Hirst, 1971)? This reflection indicates that anything that teachers are doing in the classroom may not represent good teaching activities and thus, teachers are supposed to acquire the "necessary and sufficient conditions" for doing sound teaching (Stickney, 2009). Several other philosophers of education support the same standpoint arguing that teachers should show that their practical knowing and practices are "reasonable" and "good enough" (e.g., Fenstermacher, 1994; Feiman-Nemser & Floden, 1986).

This means that "wisdom of teaching practice" does not entirely follow the same rationality in analytical philosophy, and thus, judging sound or unsound teaching should be based on different criteria and procedures. In teaching, commitment to sound teaching is not grounded in "rational justification", but by teachers' "solidarity" in their narratives rooted in their historical background of which they have become that allows them to have a particular voice distinguished from others (Rorty, 1989). In other words, the concept of "true justified belief", which is the focus of foundational and traditional epistemology (e.g., Van Goor, Heyting, & Vreeke, 2004), may not be applied to context of teaching (Gholami & Husu, 2010). Therefore, "judging teacher performance requires deep contextualization….Sensitivity to teaching acts within complex settings such as classroom calls for extended, situational analysis and constructive feedback, instead of one-off visits employing category rating systems" (i.e., providing checklist for visitors to see if teachers were engaed in suitable activities) (Stickney, 2009, p. 214). This contextualistic epistemology is acknowledged because not only it meets the demands of unpredictable incidents in the classroom but also targets the morally-loaded commitment toward students. Contextual approach to reflecting on "good" teaching, however, is both theoretically and empirically understudied. Even though philosophical reflection on contextual epistemology in teaching has put it in the public discussion, empirical studies give us more insights into topic: educators know how this important issue, regarding to teaching and teacher education, can be seen and understood from the inside. This paper discusses the results of an empirical study on contextual epistemology in teaching from teachers' perspectives.

METHODS
Design and participants
Using a "concurrent nested mixed strategy", I studied teachers' insight into the context of teaching. This approach has a predominant method that guides a research project. "Given less priority, the method (quantitative or qualitative) is embedded or nested within the predominant method (quantitative or qualitative)" (Creswell, 2003, p. 218). The predominant approach of this study was qualitative: quantitative method was nested within its data analysis phase. I "purposively" (Creswell, Plano, Clark, & Nebraska, 2007) decided to select the participants who had been teaching at least four years. Based on this specific qualification, the semi-structured interviews conducted with six elementary teachers from Helsinki (Finland) and two middle school's teachers from Iran were the source of data in this paper. Table 1 shows the participating background:

Table 1: the participating teacher in the study

Participants	Teaching experience (year)	Grade	Gender	Education	Nationality
Teacher 1	4	4 and 5	Female	M.A.	Finland
Teacher 2	4	4	Male	M.A	Finland
Teacher 3	9	3	Male	M.A.	Finland
Teacher 4	10	5	Female	M.A.	Finland
Teacher 5	15	3 and 5	Female	M.A.	Finland
Teacher 6	17	4	Female	B.A	Finland
Teacher 7	8	7-9	Male	M.S	Iran
Teacher 8	6	10-12	Female	M.S	Iran

Data analysis
Relying on the "grounded technique" of analysis, *at the first phase*, I started the process of data analysis from semi-structured in three steps. After reading the most part of data and having a general sense of it, in the first step *(open coding),* I analyzed the data related to the least and most experienced participating teachers. In this stage, I wanted to reduce the data to meaningful chunks. Each chunk was a coherent part of data in which a main idea was embedded. I extracted the main idea of each chunk with a very abstract description including few words or short sentence. In the second step (*axial coding*), the main ideas and meanings embedded in each chunk of the data (i.e., the data related to same teachers in the first step) were reviewed and examined to see how they might be clustered into slightly more abstract categories. In this way, it was possible to attribute chunks with common meanings and intentions to a particular category. These categories were called "lower categories". At the end (*pattern coding*), I clustered lower categories into a small number of "upper categories". Then, Upper categories were used to generate the highest level of meaning in the categorization: the theme (see table 1). At this phase, I developed initial system of categorization including different categories and subcategories.

At the second phase, I entered the other part of data related to other four teachers into Atlas.ti for following purposes: (a) to see how categories and subcategories in the first phase may explain the new part of the data, (b) to establish a link between the whole data analysis based on the structure of Atlas.ti, including different objects such as memos, codes, and texts in order to be able to organize and find the patterns in the data analysis, and (c) to gain an quantitative insight into the data based on the total number of analyzed codes. At the end of this stage, I could make sense of data both qualitatively and quantitatively.

Table 2: Reduction of main ideas to categories in the process of data analysis

Main Ideas extracted from chunks (3 chunks)	Lower category	Upper category	Theme
(a)Teacher did not allow students to ask question during the teaching so that the lesson would be finished on time, questions during the course of teaching are a waste of the time;(b) teacher did not allow students to talk to each other so that they can concentrate on lesson; (c) teacher asked a student to go the corner of the classroom to allow other students to work.	Fear about fulfillment of learning tasks	Preventing pedagogy	Professional context

FINDINGS

I studied the teachers' reasoning and justifications behind their pedagogical beliefs and actions to understand the contextual character of teaching. There were three significant contexts in which the teachers' justifications were rooted: the practice of teaching as a professional context, the classroom of teaching as a situational context, and the voice of the teacher as a personal context.

Professional context

In this theme, findings indicated that teachers frequently pointed out that the purpose of their actions was to establish a good and suitable "learning environment". They wanted to do something that could help them conduct their classroom activities smoothly. Representing teaching as a contextual entity, the professional context was reflected in the teachers' practical arguments in two distinct ways: "initiating pedagogy" and "preventing pedagogy".

Initiating pedagogy

The first important area of professional context was found to be related to the pedagogical practices that the teachers "initiated" and "accomplished" in order to move from the "existing typical condition" to a "more enriched learning space" in order to foster the learning capacity of the students. In this way, even though teaching situations were running in a normal way, the teachers wanted to improve the learning atmosphere in their classrooms. The initiating pedagogies aimed at different intentions, including "fostering the learning properties" and "nurturing the character" of the students.

As a significant base for their actions, teachers tried to help students improve their learning properties including three important dimensions: "higher order thinking skills", "learning orientations" and "learning engagement". These elements were interrelated, complementary and sometimes overlapped to each other. The first dimension (i.e., higher order thinking) included strategies that could enable students to find reasons for their learning tasks and thus to judge and evaluate them; to think rationally and ask logical and sensible questions in the classroom; to answer the questions with evidence and good reasons; to enhance their thinking processes; and to construct knowledge on their own. From this point of view, improving higher order thinking skills was conceived as a valuable pedagogical task and thus, teachers should provide an instructional environment such that students' skills in this category would be fostered.

The second dimension of improving students' learning properties was to enhance the students' learning orientations. Data analysis showed that the learning orientations were different from higher order thinking in that, the former dealt with the level of students' thinking and learning while the later was related to the ways and skills which students supposed to apply them for enhancing their higher order thinking. Enhancing the students' meta-cognitive skills in learning tasks (i.e., learn how to learn) and social skills in interaction with others were two basic elements that the teachers intended to realize in regarding to the students' learning orientation.

Improving "active engagement" in the classroom was another significant element of teachers' justification in line with enhancing the learning properties of students. In this area of concern, the teachers indicated the importance of encouraging and confirming students to participate in the classroom activities (e.g., answering the teacher's questions or asking relevant questions); keeping the learning motivation alive; accommodating individual differences (e.g., designing more challenging learning tasks for capable and gifted students, and normal tasks for other students); and encouraging the passive or less-motivated students to be more engaged in the classroom. The following example shows how active engagement represents the "initiating character" of the teachers' pedagogy. The teacher has decided to start and "accomplish" a risky action (i.e., asking more questions may interrupt the classroom flow) in order to enhance the learning engagement of students:

> …even though it may interrupt the flow of my teaching, I try to call on students to answer my questions many times in a single lesson because it provides a good means for them to engage in and to think about the concepts in the lesson. I know this encourages most of the students to take the risk to answer my question or ask their questions (T2).

From the teachers' perspective, the data indicated that active engagement was of the most significance in the initiating pedagogy. Teachers supposed that through active engagement, they would be able to accomplish many other intentions that they had for the students (e.g., such as enhancing social and problem-solving skills by active engagement in learning tasks).

Along with the academic and learning-based intentions, the data suggested that the teachers focused on the "nurturing the personal character of students" as an important dimension of their professional obligation.

Here, the teachers' actions aimed at establishing good behavioral norms in the classroom life that supposed to "enable" the students to have effective and constructive interaction with others in different social contexts, including the classroom and society as a whole. At the classroom level, the teachers wanted to teach students to encourage them to learn how to respect, cooperate, have fairness, be polite, and take turns in classroom activities vis-à-vis their classmates. Teachers 6 and 7, for example, argued that teaching was not only transmitting content of the text books and pointed out that "one of the things that I have told the parents of students is that I want to focus more on getting the students to behave well and be polite, empathetic, friendly and nice to each other before I start working with academics".

At the social level, the teachers argued that their actions and supporting knowledge were good since they could teach students to learn how to cope with their social problems, participate in social events (e.g., how to attend a concert), be ready for the future by shouldering social responsibilities (e.g., career), and be tolerant toward the others' values and cultures in the social encounters. For example, teacher 5 several times had her lunch with students. She pointed out that "these students need to learn how to behave in the social contexts. When I have lunch with them, they have a good feeling and during the lunch, we discuss many things related to matters out of schools". Teacher 8 argued that students must be "sensitive to social issues in such a way that we teachers be able to encourage and motivate them become good citizens". Teacher 7 stated, "if needed, he will scarify academic side of his job in order to enhance and nurture the character of his students". From this point of view, teachers conceived classroom life as a virtual community and a bridge to real society, and students needed to practice the necessary behavioral skills in order to be ready to live in their societies. In my interpretation, this was a part of the teachers' pedagogical obligation that turned the teaching into a professional context.

Preventing pedagogy

The data revealed that teachers in many of their pedagogical decisions expressed a kind of "fear" regarding to some undesirable events that might happen in the classroom. Accordingly, teachers assumed that in the professional context of teaching, there would be obstacles to interrupt the learning activities. Because these dilemmas have an effect on the function of both teachers and students, thus there should be appropriate and practical actions for resolving them. This part of the teachers' practices was related to what I call "preventing pedagogy", i.e., the kind of pedagogy that deals with tight spots in the classroom in order to prevent unpleasant and unwanted events. Preventing pedagogy was found to address the following examples:

- Fear about managerial smoothness in the classroom,
- Fear about right fulfillment of learning tasks, and
- Fear about students' negative affective reactions.

The fundamental intention underlying "managerial smoothness" was to prevent "educational disruption" while teaching. The teachers pointed out that they had classrooms including many students with different characteristics, and if there was any interruption in the instruction, then it would cause a muddled situation wherein students might not be able to maintain the momentum of the lesson and lose their concentration. The data suggested that the teachers had two distinct types of managerial concerns while teaching: preventing misbehaving and the desire to establish discipline and order in the classroom. Teacher 7 argued that "a classroom needs order and I always inform my rules and regulations to the students at the beginning of each academic year". Teacher 2 stated that as a teacher, "you sometimes have to consider time limits and tell students to shut up if they break the rules and suspend them".

The second type of preventing pedagogy was the teachers' fears about whether the students performed learning activities in the right ways. The teachers explained that they wished to inform the students their mistakes and prevent any misunderstanding in the learning of academic concepts. Teacher 2 rejected to use group-work strategy in the classroom because he assumed that "this method is wasting time since most of the time, I see students would involve in talking and doing funny things and they pretend that they know things and do tasks in the right way, but it is not really true".

The third type of preventing pedagogy fear about students' negative affective reactions. The most prevalent example was found to be related to what the teachers called "misjudging". Teacher 3, for example, stated that "he gave permission and opportunity to students to ask any question during the break after teaching, because he had such belief that if one student comes many times to the teacher and ask questions, then the others may think that he/she is kind of a stupid student. Another significant example of teachers' fear of negative reactions was when the teachers feared to be the target of students' negative emotions. The teachers said they would avoid any action that caused a negative emotional reaction from students toward them. For example, they tried to avoid "criticizing the students or pressing them to answer questions in front of

classmates" since the students might become irritated and thus form a vague and negative picture about the teachers and their pedagogical activities.

To sum up, preventing and initiating pedagogies were at the core of professional context. Preventing pedagogy differed from initiating pedagogy in the basic intention that was behind each. Preventing pedagogy was "risk-averse and associated with different senses of urgency…teachers may feel a greater sense of urgency to avoid those things they fear than to accomplish things they hope for" (Kennedy, 2004, p. 15). Thus the primarily intention was to maintain the existing learning environment in such a way that nothing challenging would happen. The teachers wanted to encourage the students to "fit" their different capability and interests in the "structure of the classroom". Initiating pedagogy, however, was risk-taking and teachers wanted to enrich the quality of the existing learning environment even though they might face challenges. The main intention of this category was to provide a context in which students could actualize their potentials. In other words, it aimed at enhancing the "students' agency": the teachers' intentions were to improve the "students' capacity" for making choices and impose their choices on the "classroom and school structure".

Preventing pedagogy was applied to avoid losses or at least achieve some benefits by keeping the current situations, whereas initiating pedagogy was carried out to achieve more benefits. A meta-analysis on findings shows that in the teaching context, preventing and initiating pedagogies are not isolated from each other, but intertwined: realizing the intentions embedded in preventing pedagogies may be considered the pedagogical basis for moving toward initiating pedagogies and realizing their associated intentions. In line with the research task, I should argue that both initiating and preventing pedagogies are important in providing a healthy environment for students to learn and be nurtured. Thus actions and beliefs associated with these pedagogies may help us to have a fair judgment about the goodness of teaching practice.

Situational context

In this category, the data suggested that the particularity of events in the classroom situations was reflected in the different interventions. These interventions were found to be external variables that could bring some constraints to the teachers' pedagogical flexibility. In other words, each intervention could reflect a particular situation in which the teachers were able to act in particular ways. Two significant examples of grounds related to a situational context were, what I called, "hard" and "soft" interventions.

Hard interventions were related to the general aspects of teaching. Variables such as time of teaching (e.g., morning or afternoon), size and location of the classroom, equipments in the classroom and the number of the students in each classroom were found to be associated with hard interventions (Gholami & Husu, 2010). These were called *hard* interventions because they were related to the physical and non-instructional aspects of teaching which were found to be more exact, obvious, specific, and consistent in their characteristics: each hard intervention was narrow in its focus (e.g., the size of a classroom –as a justification- focused on crowded or less-populated situations; in addition, everybody probably had a clear picture of a highly populated or a less-populated classroom). Participants 7 and 8 argued that "depending on the age and grade of students they will teach different.

Soft interventions were another set of grounds related to situational context that teachers addressed in their arguments. Moreover, soft interventions were categorized under situational context since they were found to mediate (e.g., limit) the pedagogical decisions of teachers in the particular situations in a given class. Variables such as the subject being taught and learner characteristics were found to be two important and most frequently stated soft variables in the teachers' practical arguments. They were called *soft* interventions because they tended to be more diffuse, playful, and capable of dealing with various intentions: each soft intervention covered a wide area (e.g., learning capacity of pupils covered a wide range of interpretations which were not clear-cut or exact in meanings). Curricular structure of subjects, the learner's characteristics, background, and behavioral norms were basic examples of soft interventions.

Personal context

The "voice" of the teachers was found to be a significant entity affecting many pedagogical decisions in the classroom. The data suggested that this voice rooted in the teachers' "lived" experiences. The teachers had different family background, cultural values and even professional experiences and these differences shaped the "deepest" layer of thinking directing many pedagogical decisions. I called this kind of thinking "phenomenological pedagogy" in that the teachers found to look at the classroom situations and professional contexts from the perspectives of "-old" and "new" experiences that they had both "outside" and "inside" of the school community. I found that the voice of the teachers was a strong pedagogical tool in the filtering in or out the pedagogical decisions that were made based on principles and rules of "situational" and

"professional" contexts. The following example shows how the teachers' phenomenological pedagogy read issues in the situational context:

> (Q: I am observing that though the teachers in your school do not have very different classrooms, they approach very different rules and principles in their teaching. Do you have any idea?) A: Well! I think it is because the teachers themselves are different in many ways; we have different values come from our family and culture from our 'collective unconsciousness'. For example, I have lived and studied in a South African culture and thus, the way I look at things happening in the classroom would not be isolated from my background even though I try to do so. Sometimes, it is not you and your 'personal consciousness' that decide what to do, it is the various experiences you had; the experiences that establish a collection of deep values that turn you into a distinctive persona" (T3).

The teachers' phenomenological pedagogy was also influential in making decisions that were inconsistent with the principles embedded in the professional context. In such cases, the teachers argued their pedagogical and theoretical training would not help them a lot in establishing a good learning environment. Teacher 5 stated that "my personal experiences do not confirm the effectiveness of many pedagogical theories that I learned in the teachers' training program; I am not even going to ask my colleagues to help me because they have different views that I do not believe in."

CONCLUSION

From what I presented in this paper, I come to the conclusion that when the teachers "reason" about their practices, their thinking helps us to gain a good insight into the contextual character of the teaching. As mentioned, the data suggested that the teachers' reasoning or practical reasoning is rooted in three different but intertwined contexts: the professional, the situational, and the personal. The first set of grounds shows that the profession of teaching is considered to be a specific context demanding for particular courses of action because it is bound up with pedagogical obligations and competency: teachers need to apply different pedagogies with various functions in order to meet professional obligations. The second set of grounds indicates that the teaching classroom is also a particular context because pedagogical decisions are situational in each classroom. The situational character of pedagogical decisions is restricted to the various interventions in each encounter in different classrooms. Teachers most often decide what to do in line with interventions embedded in each situation. The third set of grounds suggests that each teacher has different experiences compared with others and thus perceives pedagogical obligations (in the first ground) and situational intervention (in the second ground) in different ways. Based on what has been mentioned, at the core of the professional context, pedagogical commitment is placed in order to enrich and improve the learning environment; what makes a given classroom situational context is "the domination of some interventions and urgency of action upon them"; and what turns teacher into a personal context is "the authority of voice and perceiving" rooted in different life experiences. Therefore, the teachers usually wanted to argue that "I take a particular action because":
- It is based on my pedagogical obligations (i.e., preventing and initiating pedagogies) rooted in the professional context;
- It meets the demands of situational interventions in the classroom (i.e., hard and soft interventions) rooted in the situational context; and
- It accords with my lived experiences rooted in my personal context.

To gain a clearer understanding of these three contexts, I nested a quantitative description while analyzed qualitative data. I simply counted the amount of the chunks or main ideas related to each category. Table 3 shows the frequency and the percentages of the main subcategories occurring in the contextual grounds:

Table 3: Distribution of contextual main subcategories based on chunks analyzed

Contextual categories	Frequency	Percentage
Preventing pedagogy	64	27.8
Initiative pedagogy	49	21.3
Hard intervention	23	10
Soft intervention	52	22.6
Personal view of the teachers	42	18.3
Total	230	100

The data indicate that in 49.1% chunks (i.e., coding units), teachers have relied on professional context, including preventing and initiating pedagogies in order to justify their activities; in addition, preventing pedagogies with 27.8% had the highest amount in this analysis. From the data related to situational context (i.e., hard and soft interventions), teachers mostly used soft interventions to support their practices.

DISCUSSION

As noted by Pendlebury (1990), life in the classroom is characterized by three related features: practice is 'mutable' because it changes over time presenting us with new configurations that cannot be ignored if our deliberations are to be sound. The world of practice is 'indeterminable' because practical questions necessarily arise within particular contexts. The third feature is the 'particularity' that comes from the previous features and makes practice particular for making any decision. Accordingly, consistent with existing reflection (e.g. Boyles, 2006; Carr, 2005; Dunne, 2005, 2003; Hamilton, 2005; Gholami & Husu, 2010; Gholami, 2011; Noddings, 2003; Schwandt, 2005 Pendlebury, 1990; Stickney, 2009; Van Goor et al., 2004), this study suggested that judging "sound teaching" cannot be met with foundational and a third-party logic. In several papers (e.g., Fenstermacher, 1994; Fenstermacher & Richardson, 1993), Fenstermacher has argued that teachers need to support their activities and knowledge with good evidence. He has pointed out that a person called "the other", in a practical argument, should elicit and reconstruct the true value of the premises in the mind of teachers. This study suggested that the "true value" of the teachers' practices was embedded in the "practical" and "practicable" (Gholami, 2011) realities of the classroom life. "The other" upon entering a classroom should consider the contextual character of teaching while judging the goodness of a teacher's activities. Drawing on Wittgenstein, Stickney (2009) critizises the foundational epistemology and maitains that "the complex weave of practices and reations that constiute our *form of life* unltimately grounds our 'agreement in judgement'…judgement concerning teachers, their pedagogical knowledge and the 'sanity' of their practices" (p. 202).

I would like to argue that this contextual character does not mean that teachers can do "anything". Instead, the findings suggested that the teachers' professional identity was shaped and re-shaped as a result of interactions among dynamic "criteria" embedded in the "professional", "situational", and "personal" contexts. Therefore, the argument for "escaping enthrallment in the criteriological approach offers no escape from criteria themselves; rather, complex practices, such as repertoires of teaching acts or cases of professional development become the criterion for recognizing something as *this* or *that*" (Stickney, 2009, p. 201). Professional, situational, and personal contexts, elaborated in this paper, can be considered as an empirical insight to judge the "soundness" of teaching practice (for more insight see Van Goor et al., 2004). Even though I have classified the contextual grounds into three categories, it does not necessarily mean that each category precisely reflects a clear-cut concept isolated from the others. Instead, these contexts are related to each other in different ways and most of the time they overlap each other (see figure 1).
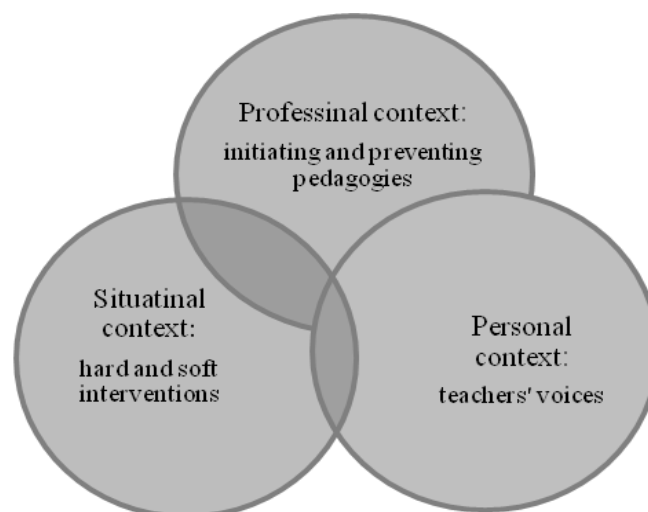
Figure 1: Relationship among three dimensions of contextual teaching.

As it can be seen, on the one hand, the pedagogical obligations (i.e., the initiating and preventing pedagogies) for improving the learning environment as the main intention rooted in professional context "overlap" and "influence" the intentions entrenched in the other two categories. On the other hand, according to various interventions in the situational context and teachers' voices in the personal context, teachers "filter

in or out" the degree of pedagogical obligation and thus change the nature and the function of pedagogical practice. In the situational context, for instance, teachers try to act on the urgency of the situation while still remaining committed to the pedagogical principles in order to improve and enrich the learning environment on the one side. The urgency of a situation and its associated interventions could change the type of pedagogical actions on the other side. For example, the pedagogical obligations for coping with the demands of a big and crowded classroom are different from what is required for a small and less populated classroom. There are also degrees of pedagogical commitment in the personal context where teachers see themselves as the source of decisions.

This part of finding is consistent with Kennedy's finding (2004) in which teachers were found to have confliciting pedagogcal activities. Due to unpredictable conditions of the classroom, I also found that the teachers' pedagogical practices inherent from situational or event personal contexts were sometiems inconsistent with their intentions in the professional context. Based on the findings from this study, a further line of research would be to examine the "analytical" interactions of the three mentioned contexts since the current work is only suggesting a "discriptive" picture regarding to how these contexts are related.

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127 - Professional Mathematics Teacher Identity in Pre-service South African Teachers: A Case Study

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Abstract: This case study investigates professional mathematics teacher identity (PMTI) in the context of tertiary education, probing its origins, characteristics and development in the final year of study. In this study PMTI is defined as the conception of self-as-a-mathematics-teacher, consisting of an integrated and clustered system of personal and professional beliefs about mathematics and teaching, and about learners and learning and is continually developed through different contexts. The context here is the final teaching practicum in which students are sent out to schools as student teachers under the guidance of a mentor teacher. This particular case concerns a young pre-service teacher of Indian origin. Qualitative analysis of the data gathered through a questionnaire, observation and interviews revealed that her cultural background, set against the backdrop of education in South Africa, is significant in the formation of her PMTI. She seemed to hold conflicting beliefs with regard to teaching and learning, without apparent internal conflict: while she espoused the notions of learner-centred education as taught at university and deprecated the apparently teacher-centred schooling she herself received, her own teaching style was clearly more teacher-centred than she perceived. Her perception of mathematics and her understanding of its purpose were inextricably intertwined with both her teaching style and her level of involvement with her students. The efficacy of her tertiary training in terms of the development of her PMTI is examined against the manifestation thereof in the classroom. The particular thrust of this study is the investigation of PMTI *before* commencement of a career as mathematics teacher.

Keywords: Beliefs, mathematics teacher education.

INTRODUCTION

> Who is the self that teaches?" is the question at the heart of my own vocation. I believe it is the most fundamental question we can ask about teaching and those who teach – for the sake of learning and those who learn. By addressing it openly and honestly, alone and together, we can serve our students more faithfully, enhance our own wellbeing, make common cause with colleagues, and help education bring more light and life to the world. (Palmer, 2007, p. 8)

This study aims to investigate who the "self that teaches" is in pre-service mathematics teachers. The young South African education student who decides to teach mathematics is a person with the potential to make a difference to the mathematics classrooms in this country. So this research purports to gain insight into the professional identity of the pre-service mathematics teacher for "the sake of learning and those who learn".

The term "identity" comes from the Latin, *identitas*, literally meaning "sameness", which seems ironic given the uniqueness of identity as an individual construct. However, to the casual observer on any ordinary weekday on the campus of the University of Pretoria's (UP) Faculty of Education, there is a certain "sameness" to be seen: the students are all young, apparently focused as they file into the lecture halls, all apparently unified in their intention to become teachers, all interacting in the context of their tertiary training. There is thus a sociologically constructed 'group identity', such as is described by Wenger (2000) as a community of practice, of which such a casual observer might become conscious. According to Gee (2000), there are several terms in circulation which also refer to identity, like 'subjectivity' for example. However, to him the concept is best encapsulated as follows: "Being recognized as a certain 'kind of person', in a given context, is what I mean here by 'identity'. In this sense of the term, all people have multiple identities connected not to their 'internal states' but to their performances in society" (p. 99). He continues to say:

In today's fast changing and interconnected global world, researchers in a variety of areas have come to see identity as an important analytic tool for understanding schools and society. A focus on the contextually

specific ways in which people act out and recognize identities allows a more dynamic approach than the sometimes overly general and static trio of "race, class, and gender." (p. 99)

In recent years there has been an increase in academic interest in the concept of identity, stretching across all fields of academic endeavour. Fearon (1999) actually traced this growth by monitoring the number of dissertation abstracts that were available on-line since 1981 and which contained the word 'identity'. He found that between 1981 and 1995, for example, that number rose from 709 to 1 911. However, Abdelal, Herrera, Johnston, & McDermott have identified a danger in the plethora of research and interest in 'identity': "To the chagrin of the social scientific community, it is in large part this same ubiquitous sprawl of scholarship that has undermined the conceptual clarity of identity as a variable" (p. 695).

While there is a generally observable "community of practice" (Wenger, 2000) type identity of the education students at UP, when the observer is not 'casual' and the focus of research narrows down beyond what can be noticed by just walking along the faculty's corridors, the question of professional identity arises – who are these students as professionals in their field? In Gee's words, what kind of person is this in this given context? Now the "clarity of identity as a variable" in terms of their *professional* identity as *pre-service* teachers of a specific subject (mathematics, in this case) is not evident and requires investigation. What does it look like? How is it acted out in the classroom?

According to Borko and Putnam (1996), students come into tertiary training with "entering perspectives [that act] as a filter that determines how experiences within the teacher education program are interpreted" (p. 679). These filtering "perspectives" are recognised in this study as part of the professional mathematics teacher identity (PMTI) of such students, which is already in existence before they attend a single university module. These students are eventually, after three years of training at UP, sent out to schools for a practical teaching period. Palmer (2007) declares that "we teach who we are" (p. 2). By implication then, that "who we are" only becomes visible when "we teach". So, the professional identity of these pre-service mathematics teachers needs to be observed in action in the classroom, so that we can gain insight into the "kind of person" (Gee, 2000, p.99) that is to be released to teach in the South African mathematics classroom.

Context of the study

In South Africa, despite internationally recognised changes that have taken place in the country since 1994, there remains a deep and serious concern about the state of mathematics education in this country. The word "crisis" has been bandied about in the media and a large portion of blame has been placed upon the teachers and what happens or does not happen in the classroom. Ensor and Galant (2005) analyse the situation as follows: "While the pathology is widespread... we are concerned that research has this far failed to ascribe to teachers and learners a positive subjectivity [identity]. We know what they don't do, but we have not adequately grasped *why* they do what they do" (p. 301) (emphasis added). I believe that this question 'why?' is best answered by an investigation into the professional identity in the early stages of its development. Bullough (1997) confirms this:

> Teacher identity – what beginning teachers believe about teaching and learning as self-as-teacher – is of vital concern to teacher education; it is the basis for meaning making and decision making. ...Teacher education must begin then by exploring the teaching self. (p. 21)

At UP, all students in the Faculty of Education who choose to train as teachers of mathematics have taken *mathematics* as a Grade 12 subject. In South Africa, all learners take mathematics as a subject to the end of the ninth grade of their school career. After that, they may choose to do either *mathematical literacy* or *mathematics* to Grade 12 level. Therefore these students have each been in a mathematics class for twelve years before commencing their tertiary studies. As students in the Department of Science, Mathematics and Technology Education, they are required to complete, amongst others, modules about mathematical content, the methodology of teaching mathematics, and teaching practicum, and after four years they are released into the professional world of teaching.

It is against this backdrop that this study takes place: it investigates the ways in which students studying to be teachers of mathematics at the University of Pretoria (UP) "act out and recognise" (Gee, 2000, p. 99) the identity described by scholars as professional and related to the teaching of mathematics (see Beijaard, Meijer & Verloop, 2004; Boaler & Greeno, 2000; van Zoest & Bohl, 2005; Day, Kington, Stobart & Sammons, 2006; Graham & Phelps, 2003; Hodgen & Askew, 2007; Jita, 2004; Lasky, 2005; O'Connor, 2008; Walshaw, 2004; Zembylas, 2003). In this study, this specific identity is called Professional Mathematics Teacher Identity (PMTI).

Professional teacher identity
Abdelal et al (2006) describe the literature around professional identity in string terms: "the current state of the field amounts to definitional anarchy" (p. 695). The literature indeed abounds with a variety of definitions ranging from descriptions of development and function to lists of constituents. In this study professional identity is seen as a narrower version of the concept of identity. It is not the same as the "core identity" which "holds more uniformly, for ourselves and others, across contexts" (Gee, 2000, p. 99); and "is experienced by individuals as 'core' or 'unique' to themselves in ways that group and role identities are not" (Hitlin, 2003, p. 118). Professional teacher identity can simply be defined as 'who I am at this moment in this context' (Beijaard, Meijer & Verloop, 2004).

PMTI is a further narrowing of professional teacher identity in that it relates 'who I am' specifically to the mathematics classroom and the subject itself. PMTI is also narrower than Mathematics Teacher Identity, described by Bohl and van Zoest (2002) as a unit of analysis, which may include those who, although they teach mathematics from time to time or for a period, are in fact not professional mathematics teachers – they may have been co-opted into teaching the subject because there is no one else to do so in a particular school, or some such circumstance. In South Africa this happens frequently. Graven (2004), for example, tells the story of some teachers she worked with:

> For example, Moses explained that it was not considered politically acceptable as a black student to study mathematics when he was at school and college. Rather, one had to study history and other subjects considered important for the struggle against apartheid... Moses had therefore studied to become a history teacher but became a teacher of mathematics due to the shortage of mathematics teachers. Another teacher, Barry, despite having taught mathematics and headed a mathematics department for many years, explained that he was not a mathematics teacher since he did not 'even' study mathematics at high school. He called himself an art teacher since this is what he had studied ... Similarly... Beatrice used to introduce herself as 'the music teacher' despite teaching predominantly mathematics classes. These examples illustrate an effect of South Africa's apartheid history. (p. 189)

The term Professional Mathematics Teacher Identity is posited in this research as involving an individual who has studied the subject for the specific purpose of teaching it.

CONCEPTUALISATION OF THE RESEARCH
In the interests of an in-depth investigation into pre-service PMTI, this identity is examined in terms of how it develops and what it looks like. The literature (van Zoest & Bohl, 2005; Varghese, Morgan, Johnston, Johnson, 2005; Boaler, Wiliam, & Zevenbergen, 2000; Beijaard, 1995; Kagan, 1992) indicates that teacher identity is not a simple, unitary construct, but has both social (in-the-community) and personal (in-the-mind) roots, and that its nature is complex (Cooper & Olson, 1996; Stronach, Corbin, McNamara, Stark & Warne, 2002; Zembylas, 2003 Beijaard, Meijer, & Verloop, 2004).

This complexity is addressed by dividing the investigation into three main thrusts, dealing with the formation, nature and manifestation of PMTI. The overarching question is refined in three sub-questions.

How do the pre-service students at the University of Pretoria perceive the development of their Professional Mathematics Teacher Identity and how do the perceptions they have of this identity relate to the realisation thereof in the classroom?

In what way do the influencers of PMTI shape its development? This study looks at sociological and personal influencers which lie within the various contexts through which the student moves or has moved, like their schooling, cultural and family history, and the university experience itself. PMTI is described by researchers as something which is continually changing, growing, developing, situated, not fixed but dynamic. Thus the tendency to *develop* is part of its nature; consequently PMTI is subject to influences which modify it in some way. The literature indicates that the dynamics of environment and individual experience influence the formation of teacher identity in the learners who are being taught.

Beijaard et al. (2000) identify three influencing factors on the mathematics teachers' professional identity: the teaching context, her teaching experience and her biography. Where Beijaard was studying the professional identity of experienced secondary school teachers, this study concerns pre-service teachers in their final year of study. Beijaard's three influencers may in *this* context thus be seen as the tertiary environment (Wenger, 2000; Stuart & Thurlow, 2000; Smagorinsky, Cook, Moore, Jackson & Fry, 2004;

Brouwer & Korthagen, 2005; Grootenboer, 2006; Spalding, Klecka, Lin, Wang & Odell, 2011), the teaching practica (Freese, 2006; Hiebert, Morris, Berk & Jansen, 2007; Walshaw, 2010) and the student's personal background. This includes schooling (Kagan, 1992; Ball, 1993; Boaler & Greeno, 2000; Liljedahl, 2007), and biography (Day & Leitch, 2001; Beijaard et al., 2004; Anderson, 2007; MacGregor, 2009).

Researchers like Thompson (1984), Ernest (1988), Cooney (2003) and Cross (2009) have also found that the teacher's view of the subject mathematics has an effect on their professional identity. The pre-service teachers' view of mathematics is important because it has an impact on the way they teach. Adler and Davis (2006) call this a "specificity to the way that teachers need to hold and use mathematics in order to teach mathematics – and [that] this way of knowing and using mathematics differs from the way mathematicians hold and use mathematics" (p. 272).

What are these students' perceptions of their PMTI? The actual nature of PMTI is best accessed through the perceptions of the person whose PMTI is being investigated, because, as Beijaard et al (2004) explain, "[t]he world of the self may appear to the outsider to be subjective and hypothetical, but to the individual experiencing it, it has the feeling of absolute reality" (p. 108).

According to Beijaard, Verloop and Vermunt (2000), this identity can best be studied through investigation of the teacher's perception of self as Subject Specialist, Teaching-and-learning Specialist and Nurturer (referred to in their study as pedagogics expert). In their research they assumed that "teachers' perceptions of their professional identity reflect their personal knowledge of this identity" (p. 750).

However, in order for the outsider of which Beijaard speaks to gain access to the reality experienced by the person in question, that PMTI must be allowed to reveal itself in the classroom. According to Fearon (1999), identities should be seen "both as things to be explained and things that have explanatory force" (p. 2). Thus, while the student can be asked to explain the nature of her PMTI, the nature of her PMTI also explains what she does in the classroom. Only in seeing the identity in action can analysis take place of the perceptions which constitute it. This gives rise to the third sub-question which deals with the manifestation of PMTI:

How is this identity actualised in the classroom? If Palmer (2007) is to be believed and "we teach who we are" (p. 2), then "who we are" as opposed to "who we think we should be" is what can be observed in the classroom. In observing the students at work in their classrooms, it is the intention to see how they carry out the various roles that teaching mathematics requires of a teacher. Grier and Johnston (2009) speak of an overlapping between identity and function: "Although some researchers call for a distinction between teacher identity and teachers' functional roles, the two concepts are not mutually exclusive and overlap considerably" (p. 59). However, I argue that identity is *actualised* in the classroom through the functional roles that are played.

By observing the person's classroom practice in terms of their mathematical expertise, their teaching-and-learning skills and the way they interact with the learners in a nurturing role, the actualisation of their PMTI can be studied in terms of Beijaard et al's categories. A more detailed breakdown of these categories is provided by Thompson (1984), who found that teaching-and-learning skills can be investigated through observing what the person sees as evidence that the learners understand, where the locus of control in the classroom lies i.e. whether the person's practice is teacher/learner centred, and how flexible their planning allows them to be. Beijaard's third category, nurturing, I found could be observed in action by investigating the evidence and purpose of the nurturing to be seen in the classroom. The conceptual framework used for this investigation is thus visualised as follows:
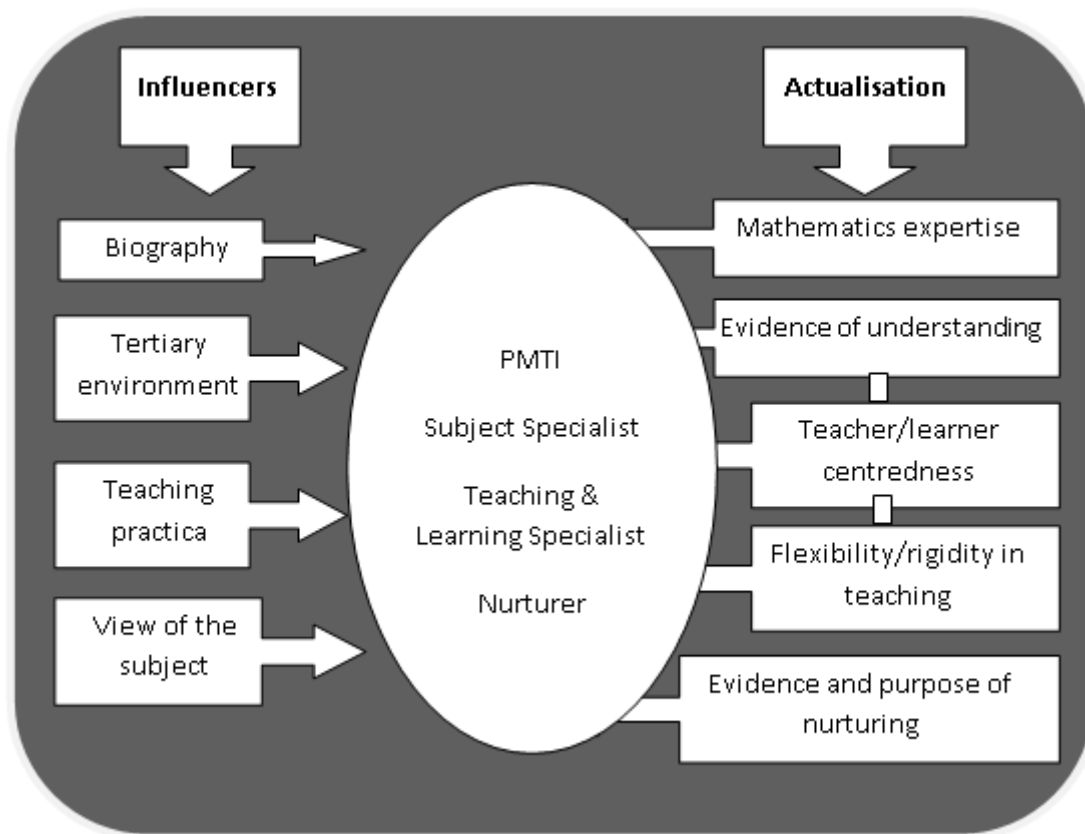
Figure 2: Conceptual framework for PMTI

METHOD

After an extensive literature study was completed, in which the development and nature of professional identity was investigated, it was decided that qualitative methodology was appropriate and that a case study would best facilitate the in-depth investigation of the PMTI of students at UP.

Sample and participants

At the University of Pretoria, the BEd (Bachelor of Education), a four-year degree, is currently constructed in such a way that the subject methodologies constitute a year-long module which is offered in their third year of study. The elective subjects, like mathematics, are taken alongside of education modules and other professional studies like educational psychology across the first three years of study. For three weeks at the beginning of each of the second and third years the students are sent out to schools on a short teaching practicum exercise, in which observation is their main task. During their fourth year the students undergo further academic training for the first quarter, where after they spend the second and third terms at schools doing their "internship" or teaching practicum. In the fourth term they return to campus for small remaining modules and the finalisation of their studies. The academic subjects like, in this case, mathematics, are taught during the first three years of study only.

It is within the context of this programme that this research was conducted. The target population for this case study was the mathematics education students of 2010 in the Department of Science, Mathematics and Technology Education of the Faculty of Education at UP. This population was chosen for two reasons: convenience (I have direct access to these students as their lecturer) and the demographic diversity for which the university is known. UP accommodates a large demographic diversity and a range of backgrounds in terms of the schools from which the students have matriculated. According to Paterson & Arends (2009), UP is the second most popular tertiary institution in South Africa for prospective educators, and thus is particularly characterised by the diversity of its students.

The population in question (sixty five in all) is divided into two: those students who are preparing to teach in the FET phase of high school and those students who will eventually teach Grades 4 to 9. The latter group, while majoring in mathematics, amongst other subjects, are not necessarily subject specialists – in fact those grades tend to require generalists in terms of their fields of expertise. However, the group of students who want to teach in the FET phase (of whom there were thirty one in 2010) are trained to be subject specialists

and are therefore those who, in theory, are not only *able* but who also *desire* to teach mathematics to learners who have chosen to continue with the subject to Grade 12 level. It is this group of students who form the sample for this study. Of the thirty one students, twenty five consented to be available for selection as participants in the study. Fourteen of the participants in the sample were female, and nine male.

An inquiry sheet was administered to these students providing biographical information regarding the type and environment of high school attended, Grade 12 results and sex of the participant. Prior to the political changes which came about in South Africa in 1994, education was generally segregated and there were "white" schools, the better of which were designated as Model C schools, and "black" schools, later usually referred to as "formerly disadvantaged" schools. Despite the changes of 1994, the general constitution and character of many of these schools have remained constant. The students were also asked to indicate whether they were intending to teach mathematics specifically upon qualification (they have three majors any one of which they are qualified to teach at FET level, depending upon their preference).

Working with Patton's principle that "if researchers assume that a variable may influence the data they should implement variations" (2002, p. 109), the process for identification of a maximum variation subsample began with the placement of the participants into categories based on the two most obvious variables: gender and race. This subdivision resulted in five fairly homogeneous groupings, three of which were female, and the smallest of which were Female-Indian and Male-white containing one and three participants respectively. These two categories were where the selection process began since they offered little choice in terms of who would be selected. Since there were three female categories and only two male, I decided that two participants would need to be selected from the Male-black category so that the number of female and male participants remained equal.

Thus three men (one English, one isiZulu and one Ndebele) and three women were selected (one Afrikaans, one Sesotho, and one Indian), according to the following selection process. The single participant in the Female-Indian category, Ayesha, qualified for selection into the subsample automatically by virtue of being unique in her category. Since two of the participants in the category Male-white indicated that they had no intention of teaching mathematics upon completion of their studies, they were automatically disqualified from selection into the subsample. That left just one participant, John, in that particular category. The category next in size was Female-black. Here there were four candidates, of which only three were intending to actually teach mathematics. Of these three, one stood out: Thandi had matriculated in a private school in the city. She thus became the third member of the subsample. The remaining two categories were the largest. Of the nine candidates in the Female-white category, all but one were educated in former Model C schools, whether in the city or rural. Since no single participant stood out, random sampling was done in this category and so the fourth participant, Martie, was identified. The final category, Male-black, presented near uniformity in terms of the first two selection criteria- almost all were from disadvantaged rural schools. There were two anomalies: one candidate from a private rural school, and the other from a former Model C school in the city. Since the participant in the Female-black category was from a private school, the second anomaly in the Male-black category, Sipho, presented the better option for variation purposes. Also, the private rural school candidate from the Male-black category had not passed several of the academic modules, including the third year mathematics methodology module, and was therefore not a suitable candidate for the sub-sample: his academic training was incomplete. The sixth candidate, Thabo, was then randomly selected from the conformity of the Male-black rural disadvantaged school group. Table 1 summarises the constitution of the subsample.

Table 1. Distribution according to sex, race, and high school of students in subsample

CODE NAME	SCHOOL ENVIRONMENT: CITY/ RURAL	TYPE OF SCHOOL: FORMERLY MODEL C/ FORMERLY DISADVANTAGED/ PRIVATE	MATRIC MATHEMATICS SYMBOL	INTENTION TO TEACH MATHEMATICS: YES/ NO
Female-white				
Martie	CITY	C	A	Yes
Female-black				
Thandi	CITY	PVT	E	Yes
Female- Indian				
Ayesha	CITY	DISAD	B	Yes
Male-white				
John	CITY	PVT	D	Yes
Male-black				
Thabo	RURAL	DISAD	C	Yes
Sipho	CITY	C	B	Yes

Data Collection: strategies and instruments

Two sets of individual interviews were held with these six students, one before and one after the teaching practicum. Classroom observation was done with them during their teaching practicum in the second term of the school year to strengthen the data collected verbally in the interviews. The questions were thus based on their observation of the student's subject knowledge, teaching-and-learning skills, and nurturing propensities.

Inquiry Sheet

An inquiry sheet was administered to the entire class of Fourth Year mathematics education students at the commencement of their methodology module. The inquiry sheet was a translated and adapted version of a questionnaire created by Beijaard et al in their investigation of "experienced secondary school teachers' current and prior perceptions of their professional identity" (Beijaard et al., 2000, p. 749).

This adapted inquiry sheet had a two-fold purpose. Yin (2006) recommends a "formal case study screening procedure" (p. 115) in a situation where a selection must take place amongst several candidates. The first section of the inquiry sheet supplied biographical data like sex, race (by virtue of surnames) and type of high school, providing the basis for the selection of the subsample. The second purpose of the inquiry sheet and one for which the questionnaire was designed by Beijaard et al, was to "explore the way teachers see themselves as subject matter specialists, didactical specialists and pedagogical specialists" (ibid., p. 749). This purpose was fulfilled in Section 2, which also provided a base for discussion in the initial interviews, as well as a basis of comparison between the students' perceptions of their PMTI and their practical outworking in the classroom. The second section of the inquiry sheet was divided into two parts: the first required the students to indicate their prioritisation of the three aspects professional mathematics teachers, using Beijaard's original terminology: Subject Specialist, Didactics Specialist and Pedagogics Specialist. The meanings of these terms were clearly set out in accordance with the conceptual framework of this study and were also verbally explained to the class prior to administration of the inquiry sheet. This sub-section therefore specifically delved into the way the students saw themselves as teaching professionals. The second part of Section 2 was also adapted to suit this study – it consisted of elucidatory open-ended questions in which the students explained both the reasons for their prioritisation, and how their tertiary contributed to those three aspects of their teaching identity. Here the students were to look at their professional identity through the filter of tertiary training.

Interviews

"We cannot observe feelings, thoughts, and intentions…[nor] how people have organised the world and the meanings they attach to what goes on in the world. We have to ask people questions about those things" (Patton, 2002, p. 341).

Prior to the commencement of the practicum, individual interviews were conducted with each of the sub-sample members. These interviews were semi-structured, and the questions were designed to further clarify and provide depth and insight into the beliefs expressed and explanations given in the inquiry sheet. At the end of the third school term, which brings to an end the long practicum in which the Fourth Year students participate, the sub-sample was again interviewed individually. The semi-structured interviews held at this

point yielded data regarding the overall practicum experience, as well as insights into tendencies and behaviours observed in the videoed lessons. The coded videos of the classroom observations were watched and discussed during the interviews.

Classroom observation

Although the students had quite clearly expressed their ideas about how they teach and who they are as mathematics teachers in the initial interviews, the classroom observations were designed to give insight into theory-in-use as differentiated from espoused theory (Argyris & Schön, 1974; Maxwell, 1996). According to Patton (2002),

> Interviews present the understanding of the people being interviewed…interviewees are always reporting perceptions – selective perceptions…By making their being own perceptions part of the data – a matter of training, discipline, and self-awareness – observers can arrive at a more comprehensive view of the setting being studied… (p. 264)

Two lessons taught by each student were "non-participatively" (Creswell, 2002, p. 200) observed and digitally recorded. The students were not warned in advance of the specific lessons to be recorded, so that their classroom practice would be as natural as possible in what were, by the very nature of observed behaviour, unnatural circumstances. The recordings were also transcribed, coded and analysed.

Analysis

According to Patton (2002), "Qualitative analysis transforms data into findings. No formula exists for that transformation. Guidance, yes. But no direction." (p. 432). The process, he says, "involves reducing the volume of raw information, sifting trivia from significance, identifying significant patterns, and constructing a framework for communicating the essence of what the data reveal" (p. 432). The sifting and pattern-identifying procedures to which Patton refers were carried out in this study by using the data analysis programme, Atlas.ti.

The interviews were digitally recorded and the observations were videoed. These recordings were professionally transcribed, without grammatical corrections or exclusion of ums and other verbal eccentricities. Both deductive and inductive coding was used initially as Open Coding, and then as Code by List: the elements in the conceptual framework were used as broad code subjects, like "Evidence of Understanding" – hence the deductive aspect of the coding; then a variety of sub- codes were created, drawn from what was said – hence the inductive aspect. For the initial interviews (prior to the teaching practica) fifty six codes were generated, for the second interview set, seventy seven, and for the videos as for the inquiry sheet data, twenty three. The number of codes created was a function of the desire to code even nuances of meaning. According to Denzin and Lincoln (2003), coding serves two purposes: "First, codes act as *tags* to mark off text in a corpus for later retrieval or indexing... Second, codes act as *values* assigned to fixed units" (p. 277). Both purposes were used in this study, which is why the data was 'code-saturated'.

RESULTS OF THE STUDY

The strongest influence for most of them lay in their personal background, even if this was not explicit in the discussions with them. The statements in the table below were not made by any of the students, per se, but are rather an interpretation of the information they imparted across the various communications with them. Each statement draws together the dominant element of the student's biography with the dominant element in the actualisation of the student's PMTI.

Table 3: Biographical influencers: implicit statements

Implicit statement	Student
My teacher could not explain - I must explain	Martie
My father reminded me of the requirements of my culture – I must teach so that I can be available to my own children one day	Ayesha
My teacher had authority – I must teach so that I have a position of authority	Thandi
My teacher was often absent – I taught and liked it	Thabo
I was shy and retiring at school – I must reach out and draw learners out of themselves	John
My teacher was racist – I must treat all cultures and languages equally	Sipho

When Martie was at school, she found that her mathematics teacher was someone who struggled to explain a concept. Martie retaught what he had tried to teach and derived great satisfaction from it. Martie is seen to teach with great enthusiasm and passion, and to be an 'explainer' – one who seeks to impart understanding of the mathematics concept in question. Ayesha wanted to be a veterinary surgeon, but was dissuaded by her

father who reminded her of the duties of a wife and mother of her culture. In Ayesha's classroom practice she is seen to be a traditionalist teacher who teaches for learner achievement by emphasising procedure. Thandi holds herself aloof from her learners – her interaction with them is limited to one direction only: she imparts knowledge to them. Thabo's most vivid recollection of his schooling is of being given the opportunity to teach in the absence of his mathematics teacher: as a learner he excelled in the subject, and loved actually teaching it. When Thabo is standing in front of a class, his joy in both the subject and the teaching thereof is patently visible. John says he was a shy and reticent boy while at school, not drawn out of his shell by his teachers. The one aspect of John's PMTI that stands out in everything he says and does, is that he values relationships and strives to reach out to his learners on an emotional level. Sipho walks around the class, pausing to talk and laugh with individuals everywhere. He goes out of his way to show the learners that he values each one as an individual. It is thus a finding of this research, in corroboration of the literature studied, that PMTI is influenced by elements related to specific contexts, and particularly by schooling experiences. In fact, Liljedahl (2002) states that "…the formation of teachers' beliefs about mathematics teaching and learning come from their own experiences as a learner of mathematics" (p. 2).

Of secondary importance in all of their PMTI's were their experiences both at university and during the teaching practica. While each of them developed a deeper understanding of the psychology of learning and teaching, this did not dominate their classroom practice and was mainly evident in what they *said* in the interviews. In this regard, Ball (1988) calls teacher education "a weak intervention" (p. 40), not changing the fact that "are most likely to teach math just as they were taught" (ibid., p. 40). To some extent, the teaching practica allowed them to weigh up what they had learnt in the university lecture hall (i.e. the theory) with what they saw and experienced in the school classroom (i.e. the practice). This is exactly what Feiman-Nemser and Buchmann (1985) called the two-worlds pitfall. For some, like Thabo, this meant that he could choose between these to do what worked for him. Others, like Thandi, claimed they could develop their own teaching style.

The single factor which all six students claimed to recognise within themselves was the desire to "make a difference". They felt that there was that within their PMTI which made them inherently teachers and which received satisfaction from the "aha" moments when learners understood what was being taught. However, this PMTI influencer was found to be less definitive than their contexts.

Their view of the subject mathematics was generally not well verbalised and it would seem that they had given little thought to the notion of what mathematics really was in their understanding.

Perceptions of their PMTI's
Their perceptions of themselves in terms of the three aspects of PMTI which are studied in this research are not necessarily directly in line with what is observed of their classroom practice. These perceptions are held in such a way as to be an intrinsic part of who they think they *are* as teachers, but, paradoxically, not necessarily of what they *do* as teachers.

As subject specialists
Although all six believe that being a Subject Specialist is the foremost aspect of their PMTI, they do not all believe that they in fact *are* such specialists. It would seem that they recognise the importance of this aspect and what its position should be in their PMTI, but they have doubts about their ability to live up to the level of mathematical expertise that the term implies. Ayesha explained as follows: "... I *want* to be a subject specialist; I *want* to know my work." Yet she believes that, because she is able to field learner questions successfully, she in fact *is* a subject specialist. Thandi said almost the same thing: "I *should* be a subject specialist to be able to teach learners good in school. I *should* be well equipped with the subject knowledge that I can pass on to my learners" (emphasis added). However, she found out during the practica that, in this regard, "lots of work is required before one goes to teach in schools..." She felt that her lack of mathematical expertise was a problem because it meant that she had to research each topic before she taught it, but she could also rationalise her lack of expertise by indicating that this meant she was able to identify what was difficult for the learners because it was also difficult for her. Thus, "I can see a good mathematics teacher because I'm still learning mathematics, I'm not a specialist." John also recognises his inadequacies as subject specialist, as testified to by his mentor teacher: "He hasn't come here pretending to know it all. He's come with questions..."

Thabo, however, indicated that he found it easy to teach because he understood the intricacies of what he was teaching. Martie is aware of the emotional aspect associated with the learning and teaching of mathematics: "People in general have this psychological block against, well, mathematics." She, however, loves mathematics and is fully persuaded of her expertise in the subject. Her mentor teacher in fact

repudiated Martie's prioritisation, saying that in fact these three aspects were not on a par in her PMTI – she was predominantly a subject Specialist.

These students attach great value to "knowing your subject". They all seem to believe that a mathematics teacher who is not a subject specialist is not a good teacher. However, the belief that this aspect of PMTI *should* be the most important does not necessarily make it so for the individual.

As teaching-and learning specialists

The six participants all seem to believe in greater or lesser measure that they know how to teach mathematics. They believe that they have the necessary skills and techniques to convey information successfully. Most of them acknowledge the value of university modules in which they learnt about how children learn. None of them mention their lack of experience in this regard. In fact, most of these students referred directly or indirectly to an instinctive knowledge of how to teach. Ayesha went as far as to say that, "One can't really teach someone how to teach, I think it comes to you naturally..."

Martie, who says that her university training added very little if anything to her knowledge base, admits to having acquired different methods for teaching specific topics, which she finds useful because she believes that learners learn in different ways. She therefore has retained within her PMTI the beliefs acquired at school by observing a teacher whose communication of mathematical concepts was not successful, and by teaching her co-learners who did not understand and achieve as well as she did in class. Ayesha sees herself as a natural teacher, but also espouses the notion of repeated explanation to facilitate understanding. Thandi, however, declared that, "You can see the other teacher doing…teaching in this other way and then when you try it and then it won't work for you." The solution lay within her own PMTI: "You have to develop your own way of teaching that the learners would understand..." Thabo's dominant belief is that lessons should be learn-centred, something he learnt about at university. His own schooling was teacher-centred and described by him as boring. Looking back at the teaching style he used as a learner replacing the teacher, he describes himself as boring. John is concerned about boredom too. His dominant belief is in the necessity of creative involvement of the learners in every lesson. Sipho is driven to teach in such a way that the learners are continually encouraged, and so he has adopted a teaching style which can best be described as entertaining. He sees himself as someone who knows and loves his subject and who knows and loves the learners, particularly in view of their cultural diversity, so his PMTI is characterised by these two beliefs and his determination to integrate them.

Generally speaking, all six participants have sustained the effect of their own schooling in this aspect of their PMTI's. They have also, to varying degrees, made some of the theory they learnt about at university, like learner involvement, their own. Added to this are also their own personalities. So, in terms of who they are as teachers, there is an amalgam of these three that has made them who they are at this point as teaching-and-learning specialists.

As nurturers

With the exception of Thandi, all the participants frequently expressed their concern about the learners and their involvement in the lessons, as well as their own involvement with the learners, despite the fact that all (apart from Martie, for whom all three aspects were equal) of them placed this aspect below the others in their prioritisation exercise. There is an awareness among them that mathematics is not universally loved by learners, and is in fact often associated with fear or boredom. There is therefore a noticeable inclination to "make a difference", to involve the learners in an enjoyable way and to help them to experience mathematics as challenging rather than frightening. Martie, for example, recognises that the negative emotions associated with the subject may also be attached to the teacher and does her best to show herself as a continually, smiling, caring, approachable teacher.

John stands out in this regard. He, perhaps because of his own experiences as a quiet, introverted learner at school, is predominantly concerned with reaching out to the learners through relationships, possibly established on the sportsfield rather than in the classroom. Thabo, also concerned about learner-centredness, is driven rather to see the learners understand mathematics the way he does, to see them love the challenge and rise to it. Sipho, denigrated at school because of his colour and despite his mathematical prowess, is determined to 'make right', to treat the learners with respect, to the point of trying to speak their various languages even if they are far removed from his own.

Ayesha and Thandi are somewhat different. Ayesha, while believing that "children are my second passion" and expressing her willingness to be available to them and to help them overcome the learning impedimenta resulting from the fact that "some people are depressed, some people have ADHD and ja...", holds herself aloof from her learners. This may be attributable to the belief that teachers should be moral preceptors and

role models for their learners. Thandi expresses her beliefs regarding nurturing only in theoretical terms: "It is part of every teacher in each and every learning area, even mathematics. Learners are made up of their social space/world." When pressed to explain what this really means to her as a teacher, she goes no further than to say that if someone is sleeping in her class she would want to know why, in case "that someone is dying and I'll be responsible". She expresses no link between the theory of learner involvement and actually caring for the learner.

There is a considerable range of beliefs regarding this aspect of PMTI discernible in this group of students. At the one extreme there is a deep conviction that relationships are the basis for effective teaching (John) and at the other there is the belief that the learners are in the classroom to learn, and that is all (Thandi). In between these two poles is the general belief that teaching should be learner-centred if effective learning is to take place.

Actualisation of their PMTI's

Ayesha has a formal approach to both the subject mathematics and the way it is to be taught, and even tends to be traditional in her presentation of the concepts she is teaching. Martie is also formal in her approach in that she is, by preference procedure and process orientated, while simultaneously being focused on bringing the learners to a point of understanding. Thandi's approach to mathematics in the classroom is defined by the limitations in her subject knowledge: she teaches a concept and then allows the learners to develop it further while they work on the board and even answer questions. This is *not* in fact a form of constructivism in action: she is more at ease with the subject matter in hand when she does not have to present it herself. Thabo is also formal in his approach to mathematics in the classroom; he believes in teaching until understanding is reached, allowing the learners very little leeway for self-motivated discovery. John and Sipho, by contrast, teach by leading the learners to the discovery of the truth that they were intended to find as an outcome of the lesson. Their approach is certainly more constructivist than can be seen in the classroom practice of the other four students.

From a purely visual point of view, these six students present completely differently in the classroom. Martie is friendly and outgoing, smiling frequently and encouraging the learners with gentle laughs and motivational words like "Of course!" and "Nearly there!"; a gentle shake of the head for "no" and a vigorous nod for "yes!" Ayesha maintains a formal distance: she teaches from the front of the class, rarely leaving the space between the teacher's desk and the board. Even the cardboard triangles she was using to illustrate a point were shown to the class from there. Her expression is friendly and her delivery calm and formal. John, by contrast, walks down the aisles of the classroom, engaging the learners by asking them questions and periodically making them laugh with his quirky comments. His delivery is animated and his facial expression is friendly, often lit up with smiles or laughter. Thabo also walks down the aisles in the classroom, despite the fact that his mentor teacher advocated standing in one spot in the front of the classroom, teaching with visible enthusiasm and a smiling face. Thandi, however, smiles not at all, remains in front of the class, or to the side near the door, and teaches with a deadpan expression and voice. She only ventures down the beginnings of the aisles when the learners are writing down sums. Sipho moves all around the class, talking in an animated way and gesturing with his hands. He frequently bends over a learner's desk talking briefly to individuals here and there as he is teaching, not just when the learners are writing.

There are a number of techniques that these six students use to determine whether their learners have understood the work or not. Thabo, for example is conscious of the class atmosphere: "the excitement, also the excitement in the classroom would show you that they're they…they…they do understand the concept, they have grasped the concept." Most of the students however believe that body language is one of the most obvious indicators of understanding: Thandi explains, for example, "I read their faces if they understand, they're with me or if they're just lost..." All six of these students were very much aware of the need to find evidence of understanding of the concepts they are teaching. They use a variety of strategies to find such evidence, ranging from the observation of the learners' body language to how their homework is done. However, in some cases the strategy seems more theoretical than practiced: Thandi, for example, at no point in the observations returned to a learner to see if his answer was correct; Ayesha, while receiving chorus answers to her questions did not actually react to the fact that probably half the class did not respond positively at all to her questions.

While these students have a strong sense of the 'rightness' of a learner-centred classroom, their interpretation of the concept varies dramatically. John, for example, believes in involving the learners through every step of the lesson, while Thandi believes her lesson is learner-centred if she gives the learners the opportunity to write sums on the board. For Ayesha, allowing the learners more scope in the class for participation means discipline problems – for Sipho that is no concern at all. Thabo's own reserved nature makes it difficult for

him to bring about the learner-centredness in which he says he believes; while Martie has no such difficulties – her friendly and outgoing personality invites enthusiastic responses from the learners.

The students showed varying levels of flexibility in their classroom practice. For Martie and Thabo, planning allows them to be flexible in the sense of not being 'caught unawares' by challenging learners. John and Sipho plan for deviation from the lesson plan: they believe that a lesson plan provides structure, but not rigidity and they leave space to manoeuvre both for themselves and their learners in terms of the lesson plan. Ayesha and Thandi do not readily deviate in any way from their lesson plan: Ayesha because she needs to keep all the learners busy all the time for discipline reasons and Thandi because deviation from the plan would literally mean venturing into the unknown.

The pastoral role which the South African education department requires that teachers fulfil is subject to interpretation as to what its practical outworking may be. To one of the students in this study it means simply being approachable as she stands next to the learner's desk and looks at his mathematics exercise book. To another, it means counselling a learner, if called upon to do so, in terms of the issues in his life that may or may not have anything to do with the classroom. Sipho, for example, strives to overcome barriers based on language and colour differences, while Thabo tries to encourage his learners consistently. John believes firmly in the value of establishing relationships; he says it makes teaching and learning easier because the learners are willing to "engage". Thandi however does not believe in the establishment of relationships at all: "No, I don't. No, I don't, just be professional and approachable and then learners will be able to approach you... relationships, no." In her opinion such relationships can too easily be interpreted as favouritism.

CONCLUSION

What has become particularly evident to me in this cross-case analysis is how very closely linked the students' PMTI's are with their own personalities. Martie is cheerful and outgoing – she teaches with warmth and confidence; Ayesha is somewhat more reserved and teaches in a formal way; Thandi is sure of herself and quite determined to do things her way – she teaches without involvement with her learners; John is warm and caring and reaches out to his learners during every stage of the lesson; Thabo is quiet and reserved – he teaches with calm confidence; Sipho has an enthusiastic and effervescent personality and his classroom is a stage for him and his learners to engage actively in the work at hand.

However, the most striking finding is the discrepancy between these students' perceptions of their PMTI and its realisation in the classroom. While certain of these students say they *are* something which in fact they are *not*; others say they are definitely *not* something, which in fact they *are*. This mismatch within their own PMTI's is not evidenced by any apparent internal conflict. Where Beijaard et al. (2000) assumed that "teachers' perceptions of their professional identity reflect their personal knowledge of this identity" (p. 750), it is possible that the incongruence of these students' PMTI perceptions and the reality of their actualisation may be attributed to their *not* having "personal knowledge of this identity". Possible explanations for this lie within their inexperience: they have had very little opportunity to test the robustness of who they think they are against who they *actually* are in the classroom; they have acquired neither the habit nor the skills of true reflection.

These students thus demonstrate that while they may certainly be teaching who they are, this is not necessarily who they *think* they are. They may believe that they are subject specialists, teaching-and-learning specialists and nurturers, but when they are observed at work in the classroom these specialisations are not necessarily, or at least not consistently evident. There were six participants in this case study: each one holds their own beliefs in a unique way, and each one actualises their PMTI in a unique way. Six disparate PMTI's were examined, with very little commonality to be seen between them. It seems possible that were more students' PMTI's studied, so many more unique PMTI's would be discovered.

It was never the aim of this study to generalise its findings. The objective was to describe the PMTI of students in their final year of mathematics teacher training at UP. No single, common PMTI could be identified. However, PMTI *does* exist in these young students. Each student, unique in their background, way of thinking and ambitions, evinced a distinctive PMTI. The principal finding is that the actualisation in the classroom of this PMTI is not necessarily congruent with what the person believes to be their PMTI.

PMTI merits further study as it may, in a longitudinal study, become a predictor of the longevity in terms of career of a mathematics teacher in South Africa, as well as of the effect of changes in the curriculum: pre-service teachers are more comfortable with concepts they learnt and worked with at school than with those they dealt with at university. Therefore, if, when they return to school as teachers, only to teach new material not dealt with while they were still learners, uncertainty is n the classroom can result, as Thandi demonstrates.

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142 - Brazilian University and National Network of Continuing Education of Teachers: Boundaries and Advances to Professional Development

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Abstract: In the field related to teachers' education it is consensual that their knowledge permanent refreshment. The technical-instrumental model is the most spread in the institutions that educate teachers. Most times, them leave their basic education courses instrumentalized to face a complex reality. Therefore, the pre-established formulas repetition does not offer the teacher the possibility of thinking creatively. Whether it be this and other reasons, it is possible to detach specific university sectors that the states governments, alike the federal, have brought the university to, since it is the center of the elaboration of permanent education courses in Brazil, through the elaboration of the National Network of Continuing Education of Teachers. It is justified, somehow, the focus in the university as the ability of its proposal capacity and the educational professional development, where not only some advances were detected, but also the need for adjustments.

Key-Words -continuing education of teachers – university - professional development

INTRODUCTION

In Brazil, and in all the world, the university is a reference. This institution is known by its capability of allying itself to the needs of the productive sector. People, in general, expect to receive and enjoy high leveled undergraduate degrees. Public power sees the university as a partner in the development of solutions to various issues. Also, in the educational area it is expected to observe the qualitative effects of the academic work. One of the possible ways is to prepare the basic education teacher. Regarding that, it is mandatory that the education for the teachers of beginning grades is offered by colleges, also considering the necessary adjustments and regional inequalities. The Brazilian reality, in this field, leaves to the continuing education of teachers great challenges and adjustments to be made. In addition to that, hope in relation to the capability of answer of the universities to the issues of the Brazilian society. Public power expects to improve education and the teachers wish they would have more autonomy and professional valuation. Some studies show that in order to achieve their goals, teachers and public power must follow particular ways and invest on continuing education. In 2003, the Brazilian Education Ministry pointed the university as a privileged location to this task. The National Network of Continuing Education of Teachers was created. They headed the elaboration of teachers' training courses together with the Education Secretaries. Before the existence of the National Network, either the universities or actors related to it were, almost always, engaged to it in order to conceive the greatest part of the "capacitation in duty". Many studies have shown that, in that phase, it was necessary to review the current roles. In general, the educative actions were sporadical, uncontinued and disconnected to the career increasement plans. There was not the concern with the impacts or education both in the students' education and in the teachers' professional lives. Facing these limitations, we ask: Which advances and/ or advantages would be present in the institutionalization of the brazilian continuing education starting from the National Network of Continuing Education of Teachers? Which are the conceptions, dimensions and role models adopted? Which are the possibilities and boundaries to students' education and valuement of the teaching professional? What do coordination and teachers' educators say? Can we say that the possibilities of success exist and will be stronger in the proportion that the studies of teachers' education, mostly directed by the university, are taken advantage of so that the adjustments needed to the continuing education are put into practice? If the facility of the National Network of Continuing Education of Teachers makes a review, headed by the university, of its hierarchical culture and disarticulation, at least in this field, we are positive that great advances, both pedagogical and professional, will be achieved to the studying teachers and their students. Otherwise, all the hope won't be justified in relation to the university, especially on the point of elaboration and execution of continuing education.

THE HOPES AROUND THE UNIVERSITY

There is a group of authors that, either agreeing or disagreeing in their concepts on the university, mostly, defend it as a critics, innovation, research and, even, social changes area. They also claim the reorganization of this space in ways to provide the social demands that are in the agenda.

It is on us, though, to verify if the indications directed to the universities are converted into effective actions aiming the social well-being, and, in the case of this study, into continuing educational programs for teachers. Throughout the discourse there will be a tendency to overwhelm the university as a potencial spreader of elements, that, together with the ones who have been through it, will bring the possibility of social justification. The criticism defends whichever paths that lead to reach specific objectives to the university, to the society, in general, therefore, to the education, the school and the students. The post-criticism defends a look of the university to its internal and external problems, to the way of how to organize itself in relation to them. It focuses on the increasement of the institutional relations in the university and its relation with public institutions and with the people itself.

According to Chauí (2003) the public university shouldn't put itself in an underwhelmed position in relation to the great capital, in opposition, it should stand up against the exclusion caused by the neoliberalism and the globalization; to the author, the universitarian authonomy cannot be restricted to the so-called "management contracts", relating to the right of the university to define its path in relation to schooling, research and extension.

Luckesi et al. (2005) reject the possibility of a university-school and defend the research as a formative principle and the university as a privilege *locus* to the people's education. Thus, it is important to understand that the professionals majored there, have, in thesis, a reflexive criticism capacity. We understand that the conviction of these authors is that the expression of the social commitments focused on the valorization of science as a tool for social and intellectual freedom of the society.

As expressed above it is possible to realize a positive perception in relation to the university, meaning that there is a faith in the social importance and relevance of this institution. This fact reveals, conceptually, the importance of the universities as an articulatory location between the social and political criticism and the population, not only to make their social and economic conditions clear, but also aiming the masterization of interpretive societies and to permanent learning.

In the group of responsibilities attributed to the universities is the teachers' education and its professional development. The questioning capacity relies in the university and it is hoped that it uses its knowledges in a systemic relation with the schooling webs, and, consequently, with the teachers. Thus, starting from the formative actions, the improvement of the teachers' professional development is expected and supposes the consideration of a group of characteristics, among which are the following.

A group of authors (Contreras, 2002; Day, 2001; Pacheco e Flores, 1999) defends a specific professional thrust to teaching. By valorizing the teaching professional it should contemplate the educators, in the educational programs, the statements that are in favor of the confirmation of that thrust. In the Brazilian case, would the university be the privileged location to this end? Taking the theoretical defense (Guimarães, 2001) and the choices made by public power into consideration, we would have a positive answer to the presented questioning. Our effort, beyond discussing the flexibilization of the isolation and the university hierarchization, will be to evaluate some attitudes of the National Network of Continuing Education of Teachers. Having its construction based on public statement, offered by the Brazilian federal government, by Research and Extension Centers, it defends improvements in the establishment of partnerships or team planning, internally or externally, in favor of the good educational practices of teaching. Taking advantage of the former experience of the then called Centers of Excellence in Research and Extension, it announces their goal of valorizing and professionally developing the Brazilian teaching through the Web in concern.

TEACHERS, WORK AND PROFESSIONAL DEVELOPMENT

In the definition of what the thrust is, what characterizes the teaching professional spreads on many parallel perspectives. This way, we have opted for some of these arguments that, in general, bring criticism on the current situation of the teaching profession. Although some studies have not been developed in Brazil, they are applied to its reality, and, obviously, to the teachers in this country.

In the description of the teaching profession we have found specific definitions. The consideration on them infers a professional *status* to teaching. This is important since it denies that the character of the teaching activity is more relevant, comparing to liberal classic professions, such as: law, medicine and engineering. The fact of considering these specifities is fundamental if an educational program wants to be identified as focused on the professional development of teaching. On the other hand, remains the consideration that this kind of activity is almost a profession, meaning that teaching techniques to reach particular goals would be

enough. The fact is that these professional, traditional and pragmatic marks do not include intellectual, critics and creative character to the teaching labor.

Christopher Day (2001) understands that the teachers' professional development depends on their personal, professional and political lives not to mention their school contexts. To this author, the investigative capacity is an element that is connected to the teaching professional. This is the reason why he defends education as a method to professional development (Day, 2001). In Brazil, the beginning education is, systematically, claimed as insufficient to the teachers who work with the first years of fundamental education. With the definition of Pedagogy Courses as responsible for educate masters to this teaching level, there is hope of improvement in this field. However, having so much to be done and maintaining the high-school education as the minimum allowed, it is left for the current education the offer for what may have lacked in the previous professional education step. We agree with the author on the reference of his perception that both agreements must cause a mobilization among teachers, schools and government in favor of the continuing education of teachers, and, consequently, their professional education with all the advantages that it may bring together. The non-performation of these actions would be in favor of, defines the author, a mass of professionals whose creative capacity would be restricted (Day, 2001). This way, the teachers close themselves in the classroom world; he neither reads, nor researches, nor worries about his teaching professional development. Programs concerning the teaching professional development stimulate us to a "sensible capacity being able to increase through investigation and formative activities, especially those which infer extense study" (Hoyle, 1980, apud Day, 2001, p. 22).

To Contreras (2002), professional development implies authonomy rescue in one's job, in making their minds as a critic and authonomic intellectual. To the author, adding to Christopher Day's statements, sometimes there are reading days when teachers are reached by a 'teaching proletarization'. The author's fundamental statement is that the teaching work has suffered an increasing withdrawal of a series of qualities that have lead to the loss of control and of the sense of their own job, that is, the loss of authonomy. This way, contributing to teaching professional development would be in order to recover their authonomy, which is mostly related to their intellectual and managing capacity linked to the education; they somehow add to students. Finally, the analyzed courses in this study should get closer to this perspective, and the exercise of the questioning capacity of the university, supported by the managing and enthusiastic agencies, should include the indications of the quoted researcher.

THE NATIONAL NETWORK OF CONTINUING EDUCATION OF TEACHERS

Institutionalizations, renewed hope. This feeling got stronger in 2003 with the creation of the Brazilian National Network of Continuing Education of Teachers[36]. Too late, since England, Portugal and France (Menezes, 1996) made these actions systematic throughout the 80's and 90's last century, already important.

The Brazilian Network, focused on the education in favor of public education teachers, was launched in 2003 with neither facilities nor a headquarter. The Network is, at some point, virtual. The research centers already existed. They were located in the Network and are found in the university rooms to which they are connected. The courses are offered in the most varied locations, with diversified facilities, whenever they are presencial, but the infra structure is not always adequate. They may happen in university or school classrooms, auditories and/ or Secretary complexes, etc. Anyway, the foundation of this Web does not refer to the creation of new spaces. We could not find any planning with this aim. The Web is settled in the universities and it could be considered an appendix of it. Through a public statement were elected 20 Study Centers, distributed the following way: literatization and language (6 centers); mathematics and scientific education (5 centers); human and social sciences (3 centers); arts and physical education (3 centers); management and evaluation of education (3 centers). To these Centers of Research and Development of Education, the Ministry of Education (MEC) has established a budget fund so that courses would be structured and didactic material destined to the continuing education of basic education teachers, which, in Brazil starts at nursery school and goes until high school. The greatness of the tasks and of the responsibilities do not match the, virtual, Web's.

The MEC's (Brasil, 2005, 2006a) document about the Web expresses the desire that those Centers are articulated among themselves not to mention with the undergraduate education institutions (IES) to the production, as we have already described, of didactic material to distance and semipresencial courses. The Web must act by supporting the needs and demands of the schooling webs. These ones, though, must look for Research Centers. Among other challenges, like the theoretical-practical refreshment of the teachers, target of the courses, is the valorization of the teachers in their professional experience.

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[36] Most of the times in the text, I will just use "**Web**".

This way, two main topics are essential to the progression of this writing. Regarding social hope and public power, in relation to the university, the questioning would be about the affection in actions in order to improve the internal and external articulatory relation to the continuing education of teachers in analysis and to what is was made. The second questioning, and not less important for its position, is about the teaching professional development. The analysis of documents and interviews were tools used to embrace data related to our matters.

UNIVERSITY: EFFECTIVE QUESTIONING EXERCISE?

We have analyzed two experiences of partnership between universities and public agencies holding the Teachers' Continuing Education National Web. One of the Partnerships is referred to the first phase of the Web. At that time, it would produce not only courses but also didactic material that would be sold to the webs. This experience will be called Partnership **1** and it evolves a university and the metropolitan City Hall of Rio de Janeiro. The second experience will be called Partnership **2** and it embraces two universities and the metropolitan City Hall of Rio de Janeiro. Both these partnerships were selected for having being large-reachness actions together with the studying[37] teachers. Obviously, the concern of those courses was the continuing education of teachers.

This work, in other aspects, tries to evaluate the questioning capacity of the universities in the field of continuing education of teachers, based on interviews made with members of the Universities, Secretaries and with the teachers' educators that were part of the university teams, making a total of 21 interviews. Still, we have analyzed the base-documents to the Web, starting from what we confronted with the objectives described as effective practice, starting from the perception of the interviewees. Does the university assure its questioning capacity? Which contributions have they brought to the teaching professional development?

One of the principles or major objectives that show our attention in the base-document of the Web in analysis refers to the necessary articulation of the university internally and externally in favor of this education and to the steps accomplished in duty. By working this way, the university would find its path to an ideal questioning exercise. It would be taken advantage of the outgoing tradition in research, teaching and extension. The knowledges produced by these experiences would give opportunities to better laboratorial results to the masters, and, consequently, would improve the educational systems. What is observed in the case of the universities is that there is some tradition in these areas, yet, articulation is something that if exists is just too little. When there is some experience of articulation between groups of research and extension – throughout courses offered to public school teachers, for instance – they are not enough and reach very few teachers.

By facing what has already been exposed, we consider that the National Network of Continuing Education is an advance since it is composed by research and extension groups, almost always recognized in the permanent education of teachers of their respective areas. This may be the reason for that the manager of the secretary connected to Partnership 1 while talking about some other experience of education developed by the city educational web, considers that with the support of the university, teachers can be more connected and may present a change in the profile of their practices. To the manager of Partnership 2, the presence of the university is a fundamental element focusing on its scientific production. Here, and in some other parts, it is possible to identify arguments that lead to hopes and credit deposited on the spot-lighted institution, situation we have described at the beginning of this essay.

The favorable positions to the compounding institutions in the Web[38] are not unanimous. The funders of Partnership 1, have mostly shown criticism in relation to the behavior of the undergraduate and graduate institutions. In the understanding of one of its components "the university must be more committed (…) more than it already is" She claims the social commitment is one of the obligations of the institution and defends that for it to do so, the extension activities must be intensified.

The components of Partnership 2 show that the university has a number of possibilities and it can act in a diversified way. Among the cited possibilities is the one about the proximity of the schools, which does not occur in most parts of the Web. In the courses we have accompanied such practice does not exist. Furthermore, the articulation with the Secretaries, with the schools and with the teachers is something that could happen. Here, in the first analysis part we were able to verify the deposit of a great amount of hopes in the Centers of Research participating in the Web, which is a reflex of those wishes to which we referred at

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[37] Partnership 1 has gratuated 32 teachers to na adult literation program of the federal government and was, therefore, enabled all over Brazil; Partnership 2 had 400 teachers, of the city schooling system, split in 10 groups as a target.
[38] Of the coordinators of the courses.

the beginning of this writing (Guimarães, 2001; Chauí, 2003; Luckesi et al., 2005), to finally, notice the existing difficulties and contradictions. However, there are other incoherences.

From both parts, the Universities and the Secretaries, it is manifested the importance in the articulation and collectiveness in the formative practices, in its conception and practice. The proof for that is the admission, by the university, that the Secretaries are more than sponsors for courses. In opposition, the indications of the base-document of the National Network, that preaches the articulation among the institutions and the courses offered by the webs, are mostly composed by closed packets. There is, though, a subjective contradiction in the documents. Articulation is demanded by the components, nevertheless, there is no time, there are no facilities, there is no plan, and there is no enough systematization. Without a dialog tradition, with neither money, nor time, its questioning capacity is not practiced by the course organizers. They might submit themselves to MEC's demands or the employee's teaching systems, which may happen via Web or not.

In most cases the centers selected by MEC have the practice of offering courses to the nearby webs. This way, they have built a group of courses and experiences in the area, negotiated, in a loose way, with the city halls and state governments. Despite this experience, as soon as they were recognized by the Web, the Research Centers have not built a systematic and continuing consultant and/ or interaction practice with the teaching webs. In opposition to Chauí's (2003) indications, the university tends much more to offer services, in a merchant view, than to be prone to social. It is mandatory the reorganization in the Web's plan; the calculations for investments are related to the production of didactic material and continuing education of teachers courses, which has favored or reinforced this image of service counter, especially related to the extension (Demo, 1996). This way, the demands from MEC that the Web articulates itself with the external components in order to build the courses would make the idea of a service counter more distant, since its reference referred to the university is not positive. To do so it is necessary a greater investment on the Web or an articulated plan in the MEC areas in order to provide the need for hiring people so as to embrace such requests. There should be, in case of any declaration of whichever intention, the foresee of financial, material and human resources needs in order to follow a Web that valorizes and potencializes the questioning capacity of the university, which is, until this very moment, under valorized.

The presented practices, testimonials and interpretations make us realize the boundaries imposed to the questioning capacity of the universities, in our case, to the follow-up of good practices of continuing education of teachers (Tardif, 2008). In the boundaries, we have watched the defer of the screaming objectives focused on the professional development, which is, in the Brazilian case, a mistake. It is great the number of shallow teachers; they have multiple journeys of hard work added to low wages; great under stimulation plus material uninvestment of the public schooling system; many want to switch teaching into more valorized professions socially and financially; finally, the most capable young adults choose other careers. Tell me whether the education of the teaching professional is lead to another step, which is not this one. The half-committed plans, kind-of-critics actions, ignore and contribute to the under valorization of teaching and its consequent unprofessionalization.

In conflict with the described difficulties are the objectives of one of the studied Partnerships, in this case, the second one. First, there is the objective of some advance in the adjustments of the basic education of teachers. In sequence, with other plausible intentions: improvement of the teachers' practices; installment of the continuing education of teachers culture; incentive and rethinking of teachers; start a non-stop process of continuing education of teachers with universities, Secretaries of Education and public schools, etc. The pointed goals are common and repetitive, when referring to the proposition of intentions of courses, projects or wishful programs of continuing education of teachers. At last, they end up not producing the desired effect in relation to the difficulties that, at least partially, we have referred to so far. It is though hoping we can still discuss, at least a little, the matter of the teachers' professional development, that we highlight the objectives focusing on this matter.

PROFESSIONAL DEVELOPMENT: PRESENT ELEMENT?

If the full planning, by the university, is something related to the expression of its questioning capacity, the participation of teachers in the elaboration of formative programs of the Web is connected to his professional development. It is justified by the possibility of developing his unrestricted professionality (Contreras, 2002). As there have not been advances in the participation area, it is not possible to state, maintaining syntony with our references, proximity of the Web to those theoretical principles.

Along "good" explanations on inclusion of the teachers in the elaboration of the proposals, some practices in the Web are revealed. To the coordinator of the Partnership 1, "this is very difficult to be done, especially when there are diversified theoretical targets". According to this interviewee, some contributions were incorporated throughout the course. There is, in our understanding, a poor enrichness since the embraced

contributions are not the ones, for instance, made quite clear by the coordinator, that differ theoretically from what had already been established. In the case of Partnership 2, the participation of the studying teacher, when exists, occurs in the meetings, meaning that the level of participation is superficial. The participation of the Secretary is on a pre-selected level, which is allowed in the universities. "In the case of the National Web, the courses are ready and the Secretaries of Education choose them according to their will" (coordinator of Partnership 2).

Not listening to teachers and justifying this fact by not having the deals with the Secretaries highlights the priorities of the National Network unities. You can feel free to make possible analysis taking this data into consideration. In what is related to professional development, it is possible to conclude, thinking of teaching participation, that the settings of this Web do not contribute to the development of its moral obligation, its critics thinking, its professionality. Participation and power of decision over formative paths of profession and of one's own profession are elements that are related to the professional development of teachers. If their participation does not exist in the elaboration of courses, being them the ones that are part of the Web or the ones existing outside it, there is no contribution and this would be a prior indicator leading to the valorization of the teaching career through the Partnerships in analysis and others. In the interviews, the importance of the participation of teachers is in the discourse of universities and of the Secretaries of Education is considered number two and/ or disappears when there is the threat of closing a Partnership. At this point, the recommendation is denied, already referred by Chauí (2003). Let us say no to the merchantilization of the university, no to the purchase of the continuing education as a product to be sold.

Another characteristic that is related to the settings of a professional improvement would be the favoring of the critics and research manifestations of reality. In the analyzed courses, the enrolling teachers were subjected to criteria demanded from the Secretary of Education. They have opted to enroll. The ones who did not show up at the courses either because they have chosen not to or because they were not in the criteria, were under pressure to use the methods taught in the course. There, dies the chance of critics and research manifestations, which are restricted, spied on and controlled. The teacher is constantly remodeled. The obligation of taking part in the courses is indirect, in spite of not having vacancy for all the previously subscribed. In their speech, they may even use the teaching methods that their own experiences have helped build. In practice, the non-use of the offered training is a mark of trouble in the working environment. It is not possible to imagine the possibility of critics and research manifestations in the school, since the experience is unprestiged and the right of choice on the professional path is fake. In the Web, the concern with the offer of critical content, focused on the characteristics of a researcher is frail, or worse, inexistent.

Other aspect related to the teaching professional development is related to their intellectuality. A work in this sense supposes what has been said in the previous paragraph and more. It supposes standing up for their references (Day, 2001:21), the stimulus to the unrestricted professionality. This means incentive to reading, to permanent education, to participation in research groups. It seems that the reachness of these characteristics embraces, also as the last author indicates, the establishment of multiple deals among the public agencies. It does not seem to us that the offering of spare, sporadic and discontinuing courses, that do not include a systematic dynamics of inter institutional planning in which the university contacts with its internal and external partners, contributes to the cited perspective.

The insistence on the taught of teaching techniques is a characteristic of the analyzed courses. A simple analysis of the didactic material (MEC, 2007a) used in the courses, is enough for what we have said at the beginning of this paragraph. This way, we hope that the teacher, by the end of the course, is able to "understand and valorize the written culture" (idem, ibid, p.16); "master the writing system" (idem, ibid, p.24); "develop puzzling capacity" (idem, ibid, p. 40). Here, we criticize the repetitive discourse of a critics and reflexive perspective that is not set as an effective practice in the education program. In relation to the instructors, on duty teachers' educators, the objectives are practical and focused on the resolution of those problems identified as issues to assimilation, regarding the students, and on the contents of Portuguese and/ or Mathematics (MEC, 2007b, p. 23). We state our perception that the Partnerships partially hold a utilitarian character.

In the other Partnership, the stimulus to reading was intense, but of books related to the theoretical conception of the course, constructivism. For good literators, reading habits are possible consequences, starting from this stimulus, even though reading is not the only stimulation component to intellectuality, once again, we notice the lack of attention to the teaching professional development. Considering the stimulus in this case, we can consider it an advance regarding formative practices. In general, even with the pointed critics it is congratulatory the effort of all the evolved teams with the Web. What we want, from now on, is stimulate the debate of the current practices, not disqualify them. Let us remember that most times the courses are what the public managers, through either MEC or the Secretaries of Education demand. Thus, the

responsibility should not be the universities'. It must weight on it, but also on the public systems, on the teachers, on the society. May be the last to harvest the greatest benefits of the deals on which that can be established, the high way we hope from the university, from the public power, from the universities, from the schools, from the teachers; from the height of need that out outrageously stratified Brazilian society. All that supposes the valorization of being a teacher, leadership and social, professional and/ or financial recognition of the teaching professional and potential social modifier.

CONCLUSION

The starring of the National Network of Continuing Education in Brazil was, absolutely, an advance where the non systematization, free and/ or unattached actions, sporadic and discontinuing was set. Starting from this point, hopes have been renewed in relation to the questioning capacity of the university, in the focused field, and in relation to the teaching professional development. We celebrate, then, some systematization[39] in the focused field, keeping in mind that some adjustments are needed.

The university is definitely qualified, but it needs, beforehand an example of what the official documents recommend, of articulation, internally, with the Secretaries, with the schools and with the teachers, so that, in a group effort, issues are debated and rethought in order to build and implement actions. We have to admit that it depends on strategic and financial planning regarding the federal government, not to mention the constitution of a facilities and human resources web, in such an amount that it would celebrate the partnerships among the universities and the basic education schools. MEC has stimulated the articulations of the institutions that are connected to the teachers, not predicting systematic resources for this end. Some argumentation is left when focusing the formative teaching deficiency leading to the explanation of few of the many ills of the Brazilian public education, when, there is a variety of problems to face. Today, we fight for the establishment of 7% of the Brazilian PIB (Internal Raw Production) as a percentage to be applied on national education[40], but we do not have any guarantee that it may happen with the urgency that the educational inequality demands in the country. Therefore, a lot more is needed: more sponsors, collective planning, quality actions and systematic evaluation.

Facing the implemented efforts, the dispended resources and the evolved people, it is not possible to claim there is some inoperance of the university in relation to teachers' education. We may not disconsider the importance of the National Network of Continuing Education of Teachers, that, as mentioned before, was not meant to be disqualified, but simply problematized. We believe the significative capacity of the university will be problematized when the formative experiences are open to collective evaluation, support and impact analysis construction. This is not a complete reality, even with the starring of the national education system currently used. Overcoming the fragments and disarticulation that have stained the continuing education of teachers is still a challenge that both the universities and the Ministry of Education will have to face.

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[39] Last year MEC lauched a statement to the Web. We Will be doing research on this new phase in thew following months.

[40] Currently, we apply an average of 5 %.

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147 - Social Representations of Teachers about Teaching: Professional Dimensions

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Abstract: The present article is part of a master's degree dissertation developed in a Brazilian public university, whose main goal is to analyze the social representations of elementary school teachers about "being a teacher", to understand teacher professional identity which are built over the professional career. Thus, our specific objective is to analyze the representations of these teachers about their profession, relating them to professionalism. Therefore, the qualitative approach was prioritized in this work. A questionnaire and a semi structured interview were the data collection tools used in this research. In agreement with research works carried out in Latin America, we observed the simultaneous presence of pre-rational and rational elements in the social representations of the teachers who participated in this study, in relation to "being a teacher", indicating the construction of a professional identity still strongly affected by the vocational aspect.

Keywords: professional development, social representations, professionalism.

INTRODUCTION

The present article is part of a master's degree dissertation developed in a Brazilian public university, whose main goal is to analyze the social representations of elementary school teachers about "being a teacher", to understand teacher professional identity which are built during their professional practice. Thus, our specific objective is to analyze the representations of these teachers about their profession, relating them to professionalism.

In this vein, we understand that many social, economic and cultural changes have occurred in our society, affecting schools and teachers. Such changes occurred mainly in the education system, affecting the work of elementary school teachers, and can be considered a "background" of the development of this profession and of the struggle for a new teacher's identity. Several factors that led to these changes and made teachers feel uncomfortable have been observed.

For some authors, "existe siempre una distancia entre la imagen ideal que los docentes se hacen de su vocación y de su función, y la realidad de su práctica, a menudo decepcionante, dado el estado de los alumnos y de la sociedad" (Dubet & Duru-Bellat, 2000 as cited in Fanfani, 2007). More than that, we also observed that, in general, society has unrealistic expectations about school (Fanfani, 2008).

However, besides the contribution of the changes previously mentioned for teachers' social maladjustment, there are some historical factors, occurred from the second half of the nineteenth century, which are very important to understand the ambiguity of teachers' statute. According to Nóvoa (1999), in this period, there was an intermediate imagery of teacher, since they were seen as individuals that belonged to several conditions, in other words,

> they are not bourgeois, but are not common people; they are not intellectuals, but hold a great amount of knowledge; they are not wealthy people, but have an important influence on communities; they must maintain relationships with all social groups, without privileging any of them; they cannot live under miserable conditions, but they should avoid ostentation; they cannot work independently, but it is useful for them to enjoy some autonomy; etc. (Nóvoa, 1999, p. 18).

Many functions are assigned to schools and teachers; the resources supplied to them are not enough to allow the development of their responsibility for providing education and being a multifunctional institution. Thus, the consequence of this relationship is disappointment and disenchantment with schools and a deep sense of unease among teachers, who perceive that they cannot meet these demands (Fanfani, 2007).

Esteve (1999) and Fanfani (2008) indicate many factors to relate such dilemmas, tensions and the unease experienced by teachers with the present social transformations. The changes have contributed for the maladjustment of teachers in their profession, since present teaching practice differs from the teaching

practice performed twenty years ago (Esteve, 1999). For Fanfani (2008), the new working conditions and the issue of professionalism are keys for understanding this mismatch. Society's expectations about school and the work of teachers make them feel devalued because of the lack of commitment and incentives by government.

These undefined functions of teachers make their identity and its sense more uncertain. Due to their multiple tasks, teachers find it difficult to define and limit objectives and priorities in their professional activities, which leads to the occurrence of the famous "identity crisis" experienced nowadays by teachers (Abraham, 1988; Cole, 1985; Esteve, 1991; Maceda, 1994; Teodoro, 1992; & Vila, 1988).

Therefore, there is not a limited field in the teaching practice for its own occupations and functions, differently from many professions. Many times teaching is not even classified as a profession, in other words, it is recognized as an occupation (Tardif, Lessard, & Gauthier, 2001).

Besides, the increased number of teachers hired at a temporary basis in Brazil, usually under poor work conditions, deserves special attention. In this context, the wage policy of the public sector is marked by different and flexible measures. Thus, the types of work of teachers differ, according to their career, work contract (permanent or temporary), position, work scheme, level and class, time of experience, endowment in positions of trust, incorporated bonuses, titles. Therefore, there are more factors that hinder the creation of a common identity for education professionals (Oliveira, 2002).

The present social scenario, besides other factors, has contributed to the intensification of the demands on this profession and schools, and, consequently, on the "identity crisis". Social and economic changes in our society directly affect the expectations about teachers' work, in other words, teachers' professionalism. For Tardif, Lessard & Gauthier (2001),

> motion for professionalization of teaching and the training advances it demands are what is now called "social constructions", referring to the symbolic and organizational activities of groups trying by various means to enforce their conceptions of profession and training (p. 16).

In this respect, the author draws attention to the fact that teachers have been increasingly under the condition of spectators of their professionalization process, with little room for autonomy, since the definitions about teacher training and profession are formulated by actors external to the process - higher education researchers and education policy-makers. Therefore, professionalization process takes place through social construction, ie, "it is a dynamic and contingent reality, based on collective actions of a group whose identity is constructed through interactions with other groups, instances and social actors"

Based on this definition, it is possible to measure the complexity involving the teaching practice and the formulation of teachers' professional identity, since multiple determinations are involved in this process. These professionals have been influenced by schools, reforms and the political scenario that comprises personal commitment, desire to learn how to teach beliefs and values, and to learn the subject they teach and teaching methodologies (Lasky, 2005 as cited in Carlos Marcelo, 2009).

In such context, we intend to analyze the social representations of active teachers about being a teacher, trying to understand the influence of initial training and work experience on the construction of these representations. In this sense, we formulated some questions to guide this study: what social representations do active teachers have about their profession? How do these representations help understanding the creation of professional identities?

Therefore, when we try to understand the creation of this professional identity, it is necessary to recognize the social representations of active teachers, based on the principle that this representation allows teachers to define the components of their professionalism, as well as certain actions and behaviors.

Contreras (2002) helps us to understand this, defining professionalism as related to the qualities of the professional practice of teachers, according to the demands of educational work. More than that, for this author, it is important to analyze the representations about professionalism, since the imagery that teachers have about this subject associates the professional concept to the occupational values that comply with characteristics and needs of the completion of teaching practice.

Thus, in this research work, we will deal with three dimensions that characterize professionalism, which are important to understand the problem of autonomy from an educational perspective, as Contreras (2002) points out. The dimensions are: moral dimension, commitment to community and technical dimension.

For the moral dimension, teaching is a moral commitment for teaching professionals (Contreras, 1990 as cited in Contreras, 2002). It is related to the moral obligation present in education, which is above any contractual obligation that may be established in the definition of a job (Sockett, 1989 as cited in Contreras, 2002). The implicit characteristics of this dimension are related to the fact that

above academic achievement, teachers are committed to all their students and their personal development, in spite of the frequent tensions and dilemmas: it is necessary to foster advance in the learning process of their students, without neglecting the needs and recognition that all students deserve, as human beings (Contreras, 2002, p. 76).

This dimension seems to be very connected to the emotional relation present in teaching practice, as well as to the commitment to professional ethics. The feeling itself of being committed or morally "obliged" demonstrates the emotional aspect of this profession.

However, institutions, administrative regulations or the characteristics of teachers' work contradict or even hinder the accomplishment of their values, which leads to tensions and dilemmas that can only be interpreted as moral dilemmas. Therefore, it is possible to notice that teachers are professionally committed to modify their working conditions, overcoming contradictions and conflicts, or finding out arguments or reasons to explain their condition.

As for the commitment to the social community where teachers develop their professional practice, it is important to highlight that the moral dimension intrinsic to the educational process is not an isolated fact. On the contrary, it is a social phenomenon. So, education is not mainly a personal problem of teachers, but an occupation socially demanded and publicly assigned (Contreras, 2002).

However, it is also necessary to consider the involvement of communities in the decisions related to teaching, although it is troublesome, since,

> on the other hand, teachers can only assume their moral commitment based on autonomy instead of obedience, since conflicts and dilemmas can only be solved based on their autonomy [...] This double awareness that they must necessarily be autonomous in their professional responsibilities and, at the same time, publicly responsible, is a source of contradictions and tensions between teachers and communities, which is commonly presented as a conflict between the authority of professionals and of society (Zeichner, 1991 as cited in Contreras, 2002, p. 79-80).

Thus, these problems are related to the forms of public participation in education, through which society influences the decisions about the content of teaching and controls teachers' duty.

School commitment is mainly supported by the transmission of contents and knowledge to students. However, based on the concept that schools are also in charge of providing social opportunities through education, it is possible to notice that, in many situations, teachers face conflicts with school institutional definitions and regulations about its functions and the traditional practice. Therefore, the recognition of school social meaning and education intervention policy sometimes is transformed into oppositional practice and strategic actions that broaden the meaning of teaching professional practice. Nowadays, teachers are not seen as isolated people in a classroom. Instead, there is a collective and organized intervention in places that dissociate knowledge from the social and political consequences of teaching professional practice (Contreras, 2002).

The technical dimension, according to this author, is based on the perception that it is evident that teaching practice requires, as any other activity, some mastery of skills and techniques, acquisition of contents and, in general, didactic resources. Besides, it is necessary knowledge about cultural aspects and the context or the object of the teaching content. It is vital to know that professional competence exceeds merely technical procedures of teaching resources (Contreras, 2002).

The moral obligation, here proposed by the moral dimension and the commitment to a community demand professional competence – here related to the technical dimension – consistent with both. As for the competences proposed through this dimension, Contreras (2002) affirms that it is only possible to judge and take professional decisions through professional knowledge, since it provides reflections, ideas and experience to support such decisions. However,

> Professional competence refers not only to the knowledge capital available, but also to the intellectual resources available aiming to extend and develop this professional knowledge, its flexibility and depth. The analysis and reflection about professional practice is valuable and a basic element for teacher professionalism (Contreras, 2002, pp. 83-84).

Through these three aspects of teacher professionalism, it is possible to achieve different forms of understanding teaching professional autonomy, according, evidently, to the educational context, its purpose and practice. Finally, it necessary to understand what teachers think about "being a teacher" in a way that

they feel they are the object of their own actions. Teachers are the main actors of education action, and that is why it is important to hear them to establish their strategic actions aiming to value their work and improve the quality of teacher training courses.

METHOD

We decided to prioritize the qualitative approach in this research, since it reveals the dynamics and singularities that allow the identification of the social representations of the group of teachers related to being a teacher (Ludke & André, 1986).

Subjects of the research

We defined as subjects of our research work teachers who had graduated in Pedagogy, up to six years ago, from the Universidade Federal de Viçosa (UFV) and were employed as elementary school teachers, dealing with the first series (qualifications available for graduates in Pedagogy).

These teachers should be in the first years of their career. Huberman (1989) and Lima (2005) believe that adaptation to the profession occurs in the first 3 to 6 years of professional practice. Therefore, our intention was to analyze the representation of these subjects related to teaching when they are still adapting to their new activity.

The main subjects of this research are 15 teachers of public and private schools of municipalities of the Zona da Mata Mineira, ranging between 25 and 29 years of age.

Instruments for data collection

Questionnaires and semi structured interviews were used as instruments of data collection. The main objective of using the questionnaire was to define the social, economic and cultural profile of the participants, knowing their life style, cultural practices and social and economic context, recognizing that these elements are the basis for such practices and meanings.

The semi-structured interview was used aiming to deepen the approach to our object. The interview contained questions that sought to make the subjects relaxed to express their ideas, while the researchers should make them keep the focus of the interview, in case they digressed from the subject. The interview also allowed access to information about their motivation to enter and remain in the profession, their life and working conditions, professional perspectives and the meanings they ascribed to their profession. Due to lack of space, the present work is limited to the analysis of the interviews.

Data analysis

The data achieved through the interviews were analyzed with close attention to the nuclei of the meanings or themes that could be extracted from the discourses, which were directly related to our object of study: the representations of being a teacher.

The interviews were carried out at the schools where some of the teachers work and in the house of some others. They were recorded and then transcribed for analysis. All the interviews were carried out and transcribed by the researchers, so that the participants could not be identified and the situations of the interview could be better controlled.

The analysis of the interviews, as previously mentioned, was performed according to the content analysis technique proposed by Bardin (1995). At first, an initial data analysis was carried out, considering the responses to each question. The responses were organized in tables to facilitate the organization of the units of analysis. Next, for a better understanding, a larger number of responses to different questions were grouped. "Categorization is an operation that classifies elements that form a set, by differentiation followed by re-grouping based on analogies and defined criteria" (Franco, 2005).

Thus, more agglutination of the responses of the interviewed people could allow better understanding and, consequently, a categorization more appropriate to the objectives of the research. Therefore, the path to reach the teachers' social representations allowed broader understanding of the teacher identity construction process.

RESULTS AND DISCUSSION

After conducting the questioning regarded relevant to find out the social representations of the teachers interviewed, we finally asked them what was the meaning of **being a teacher**, mainly seeking to know the identity they attribute to themselves as teachers. For the analysis of the responses given, their representations were grouped into two dimensions: moral and technical.

The moral dimension was perceived in the discourse of most teachers, namely, 73,52% (n=50) of the concepts of being a teacher were related to the moral dimension. These representations provided by the teachers reveal a commitment to education targeted at promoting changes; dedication is more important than any contractual clause; respect for students and their parents; awareness of their role in society (Contreras, 2002). In short, the teachers see themselves as committed and serious professionals, eager to develop this teaching relation, as revealed in these reports:

> Being a teacher is a constant challenge, a daily study, dedication and an enormous pleasure. It means to believe in people and try to give them a better future. It means that you like people: you like education and believe in it, if you don believe in education, do not become a teacher **(Paula: early grades of Elementary school; public school; permanent teacher; 4 years of teaching experience).**
> First of all, you have to like it a lot! You must love this profession! And you must have patience, love for the profession, for the people and be focused on a target **(Alice: Early Childhood Education; public school; permanent teacher; 2 years of teaching experience).**

Contreras (2002) considers that the moral dimension of teaching is closely linked to the emotional issue present in every teaching relation. Besides, we also observed affective aspects in the discourses of the teachers - 11 utterances –, mainly when they relate teachers to family relationship, which is observed in the reports of the teachers Fátima and Marcela:

> Being a teacher is almost like being the father or the mother of a child, since you have to bring children up, telling them what is wrong and what is right **(Fátima: Early Childhood Education; private school; temporary contract; 2 years of teaching experience).**
> Being a teacher... is being an educator, father, mother, friend, partner, because students are in need, they lack something, I think schools should not focus only on content, but schools should teach for life, ethical values, citizenship, so, being a teacher is this **(Marcela: early grades of Elementary School; public school; temporary contract; 3 years of teaching experience).**

It must be highlighted that teachers value education. For them, it is vital to believe in education and be aware of their role in schools to carry out a good job. This element appears six times in the discourses of the teachers. Teresa makes it clear in the beginning of her speech about being a teacher:

> For me, being a teacher is, above all, believing in education! I think teachers must believe, they must know that, in spite of everything, all the system in which we are inserted, our work can surely make a difference! **[...] (Teresa: early grades of Elementary School; private school; CLT contract; 6 years of teaching experience).**

Commitment to the profession, love and dedication are representations frequently observed in the discourse of the teachers. To be gifted and enjoy being teachers also seem to be essential for some of them. These elements are mentioned by the teachers 11 times in their utterances. For them, knowing the contents is not enough, it is necessary to be gifted to exercise the profession. The valuing of the profession seems to come from within schools, so that society can value it. Most of those who highlight these representations in their speech believe that without such precepts, it is almost impossible to remain in the profession:

> Being a teacher is first of all loving what you do,[...] being aware of one's role is very important, isn't it, and to have it all, to manage to make it all, you should have many qualities, that was what I said, you have to be dynamic, creative, persistent, patient, you should have many qualities that are not easy to achieve, you know, but above all, you have to like it very much, love what you do, I think that being a teacher would really be an act of love, because if you think about the difficulties, you don't stand, it would be very beautiful **(Nanda: early series of the Elementary School; private school; CLT contract; 6 years of teaching practice).**
> Being a teacher is enjoying the things you do, be loving, attentive, perceptive, because you have to realize the need of each student, knowing by just looking, how they are, if there is anything wrong; you must be friendly, a real partner of your students, transmitting confidence to them; it is a set of feelings, a mixture that you know little by little, and it is all that, you should be lovely, understanding, it demands a great effort, goodwill and only with this set of feelings you succeed,

because on the contrary, it won't work! **(Lara: early series of Elementary school; private school; CLT contract; 2 years of teaching practice).**

In relation to the technical dimension, which achieved lower frequency in the discourses of the teachers interviewed – 26,47% (n=18), we observed that this dimension allows the acquisition of professional competence, namely, this is a dimension that characterizes teachers by what they do, by their competences. Seeking professional autonomy and reflecting about their practice are very important aspects in the search for teacher professionalism. However, it was possible to observe that even appearing during the whole discourse, only one teacher pointed out these aspects as representations of being a teacher:

> It is someone that must understand several situations, different moments, being really patient, searching for the best for each student. It is difficult... And there is the point that you are always seeking the best for students, teaching in a way to make them learn with pleasure, always reflecting about different situations **(Júlia: early series of Elementary School; private school; CLT contract; 6 years of teaching experience).**

Therefore, it is necessary to point out that teachers may develop their professional competence, understood as an intellectual competence that is not only technical, when they start to recognize their capacity for a reflexive action in the construction of professional knowledge related to the content of their profession, as well as the contexts that condition their practice and extrapolate classes (Giroux, 1990; Smyth, 1987 as cited in Contreras, 1999).

CONCLUSIONS

At the end of this work, it was possible to observe that the social representation of being a teacher constructed by this group of teachers holds moral, vocational, emotional and technical characteristics, among others, related to teaching. Such representations were disclosed through questionings about characteristics inherent to teachers, namely, the experiences lived while taking their Pedagogy undergraduate program and their professional experience in classroom.

The social representations of teachers about teaching seem to be related to the moral dimension. In other words, a dimension that characterizes teachers' professionalism, demonstrating that teachers conceive themselves and their profession affectively, emotionally, vocationally. Therefore, based on the discourses of the teachers interviewed, and the literature studied, it is possible to agree with Nóvoa (1999), when he affirms that even when "the mission of educating is replaced by the practice of a job, and vocation gives place to profession, the original motivations do not disappear, in other words, the prevailing feelings of teachers are those elaborated from a set of norms and values widely influenced by beliefs and moral and religious attitudes" (p. 16).

In general, it was possible to perceive that the choice of becoming a teacher is mainly influenced by families, making it very cleat that professional representation is related to vocation for teaching. "Love for children" and the interest in the profession since childhood also indicate this emotional and affective representation of teaching, which seems to agree with the vocational dimension prevailing over the years, in spite of the social, cultural and institutional changes we observe in our society.

We also observed the prevalence of a positive representation of the teachers in relation to their profession. Perceiving that the social representations of the subjects establish communication and social behaviors, we consider that these positive representations of professional teaching may counterbalance the negative and demanding representations of this profession nowadays, since, according to Gilly (2001, p. 321-341), social representations assure the possibility of preserving the balance of the subjects themselves, as well as their need for coherence in their social practice and in their relations with those that surround them.

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148 - Perceptions about Collaborative Consultation in the View of Reflective Field Notes Constructed by Teachers in Regular Public School

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Abstract: Objective: To study the implications of reflective diaries as a tool for reflection and evaluation of a proposal for collaborative consultation. **Methodology:** A total experience of two teachers of a public school in a town in the state of Sao Paulo. Data were collected through teachers' reflective field notes and analyzed the social interactionist perspective from the theoretical assumptions of Bakhtin / Vygotsky and Volochinov. **Results:** The findings revealed that teachers had a personal interpretation of the element worked in research, professional practice, with comments that expressed their ways of understanding the component concerned, consulting collaborative. **Conclusion**: We could confirm the reports through the teachers field notes that the proposed Collaborative Consulting helped the teacher to exchange experiences and reflect on their own practice.

Keywords: collaborative consultation, teachers, group practice

INTRODUCTION

Thinking about the possibility of producing a critical reflection together with professionals in the education team, seek and put on the agenda collaboratively through a process of research-training, emphasizes the importance of collaborative work. Research on collaboration has served as the basis for creating knowledge to build/implement new/other educational alternatives which may be facilitated school inclusion processes, considering the complex interactions in context (Aldinger, Wagner & Eavy, p. 1991).

Thus, investigating the transformation of the practice of teaching professionals, from research and critical reflection of pedagogical action, through continued context training is a healthy process to meet the diversity of inclusive contexts inclusive in the 21st century.

In this perspective, the crucial element of this text is the current issues involving the theme of school inclusion: the challenge to qualify the pedagogical work developed in classrooms, as well as providing regular assistance for teachers to reflect their practices.

THEORETICAL REFERENCE

In this direction, several studies (Mendes, 2008a; Daniels, Creese & Norwich, 2000; Duchardt *et al.,* 1999) have emphasized the role of collaboration as a natural component in special education aid, that is emphasized the school consultation, named collaborative consultation, an effective technique for various purposes, defined more precisely as an interactive process that enables people with various skills to generate creative solutions to mutually determine the problems of the school environment, where the biggest consequence of collaborative consultation is to provide comprehensive and effective programmers for students with special needs in regular classrooms.

The literature has been pointing out that the collaboration between special education teachers has made possible a reflection of pedagogical practice and extending the possibilities of better serve students with special educational needs in common class, in addition to provid a professional development focused on own school (Capellini, 2008).

The educational partnership between the regular and Special Education is known as collaboration and can be provided in the form of two models: a) the collaborative consultation - in which the teacher/special education professional promotes assistance to regular education teachers and indirect services for students; and (b) co-teaching, in which educators experts work with regular education educators, providing direct services in the common room (Weiss & Lloyd, 2003). Collaborative consultation is, therefore, a support model-based collaborative work between professionals (psychologists, physiotherapists, Audiologists, etc.) and common school educators (Blackwell, 2006).

The peculiarity of collaborative consultation is working together, where both the consultant (Professional) and consultee (regular teacher) share knowledge with a view to develop a solution in the school context. Maybe features like collaborative consulting are absolutely understood only with a future change in philosophy having in mind the learning difficulties and behavior, where there are other paradigms and inclusion can be favored with resources and support that are definitely part of regular education. But until that happens, you can not continue discouraging children and young people of their rights to education, healthy development, equal opportunity and social harmony.

The consultant's role is to assist the teacher to build strategies and review the potential of their students so that they can effectively develop academically. Collaboration is a template to determine a plan and it is thought, and supported by all who are involved in the process (Mendes, 2008b).

Generally the collaborative work involves a pair of teachers (regular and special education) where his arrangements can occur during fixed periods of time and their strategies will depend on the curricular demands, student needs and characteristics (Bauwens, Hourcade & Friend, 1989).

The collaborative consultation is a proposal in which collaborative learning is present, because the professionals involved reflect together to solve the problems of the classroom.

Both consultant and consulted should have contributions to make and to improve the situation of the student. Kampwirth (2003) describes that the collaborative model should avoid the dependency relationship between consulting and consultant that can easily be developed. The author also proposes a list of characteristics for the collaborative model that comprises since coordinate conditions, the involvement of the consulted throughout the process and with the right to accept or refuse a strategy because the advice is voluntary.

Collaboration and cooperation are fundamental to the implementation and monitoring process. The student is the key of the plan and determines future modifications. In implementing it the student, the class, the teacher, parents, the consultant, anyway all the persons involved must have an understanding of their role. The consultant is also important to know about the skill levels of those people, so that the plan is well implemented and succeed. The consultant and consulting team must work together and ensure issues to direct targets. Attempts to eliminate the resistance are fundamental and should establish a collaborative relationship.

According to Kampwirth (2003) the collaborative consultation should be developed in steps, which are:

1- *referrals* i.e. should be conducted with the teacher who needs help with his students and that a consultant should explore information form (to take an interest in the context of the case); 2-) *initial discussion with the teacher*; 3-) class *observation*, since in order to solve the learning and behavior problems it requires a longer observation of the aspects relating to verify whether the dynamic behavior and teaching and learning process. The consultant must have common sense to reflect and then to observe and collect important data: 4-) *meeting with parents*, that dynamic stresses that parents must be called before starting the consultancy, but the consultant should be very aware of the dynamics of the problem; 5-) *assessment and referral of students*; 6-) *Plan of intervention*, at this point, the consultant shall review all other referrals: talking with the teacher and parents; the observation of the child and of the class, the possibilities for discussion among those involved in the process. Equipped with the plane and having done all the reflections it is recommended that the collaborative approach is carried along with the consultee in order to develop a plan for intervention; 7-) *monitor the intervention*, because the evaluation should be formative and cumulative, i.e. based on the process to determine the goals of the consultancy.

In this way the result of Alpino's research (2008) corroborates the collaborative consultation program of professional / physical therapist for teachers with students with cerebral palsy seen in the context regular school. From the perspective of school inclusion this work had the purpose to verify if the collaborative consultation promoted by a physical therapist for teacher could improve children with severe or moderate devellopment who attended elementary school in common classes**.** The findings were significant from the involved team perspective, concluding that the physical therapist has contributed to the process of school inclusion of these students through collaborative consultation.

Thus, for Gregory (2010) collaboration has proved the main contemporary strategy to feed innovation, to create and sustain effective educational programs. When considering the difficulty of the educator in knowing effectively the needs of all his/her students, the author suggests that the knowledge and skills of specialized teachers and professionals in instructional strategies, approaches, cooperative learning, behavioral problems and evaluation practices among others knowledge, could provide the most effective schools.

Under this perspective, the increasing number of children who need specialist care boosted the demand for services where the playing field became the school. In addition, the professional specialist acting in the school would be recognizing the importance of teacher support to solve the school problems.

Under this perspective, the increasing of children who need special care boosted demand for services where the playing field has changed to the school. In addition, the professional expert acting at school would be recognizing the importance of teacher's support in solving problems of school (Mendes, 2008b).

Thus, the collaborative consultation seems to contribute to the minimization of special educational needs-NEE by many regular public school students, due to poor academic performance and problems of development, these students are prevented from developing in the learning of new content and thus become marginalized within their own school environment.

Accentuated learning difficulties have been of great interest for Special Education because of problems in this area can affect social inclusion and thereby produce a negative impact on the student's self-concept and in their sense of self-efficacy learning causing a great negative impact leading to difficulties in academic learning (Stevanato, Loureiro, Linhares & Marturano, 2003; Anache, 2008).

In this perspective, Romero (1995) and Smith and Strick (2001) and Jesus (2008) highlighted the role of the teacher as a fundamental item to identify and screen the difficulties presented in school. In fact, the teacher's experience, as shown by these authors, is fundamental in learning situations in the classroom, observation of behavior, observation strategies for problem solving, observation of the student regarding their attitudes towards questions and observation in relation to the performance in the assessment and school development. In this light the family is also seen as essential to facilitating this process.

According to Pimenta (1999) continued education for teachers of elementary education needs new approaches and renewal of scientific thought and institutional practices concerning the training of teachers, because according to Perez Gomez (1992) teacher training adopted in many Institutions, understood only as a socialization process and induction training in classroom practice, without resort to support conceptual and theoretical research, leads to the reproduction of vices, prejudices and myths accumulated during the teaching practice (Anache, 2008).

Gregory (2010) emphasizes some basic features that should be considered in collaborative consultation: the relationship between the involved called, consultant and consultee, can not be hierarchical, the relationship should be equal among peers.

In Brazil, Mendes (2008b) collaborative work in schools has been investigated as development strategies and not as a process of training teachers in diversity.

Thus, the teacher's reflection on their own practice becomes a significant contribution to the development of teaching and learning. Reflective diary or journal classroom as an instrument of research teaching in the context of a teaching training work is contributory (Ohuschi & Menegassi, 2009).

According to Zabalza (2004), the introduction of reflective didactic proposals into action, allows the teacher to get rid of certainties and behavioral routines and acquire skills that will enable you to adapt to the knowledge arising from research and develop its own investigations in the classroom. In other words, the reflexive problems of research practice allows teachers to make their beliefs and theories implicit, develop them and/or will restructure them, establish chances of intervention with the aim of resolving these problems from new perspectives of understanding.

The daily classroom still according to Zabalza (2004) is as a strategy, being greatly valued in the training of teachers because the reflective writing activity, allowing the teacher a deeper note of events practice.

According to Bakhtin/Volochinov (1992), the "monologização" process of social consciousness occurs for the individual, because according to them, "externalizing it themselves, the inner content changes appearance as it is obliged to take ownership of the material, which has its own rules strange to the inner thought"(p.111). This way, the authors claim it is the expression, namely, the externalization of a speech, which organizes the mental activity of the individual and not the opposite, because it is the social set in which the announcer shares that determines the form of expression.

Vygotsky (1988) comes to Bakhtin, when the calls of "internalizing the internal reconstruction of a foreign operation" (p.63), saying, therefore, that consciousness is internalized through interactions that are outside of the individual: the social to the individual.

However, to amplify this knowledge, seized the social need, according to Vygotsky (1988), a time to mature, because "The transformation of an interpersonal process in an intrapersonal process is the result of a long series of events throughout the development" (p. 64).

In the interacionista approach, we also have the reading and discussion as prior activities, however, they do not occur so directed, but through the interaction between individuals, creating dialogues, producing directions, from several voices found there. The written production happens in another time, which provides a distance, i.e., a timeline needed to be internalized, which gives a more sophisticated, since there was no time to mature and that the words of others became the producer's own words therefore according to Bakhtin

(1997), "the words of others introduce their own expressiveness, his tone value, assimilators, redesigned, changed" according to Bakhtin (2003, p. 294).

That way, writing occurs "as a process, a do and redo the text and an ongoing remake of producer, elaborating his knowledge of the world, language and yourself" (Pazini, 1998), i.e. the timeline required to occur the internalization and consequently the ripening.

According to Smith (1992) four actions are necessary for the teacher to engage in critical thinking: describe, inform, confront and reconstruct. From this perspective, gender reflective diary was proposed.

Under this perspective the aim of this study was to verify the implications of reflective diaries as a tool of reflection on his practice and evaluation of a proposed collaborative consultation.

METHODOLOGY

The study was based on collaborative research modality, whereby the browser takes ideas to the field of research to cause any impact on the environment and participants on which the data were collected. This study is part of a pilot study of amplitude more accomplished as a requirement for completion of the course ' Topics in special education: collaborative consultation "inserted in the curriculum of the graduate program in special education from the Federal University of São Carlos-UFSCar.

The analyses were conducted in sociointeractionist perspective from theoretical assumptions of Bakhtin and Vygotsky/Volochinov. This way, we reflect on an aspect of verbal interaction proposed by Bakhtin/Volochinov, the process of "monologização" (or internalization in the vision of Vygotsky (1988)), which is fundamental to the formation of metaconsciousness, to then present the analysis of records harvested in reflective journals

Participants and location: Study participants were two teachers from a public school network belonging to a small town located within the State of São Paulo. Both of them were female, with 54 and 55 years old, both graduated in pedagogy. The teachers included in this study were those that agreed to voluntarily participate in the survey, whose students (indicated by them) had learning difficulty and behavior. The names of the teachers were modified in order to preserve anonymity.

Procedure for data collection: the data were collected through teachers' reflective diaries, which states that individual or collective writing and reading is a daily activity and self-construction of autonomy. The teacher diary is regarded as an instrument to detect problems and clarify concepts. The study was previously drawn up in two steps. At first the researchers contacted the teachers explaining the content of the proposal of collaborative work, which was accepted without obstacles and with much enthusiasm by the same. Also in this stage produced a script to punctuate and help in the comments of the meetings. In the second stage began meetings and collaborative consultation itself, where planning and guidelines were giving in the form of dialogues and readings followed by discussions on chosen themes. To make this meeting extra classes were given.

Data analysis procedure: Teachers reflective diaries were described chronologically, the trajectory of lessons involving the practice chosen, it is also the teachers presented a personal interpretation of element worked in research. Thais is, enriched description with comments expressing his way of understanding the element in question, the practice of inclusive and collaborative consultation.

RESULTS

In the first moment of interaction between researchers and teachers/participants was contributed to scientific knowledge about inclusive practices, seeking to understand the process of acquisition, studying and discussing their different conceptions and characterizations. This gave scope for the development of possible intervention strategies practice with students. The reflections undertaken during plans were always held on the experience of everyday practice and theoretical reference used by teachers.

Then a second time sought to deepen the analysis of the material studied – reflective diaries. It was from this step that the teachers were completely immersed in education. They highlighted that during the process, the biggest transformation in his practice had been the construction of reflective diary, because when a person recites the facts lived by herself, which reconstructs the path traveled by giving them new meanings. Thus, the reflection before the practice causes changes in how people understand themselves and others (Zabalza, 2004). The establishment of a friendly interface also contributed to the collaborative process.

As expressed in the following reports:

" L. and A.P. tried and showed willingness to perform the activity, but it was only possible with my help "

"... our meetings gave us the opportunity to emerging ideas with attempted changes with the evolution and progress in relation to our students and our pedagogical practices."
(Daily reflective Teacher Sylvia)
"B. is already starting to read and write so that they understand, l. already presents more difficulties, both in reading ..."
"Today I found very productive activity because awakened interest in students ... they spoke spontaneously on the subject."I felt that they, especially the b. achieved activity, saw that he felt very happy." (Teacher Aracy reflective diary)

Work in collaboration provided to teachers a more critical look to their practice, and enabled further on practices developed in collaborative consulting program, not detailed in this report. The work of researchers in this process has proved sometimes difficult, but allowed him to look to professional reality with greater security and autonomy.

However, the collaborative model in this work is not only an implicit knowledge in practical activity. It is a dialogue between the lived practice and theoretical constructions made reflexive by both partners – researchers and teachers. This action showed the positive impact of collaborative consultation when worked effectively and committed.

Thus, the teachers had the chance to think about their lessons, i.e.to become the other of themselves, as postulated Garcez (1988), which may reflect on his writing, his practice and develop metaconsciousness - the strategy to take conscience about his writing process, and therefore as subject.

It was possible to score an assessment and practical nature of the collaborative consultation from the viewpoint of the participants-teachers, for work beyond that permit the reflection of pedagogical practices by teachers / participants, it becomes important to consider the implementation of collaborative strategies in future research, which may, in turn, perhaps subsidize Public Policy.

CONCLUSION

We believe that the teachers thought that, in writing as design work, there is a continuous process of teaching-learning process, because they tried to relate his writings and activities designed for students, and also understood that, in this process, in accordance with Sercundes (1997) the production of a text serves as a starting point for other productions. Furthermore, it was worked just as well in time for the sedimentation and the internalization of knowledge (Vygotsky, 1988), i.e. there was no time for reflection and for their own words to become words interjections according to Bakhtin (1997).

According to Demo (1992, p. 25) in education is mister working educational spaces of "learning to learn" have attitudes research on practical reality, what was possible to these teachers as they reported their practice in an attempt to approach reflections that would lead to new proposals for performances.

Generally observed that through analysis of reflective journals could emphasize that the collaborative consultation led to these teachers the opportunity to review their practices and try new ways to meet the diversity of the student with special needs. The rest of the exchange of experience between the pair led to an increase of activity of the teachers, demonstrating greater autonomy in the process of creation and operationalization of activities which promoted sustainability reflective practice.

So as it was punctuated by Mendes (2008a) exchanges of experience between employees and teachers encourage the resolution of problems, because the reflective dairies provide ways to act and this leads to an action-reflection of the daily practice of the educational context. Moreover check the reflective diaries allow you to understand the demarcated by the actions of intervention teachers which generates specific actions for new forms of interaction with the student.

Finally, it is worth noting that, a priori, this study can be considered a small experience, but with fundamentals that incite to future reflections and new proposals for studies, based on action-reflection of professor culminating in the development of reflective journals for a joint action within the school inclusive.

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150 - Student Teaching Abroad and the Development of the Culturally Competent Classroom Teacher: Transformation from Diverse Experience

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Abstract: Colleges in the United States of America have been charged with preparing future teachers to meet the needs of diversity in their classrooms. This paper focused on the perceptions of student teachers and pre-service teachers who did their student teaching requirement abroad and how these teachers approached diversity in their classrooms, how diversity manifests in their instruction having been through this perception altering experience. The stories of transformation are framed through the lens of their experience abroad and how those experiences acted as catalysts in the classroom to work from a curriculum of diversity.

Keywords: diversity, teaching, abroad, culture

BACKGROUND TO THE STUDY

The National Council for the Accreditation of Teacher Education (NCATE) stated in their 2008 guide to the professional standards for the Accreditation of Teacher Preparation Institutions that teacher preparation programs are to include a component in which students become proficient in working with diverse students in P–12 schools. The rationale being that teacher education programs produce educators who "can reflect multicultural and global perspectives that draw on the histories, experiences, and representations of students and families from diverse populations" (p. 36). The fact is that "we live in a global age, and our schools and teachers must prepare today's students to take their places as global citizens. Such education requires an awareness of the world, its people, and its conditions" (Mahon, 2010, p. 7).

The goal of having educators prepared to deal with diversity in the classroom is a clear response to the fact that (a) immigration and diversity continue to be important variables to be met in the American education system and (b) "technological advances in communication and information processing, along with lower trade and investment barriers. . . translate into further competition" (Tajes, & Ortiz, 2010, p. 19); thus, American 21st century learners will have to compete in a global economy where they deal with people of other cultures on a frequent basis. Riche (2000) noted that "The U.S. population is significantly more diverse racially and ethnically now than it was in 1900" (p. 4). According to the 2000 United States census, 11.1% of individuals residing in the U.S.A. were foreign-born persons. Further, that same year 17.9% of families spoke languages other than English at home (U.S. Census Bureau, 2008). "We live in a mobile world where families move across national/cultural boundaries and enroll their children in schools expecting an education – wherever it is offered – that prepares them for their future" (Kissock & Richardson, 2010, p. 98). Thus, "we live in a globally interdependent world, are part of the global (not local) professions of teaching and teacher education and are preparing educators to educate young people who will live past the year 2100" (Kissock & Richardson, 2010, p. 91).

To enhance competency in a global economy, countries around the world are currently undergoing educational reforms "in order to prepare their students to be successful in the knowledge-intensive, high-tech, and globalized economy" (Smink, 2007, p.36). Unfortunately, in the United States, teacher preparation programs have been slow to react to the need for cultural competency in schools. In fact, some have accused them of failing to "act on the need to prepare our graduates for the globally interdependent world in which they will work and their students will live" (Kissock & Richardson, 2010, p. 89). Traditionally, "cross-cultural experiences for preservice teachers vary widely, from university-based experiences to full semesters or even years spent abroad" (Willard-Holt, 2001, p. 506) and "university-based cross-cultural experiences include coursework in multicultural and/or global studies, in-class simulations, conversation partnerships with international students, study tours, and semesters or years abroad" (p. 506). Few students are noted to participate in these programs though. For instance, in 1994, the American Association of Colleges for

Teacher Education estimated that only about five percent of American K-12 teachers had any academic preparation in global or international studies (Merryfield, 1994). By the 2009/2010 academic year, 260,327 American "students studied abroad for academic credit. . . . Student participation in study abroad has more than doubled over the past decade" (Institute of International Education, 2010). This number is still relatively low in proportion to the current enrollment rate of college students in the USA; in 2007, approximately 18.2 million students were enrolled in degree awarding institutions (International Center for Educational Statistics, n.d.).

To meet this criteria of teaching diverse populations, generally speaking, colleges of education have sought to "apply what we know about culture learning in teacher education programs to better prepare new teachers to encounter this increasing global diversity" (Cushner & Mahon, 2002, p. 45) which, in itself, intentionally is sound, but speaking about diversity and dealing with the rich and varying experiences that diversity brings to the classroom are two very different things. Perhaps more sound logic would be to work from the following premise:

> Developing the skills that enable an individual to live and work effectively among individuals from cultures other than their own requires significant, long-term, direct personal interaction with people and contexts different from those in which one is most familiar. (Cushner & Mahon, 2002, p. 45).

As Cushner and Mahon (2002) observe, "International student teaching provides an ideal way to address this" (p. 45).

Cushner and Mahon (2002) performed a study in which they looked at data from students who participated in the Consortium for Overseas Student Teaching (COST) program. In 2002 members of this program had the opportunity of placing student teachers in international venues "in the countries of Australia, the Bahamas, Canada, England, Ireland, New Zealand, Scotland, and South Africa" amongst others (p. 46). Results of Cushner and Mahon's (2002) study suggested:

> That the greatest impact was on students' beliefs about self and others, as evidenced through increased cultural awareness, improved self-efficacy and self-awareness, and professional development in terms of global-mindedness. These categories interact to demonstrate a new understanding of one's own role and improved ability to interact and teach in diverse cultural settings" (p. 49).

More precisely, "as a result of an impactful international experience, individuals begin to question their stereotypes of others and aspects of their own culture, which had before gone unexamined" (p. 49) and extended international teaching placements were seen to increase their cultural sensitivity which involved them in the process of learning about other cultures including their own. As Cushner and Mahon (2002) observed, "once out of the United States, students are able to 'turn around' and in effect look back on the country they left, viewing it from a different place and point of view" (p. 53).

Research on brief cultural immersion experiences of pre-service teachers has demonstrated significant lasting changes in attitudes and behaviors. Willard-Holt (2001) described the effects of a six day long cultural immersion in Mexico with the following outcomes experienced by pre-service teachers:

a) Confrontation and removal of preconceptions.
b) The first-hand experience of being in the minority.
c) Became less likely to prejudge students based on cultural background, linguistic difference, or disability.
d) Increased patience and empathy.
e) Commitment to expend more efforts in finding other ways to convey concepts to children who seem not to understand.
f) Became more globally aware and to instill this attitude of the importance of global awareness in their own students.

It appears that immersion functions well as a model when compared with classroom strategies to instill diversity awareness. As Dee and Henkin (2002) observed, classroom based teacher education interventions "designed to help individuals acquire the appropriate understandings and skills needed to work effectively with diverse student populations may not have significant impact unless teachers are willing to explore beyond the familiar comfort zone of the cultural status quo" (p. 36). Further, immersion experiences have strength over classroom instruction on diversity in that they force individuals to "confront and deal with the

ambiguities and psychological risks associated with learning about their own culture and those of others" (p. 36). The central issue remains, as the Wisconsin Center for Education Research (2004) points out, that without direct experiences in diversity new teachers "face large numbers of students who are poor, who come from varied racial and ethnic families, and who speak a first language other than English" (p. 4) without the tools or perspectives which may culminate in a "lack of commitment to principles of human diversity, equity, [and] social justice" (p. 7).

CASES AND REFLECTIONS

To see how theory falls into practice we spoke with college students who were in the preparatory stages for a semester of studying abroad and we surveyed teachers who did their student teaching experiences outside of the United States of America. In order to provide information rich cases we selected supporting anecdotal data from the narratives of student teachers' public blogs while abroad. Experiences were analyzed under the lenses of the current literature of study abroad experiences and diversity to see how those experiences impacted cultural competency and teaching methods.

There appears to be a trend in narrative data that we analyzed regarding the movement toward cultural competency as a teacher. We first asked six education students from the USA and Brazil to describe their motivation in studying abroad in each other's countries. Overwhelmingly, students suggested that they wanted to learn about the other's culture. One American student observed:

> The main reason I chose to participate in this [exchange program]. . . is that by going to Brazil I will expand my cultural horizons. Not everyone in the world is the same, and as an Intervention Specialist I will see this everyday in my classroom. By going to Brazil I hope to eliminate any stigmas of people who are different in my classroom and also in other people's lives. I feel that in America we are far too judgmental and not very accepting, and I hope that by going to Brazil I can work to change that. (A. Carle, personal communication, March, 23, 2011)

This illustrates Cushner and Mahon's (2002) idea of students being able to analyze and look back on their previous conceptions of the American reality and view it from a "different place and point of view" (p. 53). What is more interesting in this case is that this student was still in the preparatory stages of study abroad and had never left the USA in her lifetime – there appears to be a pre-effect before departure where students already turn a critical eye to their own culture. This particular student had already made social contacts with a Brazilian student who had come to study at her home institution, had the opportunity of being tutored by a Brazilian teacher in Portuguese, and had worked toward language proficiency with a Brazilian student from one of her institution's Brazilian university partners in a teletandem model of language delivery (Ellis, Abreu-Ellis, Bateman, Tabor, & Graham, 2010). Perhaps even more important is that, at the time of her saying this, she was only a few months away from departure to Brazil to study for a semester. She was facing the fact that she would live and partake in Brazilian culture for an extended period of time.

Once a student is exposed to another culture, the negotiation and self-reflection of comparing ones own culture to the new lived reality can be altering in terms of perception. This sort of dissonance that occurs in the mind because we presumably reference our culture most of the time as best, then have a chance to reflect from the outside on things that could change. A student teacher, while abroad in Tanzania, posted the following statement on her blog:

> While individual experiences still cause my eyes to widen and my jaw to drop, I have mostly recovered from the overall shock of the amazing differences that exist here. I truly feel a sense of "culture awe"! The way of life is "pole pole" (poh-lay poh-lay), meaning slow, and laid back. I can already see that it is going to be difficult to adjust back into American society, when that time comes. No one here is counting the minutes or excessively worried about time. Even though I'm incredibly busy and have taken on numerous responsibilities, I never feel overwhelmed or pressured by deadlines . . . The anxiety that I normally experience during the semester doesn't even exist here. It's impossible to feel anxious when people are so kind and happy. Some of my students recently informed me that the Tanzanian motto is "Uhuru na Umoja" (Peace and Love), although, for a while I was convinced that it was "No problem!" This is often the response to any inquiry or request. People are so accommodating, welcoming, and friendly that it is contagious. I have yet to meet someone that was in a bad mood or has had something negative to say. I truly admire the people that I have met here and have a genuine respect for Tanzania. I hope that am able to carry home some of

the values that are prevalent in this culture and cause them to be contagious in my own environment. (Friend, 2010)

This reflection is a good example of someone who was able to identify different aspects of culture, compare with their own culture, and embrace the difference. Further, she wanted to incorporate this aspect of life into her own existence and wished to share it and influence others upon her return home.

For this change in perception to occur, this opening of the mind, a negotiation of cultural meaning needs to happen. This is an exchange of information and a prerequisite trust and bond that occurs between the individual and individuals or groups of individuals in the host country. The follow excerpt from a student teacher's blog in Wales illustrates how cultural competency flows both ways:

> Today I taught the kids about Thanksgiving and how it began and what it means to be thankful. Then I took a small group of kids and I showed them a picture of a turkey (most of the kids had never heard of it, or had only heard of it as a country). I then had them create their very own turkeys using feathers, pipe cleaners and tissue paper. On their turkeys I had them write one thing they are thankful for. Many of the kids chose *Eid* for what they were thankful for. Since I'm in a multicultural school, many of the children recently celebrated *Eid* last week which is 3-day Muslim holiday. It was interesting to learn about their celebrations and then teach them about mine. We found many similarities and differences (especially in terms of traditional foods eaten during the celebrations). (Sweeney, 2010)

In this instance a space is opened in the classroom for cultural learning, both for the students and the teacher. There is a clear motivation to understand on both sides of the desk. Even though the curricular activity was one of a very American context when culture and diversity presented themselves the teacher opened space for discussion and attempted to better understand the lived reality of their students and found many similarities between the two cultures.

While students are doing their student teaching experiences abroad there seems to be stages of cultural development; an evolution of thought moving towards cultural competency. For instance, looking at the following observations taken from a student's blog in week two, week three, and week eight of a 12-week student teaching placement in Brazil, we see a drastic change in the focus of content of the student's narrative.

In week two, her observations are focused on that which is different or foreign. She focuses on her adjustment and discomfort:

> On a personal level, living in this apartment has really made me fortunate for what I have back home. It has been a struggle to get adjusted to brush my teeth with bottled water, shower with cold water that has no pressure, and air-drying my clothing. It has also been hard to adjust to the heat and humidity. (Meyerrose, 2011, February 6)

Otherness is a term that is used frequently to describe the awareness of difference. Often it is used to objectify another culture and, as a cognitive mechanism, to make rational the differences in the way minority cultures or subcultures function when compared with the majority culture without ever trying to understand the cultural significance of behavior or customs. A sense *otherness* is noted in week three of this student's student teaching placement, an awakening to the differences she is experiencing but with placing the onus on culture, when she observed cultural differences between Brazilian and American students in the following newspaper interview:

> [Brazilian students] are very social; [they] are very close with one another. They have gone to the same school for years so they're very comfortable and close with their classmates. This is good, but they're very social and it takes a while to adjust to that. (Eakin, 2011, February 24)

By week eight she has moved beyond the differences to realize that:

> I thought I would be intimidated by students in a foreign classroom, but I am starting to see that education is the same no matter where you are. Schools and students just have different ways of doing things! (Meyerrose, 2011, February 19)

In the final instance, she has moved away from the idea of *otherness* where she objectifies the other culture to realize that independent of differences, children are children, no matter where they are geographically. As Kissock and Richardson (2010) observed, "while the culture of every school is unique, experience working in schools around the world affirms the truism that schools are schools, teachers are teachers and students are students" (p. 98). In self-refection she further decodes the growth she has gained from the experience:

> While I have been down here, I have had positive and negative moments. Sometimes, I have wanted to just sit down and cry, while other times I have wanted to share with EVERYONE how good of a day I had with my students. These good times and negative times have had an impact on my student teaching experience. Each moment I have helps me grow and transform into the teacher I want to be.This experience has given me different challenges to face than if I would have stayed in [my home state] to complete my student teaching. Dealing with the obvious challenges of cultural diversity and communication have given me the experience I need to efficiently handle diversity and communication when I have a classroom of my own. (Meyerrose, 2011, March 5)

This particular student teacher had never traveled outside of the USA prior to her student teaching experience. By participating in such a program she placed herself in a situation where she actively suffered the burdens associated with being a cultural minority; struggling in communication and having different behaviors than the cultural majority - for instance, in social greetings it is customary for Cariocas (inhabitants of the city of Rio de Janeiro) to mock kiss both cheeks. This was a culturally different behavior for this particular student from the mid-west. She left the USA for this experience abroad having some technical knowledge of cultural and the expectation that she would have language issues outside of the school environment but, as Colón-Muñiz, SooHoo, and Brignoni (2010) observed, did "not have an embodied frame of reference on what it is like to be an "other" in a foreign country" (p. 71) having not had previous opportunities to travel abroad. This is very well illustrated in the following student teaching blog except taken from a teacher in Ghana:

> I know the kids have enjoyed me in their classroom. They are always crowding around my desk and hanging on me during their break times. They always have something to say about me being white. Like one little girl said she saw my mother in church and I said to her that it could not have been my mother since she is in America. So I explained to the little girl that just because the lady was white does not mean that she is my mother. I have heard several stories like this during my time with the students. (Pesch, 2010)

As Colón-Muñiz et al. (2010) further noted, student teaching abroad serves as a catalyst to move them toward cultural competency in that they:

> View the classroom from the students' perspectives, not solely their own. They recognized the importance of valuing the children's cultural capital. They shared their new consciousness for avoiding stereotypical assumptions about the international community and the need to know their immigrant students better, as a result. As important, they viewed themselves as more competent in using effective second-language pedagogy not only to support students linguistically and academically, but to expose them to the world community. (p. 69)

Thus, Colón-Muñiz, et al. (2010) allude to idea that there is a lasting effect on the individual who participates in a study abroad experience. We turn are attentions to this topic next.
In questioning teachers, one to five years after a student teaching abroad experience, on their perceptions of how this experience impacted the way they see diversity and how they assimilated it in their teaching practices, one teacher noted:

> Working with native Spanish-speaking students made me much more sensitive to the linguistic aspects of teaching, and prepared me to work with ESL [English as a Second Language] students. Since students in Ecuador are also much less regimented than students in the States, I learned how to lower expectations for specific student behaviors such as raising your hand or walking in a straight line. I became much more liberal in my approach.

This statement has important implications. Many teachers may enter the teaching profession believing that students must conform to their expectations and practices. The idea is that the students must learn how the teacher works to function in the classroom environment and be successful. The stark contrast here is that this teacher has learned that she must adapt to her students and the way they function in order for them to learn and be successful. In recent years in the USA, this epiphany that teachers need to adapt to their student's ways of learning have started to manifest in state level standards. For instance, in North Carolina, teachers are expected to be able to "adapt resources to address the strengths and weaknesses of their students" (North Carolina Professional Teaching Standards Commission, 2007, p. 3) and "adapt their practice based on research and data to best meet the needs of students" (p. 4). The teacher further noted that:

> When I step in front of a classroom, I understand that the children can come from similar or much different backgrounds to mine. Before my [student-teaching abroad], I was more assuming in relating the children's background to where they were from. The way I listen and talk to the students has changed as well. I am less presumptuous in my speech and more eclectic in my lesson planning and research.

This is congruent with the idea that "successful teachers present information in such a way that the majority of the class is challenged, yet can be successful. They adapt the assignment to meet the needs of the students who are either functioning higher or lower, or who simply need the material presented differently" (Stronge, 2007, p. 70). This notion of adaptability further expands out into this teacher's greater functioning with parents and community stakeholders in the school in Ecuador where they continues to teach:

> I try to work the lessons I have learned into how I treat students and their parents, and how I interact with them. I have learned to be more affectionate and feeling in my approach, as Ecuadorian society places a high value on family, and is very open and welcoming to others. Ecuadorians have little concept of personal space, and there is no stigma placed on friendly touch. They hug often and greet each other with a kiss on the cheek. The open what's-mine-is-yours approach makes interactions feel less formal.

What becomes evident is that student teaching abroad can be a catalyst to move teachers toward cultural competency because they are (a) exposed to the dissonance associated with having to live abroad for a time much longer than they may have spent before, (b) must adapt to both language and culture in many cases which makes them experience being a cultural minority, (c) have the opportunity from this prolonged exposure and these challenges to have the realization that independent of cultural nuances humanity holds some very large similarities across cultures, and finally (d) having realized this choose to better serve those of diverse backgrounds in their own classrooms, and (e) expose children in their classrooms to the validity of other cultural knowing and perspectives.

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162 - New Teachers' Working Experience: A Secondary Analysis of TALIS

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Abstract: Determining and understanding the challenges faced by new teachers and their corresponding support needs is a major issue for policy development and for addressing quality issues that many educational systems face. *"How well are new teachers equipped to face the challenges they encounter in the classroom and achieve their school tasks/activities?"* is the research question of this paper. The analysis uses TALIS data and the results constitute the first step of an on-going research project on new teachers and teacher education and training. The paper provides descriptive statistics related to 1) The new teachers and their activities in the classroom and in the school, 2) The challenges they face and the support mechanisms they benefit from, and 3) The new teachers' perception of their working environment. When relevant, the results will be discussed in light of the similarities and differences between the new and the more experienced teachers.

Keywords: New teachers, teacher professional development, TALIS, challenges

INTRODUCTION

Recently, a growing interest in recruiting and keeping new teachers has surfaced in response to the high attrition rate of this professional group in many countries (OECD, 2005). Between 30 and 50 percent of teachers leave the profession during their first 3-7 years of teaching (e.g. Achinstein, 2006; Darling-Hammond, 1997*; Schlechty & Vance, 1983). The main explanation underlined by research evidence is both the lack of sufficient and suitable support to keep teachers in the profession as well as the heavy workloads and poor working conditions new teachers face when they start teaching (e.g. Ulvik, Smith, & Helleve, 2009; Day, Stobart, Sammons, & Kington, 2006; Achinstein, 2006).

Throughout their teaching careers teachers develop competences by practicing and need training as well as support to undertake their work and to contribute to student achievement. The European Commission (2010) acknowledges that the working environments of teachers and the demands placed upon them by society are increasingly complex. Specifically, the EC states that *"(...) even initial teacher initial education of the highest quality cannot provide teachers with the knowledge and skills necessary for a lifetime of teaching. Teachers are called upon not only to acquire new knowledge and skills but also to develop them continuously."* (EC, 2010, p. 12). In this context, new teachers compared to more experienced ones, do not meet the same difficulties (or if they meet the same difficulties, they do not react in the same way since they are less experienced) and do not have the same training needs in relationship to their work. Determining and understanding the challenges faced by new teachers and their corresponding support needs is a major issue for policy development and for addressing quality issues that many educational systems face.

"How well are new teachers equipped to face the challenges they encounter in the classroom and achieve their school tasks/activities?" is the main research question of this paper.

As defined in the TALIS survey (OECD, 2009), "new teachers" refers to teachers in their first two years of teaching; "[more] experienced teachers" refers to teachers with more than three years of teaching. By "equipped", we refer to pre and in-service education as well as the support provided by principals and colleagues in the school (induction process, mentoring, appraisal and feedback). The analysis uses TALIS data and the results presented constitute the first step of an on-going research project on new teachers and teacher education and training. The paper provides descriptive statistics related to 1) The new teachers and their activities in the classroom and in the school, 2) The challenges new teachers face and the support mechanisms they benefit from, such as professional development, appraisal and/or feedback, and 3) The new teachers' perception of their working environment. When relevant, the results will be discussed in light of the similarities and differences between the new and the more experienced teachers.

The paper is structured as follows: Section 2 presents the theoretical background, Section 3 describes the methodology and Section 4 presents the findings. Section 5 discusses the results and concludes by pointing out future directions for the next steps of this research project.

BACKGROUND

Why focus on new teachers?

Recent researches in the area of teachers and teaching practices have highlighted the relevance of studies about veteran teachers' situations (Day & Gu, 2009). Nevertheless, the difficulties new teachers still encounter during their first years of teaching and their early departure from the profession support further investigations in order to better understand the challenges they have to face as well as the support or the education and the training they need.

The new teacher working conditions

New teachers in the United States and in most European countries are placed in high-needs urban or rural areas with particular student and family intake characteristics, including multicultural backgrounds low-income and, diverse language abilities (Castro, Kelly, & Shih, 2010; Achinstein, & Athanases, 2005). Achinstein (2006) underlines how new teachers are vulnerable in their school sites with the least desirable classrooms or students, insufficient supplies, insecure untenured positions. They are often placed in hard-to-staff-school and are constantly examined and inspected by administrators, colleagues, parents and students. These poor working conditions associated with heavy workloads are in contradiction with the research-based evidence stressing that the first teaching period experiences have the strongest impact on retention and that it is primordial to provide beginning teachers with a positive entrance into the profession (e.g. Rots, Aelterman, Vlerick, & Vermeulen, 2007; Ulvick et al., 2009). Ezer, Gilat, & Sagee (2010) analyze student teacher perceptions of teacher education and its contribution to their professional life based on a sample of 97 first-year new teachers who participated in an internship program. They found a low level of commitment to continue working as a teacher in the near future (half of the respondents) explained by the exposure to *"hardships"* and the low material rewards of teaching (Ezer et al., 2010, p. 401). Employment uncertainty and insecurity tenure are identified by new teachers as one of the main early professional learning constrained they face (Fenwick, 2011).

The "practice shock"

In the literature, the most quoted difficulty encountered by new teachers is the "practice shock" or the discrepancy between teacher education content, often due to lack of relevance, and the reality of the first classroom experience (Ulvick, et al., 2009; Achinstein, 2006; Flores, & Day, 2006). From their part, Ezer et al. (2010) stress the necessity to bridge the gap between theory and practice. They consider that new teachers *"must learn survival skills that were not part of their teacher education program"* (Ezer et al., 2010, p. 392). The consistency of the new teacher professional identity and the process it is built from their entrance in the profession play also an important role when it comes to take the decision to stay or quit the teaching profession. Comparing the differences between the metaphors chosen by new teachers to qualify their professional identity immediately following their graduation with those used after one year of teaching, Thomas, & Beauchamp (2011) shed light on the shift from seeing themselves as "ready for the challenge" to adopting a "survival mode". Then, the first year of teaching is a fight for survival through a deal with the reality shock (Kyriacou & Kunce, 2007; Ulvik et al., 2009). Achinstein (2006) highlights that new teachers need to explore, understand and take advantage of the so called *"micro-political literacy"* defined as *"an analysis of power, influence, conflict and control inside new teacher's organizational contexts"* (Achinstein, 2006, p.124). Indeed, by learning to read and understand the micro-political reality, teachers can adapt to it and act into it (Kerchtermans & Ballet, 2002; Achinstein, 2006).

For Sammons, Day, Kington, Gu, Stobart, & Smees (2007), teachers' identity is closely related to their professional and personal values, aspirations and changes in their sense of effectiveness. They identify three dimensions of teacher identity: the "professional identity", the "situated and socially located identity within a specified school, department or classroom" and the "personal identity" based on life outside of school. They show that each of these dimensions can affect positively or negatively teachers perceptions of their working conditions and practices such as resilience, commitment and effectiveness. New teachers' professional identity is heavily influenced by negative experiences (Smethem, 2007).

Teacher education, teacher training and new teacher needs

Even if teacher education cannot realistically prepare new teachers for all the situations they will meet, new processes and professional development phases such as induction or mentoring bring their solutions, advantages and disadvantages.

Sammons, et al. (2007) identify six teacher professional lives (respectively phases 0-3, 4-7, 8-15, 16-23, 24-30, 31+ year). The authors show that despite the number of common influences affecting teachers positively or negatively across their professional life phases, their impact varies with these life phases. Based on this, they claim that continuous professional development has to take place within professional, situated and personal contexts (i.e. the key-components of the teacher identity). According to them *"strategies for sustaining commitment in continuous professional development program should differentiate between the needs of teachers in different phases of their professional lives"* (Sammons, et al., 2007, p. 699).

According to Ulvik et al. (2009) new teachers need a space where they can reflect and not only act. The authors underline that the induction framework has to be thought and implemented in order to fit with the new teacher characteristics, his/her teaching context and has to be a fully integrated part of the school organization. Studying the first-three-year experiences of new teachers, Fenwick (2011) shows that the transition period between induction and post-induction is crucial and that support is still necessary after the induction process. In this context, schools have to become inclusive communities with a culture of sharing and teamwork (e.g. Fenwick, 2011; Ulvik et al., 2009).

Mentoring processes are also important but have to be implemented following certain specifications. For Achinstein (2006), mentors need knowledge related to how to read, navigate and transform the organizational contexts in order to offer new teachers a way to act in the political climate of schools, to address conflicts with colleagues, administrators and policies, and to move to define their own professional identity. Castro et al. (2010) consider crucial that problem-solving strategies and techniques become part of the new teacher training and that teacher educators foster peer-support groups by creating cohorts in teacher education and support teams for new teachers within schools.

In this paper, based on a secondary data analysis of the Teaching and Learning International Survey (TALIS), we will answer to the following question: *"How well are new teachers equipped to face the challenges they encounter in the classroom and achieve their school tasks/activities?"* by considering the following sub-aspects: 1) The new teachers and their activities in the classroom and in the school, 2) The challenges new teachers face and the support mechanisms they benefit such as professional development, appraisal and/or feedback, and 3) The new teachers' perception of their working environment.

THE STUDY

The OECD's Teacher and Learning International Survey: An overview

TALIS is an international survey focusing on the working conditions of teachers and the learning environment in schools. More specifically, TALIS focuses on lower secondary education teachers (teachers who, as part of their regular duties in school, provide instruction in programs at ISCED Level 2) and the principals of the schools where they teach. It provides data and analysis on the following key aspects of schooling: the role and functioning of school leadership; how teacher's work is appraised and the feedback they receive; teacher professional development; and teachers' beliefs and attitudes about teaching and their pedagogical practices. TALIS looks at these factors through the eyes of teachers and school principals. This innovative approach was chosen in order to examine how the intended school and teacher educational policies and practices are actually perceived and implemented in schools and classrooms.

Sample

Twenty three countries have participated in TALIS[41] and the data was collected in 2007-2008. In total, 71,619 teachers are represented.

In order to create two representative sub-categories "new teachers" and "more experienced teachers", we first focused on their background experience (see Table 1.).

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[41] Australia, Austria, Belgium (Flemish community), Denmark, Hungary, Iceland, Ireland, Italy, Korea, Mexico, Norway, Poland, Portugal, Slovak Republic, Spain, Turkey, Brazil, Bulgaria, Estonia, Lithuania, Malaysia, Malta, Slovenia.

Table 1: Repartition of the sample per background experience

TEACHERS - Background experience	Freq.	Percent.	Cum.
This is my first year	2,004	2.80	2.80
1-2 years	2,971	4.15	6.95
3-5 years	7,963	11.12	18.07
6-10 years	12,267	17.13	35.19
11-15 years	10,524	14.69	49.89
16-20 years	9,362	13.07	62.96
More than 20 years	26,528	37.04	100.00
Total	71,619	100.00	

Based on this partition, we created the two following categories: the new teachers with less than 3-year experience (Sammons, et al., 2007) and the more experienced ones with 3 year-experience and more (see Table 2.)

Table 2: Repartition of the sample between the new teachers and the more experienced ones

Background experience	Freq.	Percent.	Cum.
New Teachers	4,975	6.95	6.95
More experienced teachers	66,644	93.05	100.00
Total	71,619	100.00	

As this stage of our research project, we did not focus on international comparisons. So, the different statistical weights related to each participant countries were not taken into consideration.

Furthermore, since the sample of new teachers is very small compared to the more experienced ones, comparison between the two populations will be presented only when it seems relevant for the understanding of the new teachers' working situations.

FINDINGS

The findings focus on the new teacher population (n=4,975). They successively present the new teacher population characteristics and its activities in the classroom and in the school; the new teachers' needs and the support mechanisms they benefit from and the new teachers' perception of their working environment.

The new teachers and their activities in the classroom and in the school

Among the new teacher population, 68.38% are women and 91.7% are under 40 years old (see Table 3.):

Table 3: Repartition of the new teacher population per age-groups

NEW TEACHERS - Age groups	Under 25	25-29	30-39	40-49	50-59	60+	Total
Freq.	1,309	2,202	1,051	349	57	7	4,975
Percent.	26.31	44.26	21.13	7.02	1.15	0.14	100.00
Cum.	26.31	70.57	91.70	98.71	99.86	100.00	

The majority of the new teachers have a bachelor degree (57.65%) and 26.97% a Master´s. When it comes to their employment conditions, only 42.05% of the respondents have a permanent position in his/her school (against 85.77% of the more experienced teachers). The majority of the new teachers (46.69%) have a fixed term contract for 1 school-year or less (against 8.51% of more experienced teachers). Finally, 66.53% of the new teachers have a full-time contract (66.53%) (see Table 4 & Table 5):

Table 4: Employment status, comparison in percentage between new teachers and the more experienced ones

Employment status	Permanent	Fixed term contract for more than 1 school-year	Fixed term contract for 1 school-year or less	Omitted	Total
New Teachers (percent.)	42.05	9.33	46.69	1.93	100.00
More experienced Teachers (percent.)	85.77	3.92	8.51	1.80	100.00

Table 5: Employment time, comparison in percentage between new teachers and the more experienced ones

Employment time	Full-time	Part-time (50-90% of full-time hours)	Part-time (less than 50% of full-time hours)	Omitted	Total
New Teachers (percent.)	66.53	23.10	9.13	1.25	100.00
More experienced teachers (percent.)	80.02	14.90	4.13	0.95	100.00

The new teachers' needs and the support mechanisms provided by schools

The new teachers' needs

In TALIS, teachers were asked to rate on a four-point scale their professional development need from "low level of need" to "high level of need" in different aspects of their activities in the school (see Figure 1). The two aspects of new teacher work that is on average most frequently rated by teachers as an area of high development need are "Student discipline and behavior problems" (32.52%) and "Teaching students with special learning needs" (32.4%). As it was underlined by the European Commission (2010) in an analysis of teacher professional development (without distinction of experience background), since the TALIS target population excludes teachers who only teach special learning need students, this finding is quite significant and probably reflects two actual trends in educational policy: the integration of students with special learning needs in mainstream schools and the increasing emphasis on equity.

The others aspects in which, on average, a sizeable proportion of new teachers report having a high level of development need are: "Classroom management" (23.74%) and "Instructional practices in their main subject" (23.26%).
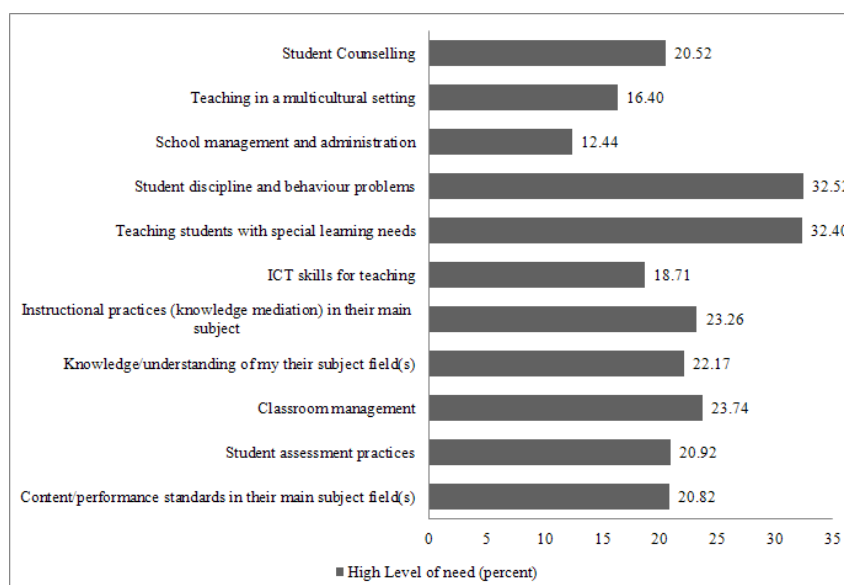
Figure 1: Areas of greatest development needs of new teachers (TALIS, 2007-2008)

It is interesting to present here the findings of the analysis of teachers' professional needs conducted by the European Commission (2010) in order to shed light on the specificities of the new teacher population.

Indeed, the European Commission (2010) has shown that on average across the 23 participating countries the aspect of teachers' work that is most frequently rated as a high level of need is "Teaching students with special learning needs" (32%); followed by "ICT teaching skills (25% against 18.71% for the new teachers) and "Student discipline and behavior" (21% against 32.52% for new teachers). "Classroom management" and "Instructional practices in their main subject" represent respectively only 14% and 18% of the new teacher respondents.

The support mechanisms provided by schools (see Table 6 & Figure 2.)
The majority of new teachers declare never having received appraisal or feedback about their work from the principal of their school (28.92%), their colleagues (27.46%) or external individual/body (62.47%).
Focusing on internal-school support, 19.46% of new teachers declare receiving an appraisal of feedback from their principal once per year and 15.96% three or more times per year. 17.63 % of the new teachers declare having received appraisal or feedback from a colleague three or more times per year and 13.85% monthly.

Table 6: Appraisal and feedback about new teacher work in their school

NEW TEACHERS - Appraisal or feedback	Never	Less than one every two years	Once every two years	Once per year	Twice per year	3 or more time per year	Monthly	More than once per month	Omit.	Total
Principal	28.92	3.10	2.17	19.46	12.42	15.96	8.56	6.17	3.24	100.00
Colleagues	27.46	3.30	1.63	10.73	9.69	17.63	13.95	11.88	3.74	100.00
External individual or body (percent.)	62.47	4.50	2.53	12.94	5.95	4.56	1.81	1.11	4.12	100.00

In TALIS, teachers were also asked to rate on a four-point scale the impact they received in their school on their situation in this school and on their activities in the classroom from "No change" to "A large change" (see Figure 2).
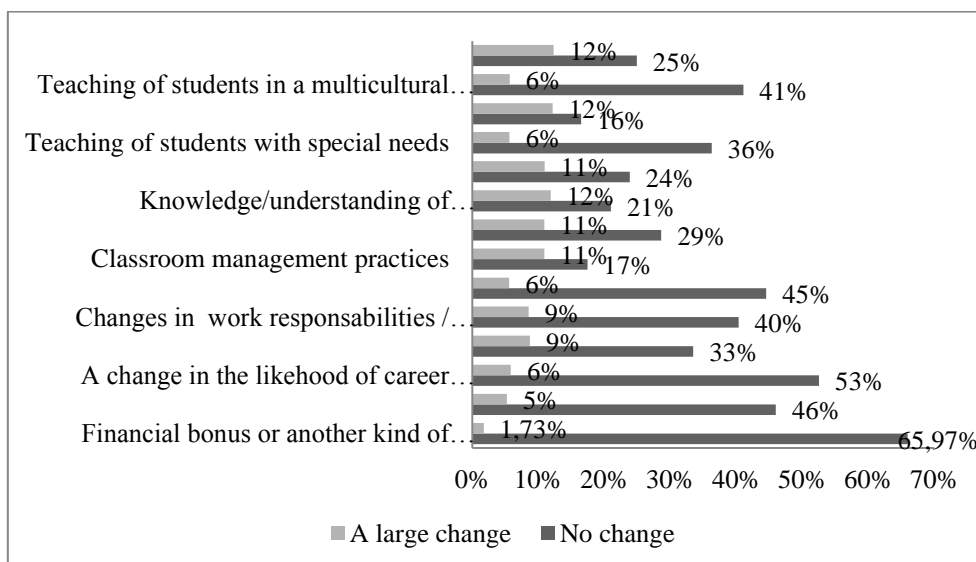
Figure 2: Impact of appraisal and feedback on new teaching activities and situation in their school

The comparison between the two extreme scale-points sheds light on the very low impact of the appraisal and feedback new teachers received about their teaching activity. The scarcity of this kind of support is then combined with their low impact.

New teachers' professional development (see Table 7.)
The majority of new teachers (71%) declare having participated in courses or workshops during the last 18 months preceding the survey, only 31% of them declare having benefited of mentoring or peer observation and coaching as part of a formal school arrangement. About one third of them has participated in a network of teachers formed specifically for teacher professional development (29%) and has conducted an individual or collaborative research on a topic of professional interest (33%).

Table 7: New teachers' participation in professional development activities during the last 18 months

NEW TEACHERS - Professional development activities during the last 18 months	Yes	No	Omitted	Total
Courses & workshop	71%	28%	1%	100%
Education conferences or seminars	41%	58%	1%	100%
Education conferences or seminars	26%	72%	1%	100%
Observation visits to other schools	21%	78%	1%	100%
Participation in a network of teachers formed specifically for the professional development of teacher	29%	70%	1%	100%
Individual or collaborative research on a topic of interest to them professionally	33%	65%	1%	100%
Mentoring or peer observation and coaching, as part of a formal school arrangement	31%	68%	1%	100%

The majority of the new teachers (60%) affirm that they wanted to participate in more professional development than they did. Among these 60%, the main reasons they give to explain what prevented them from participating in more professional development than they did are "Conflict with work schedule"(44%); "No suitable professional development offer" (39%); and "professional development too expensive" (26%). The lack of employer support reaches 13% of the respondents and the "Family responsibilities" obtains 18% (see Figure 3.)
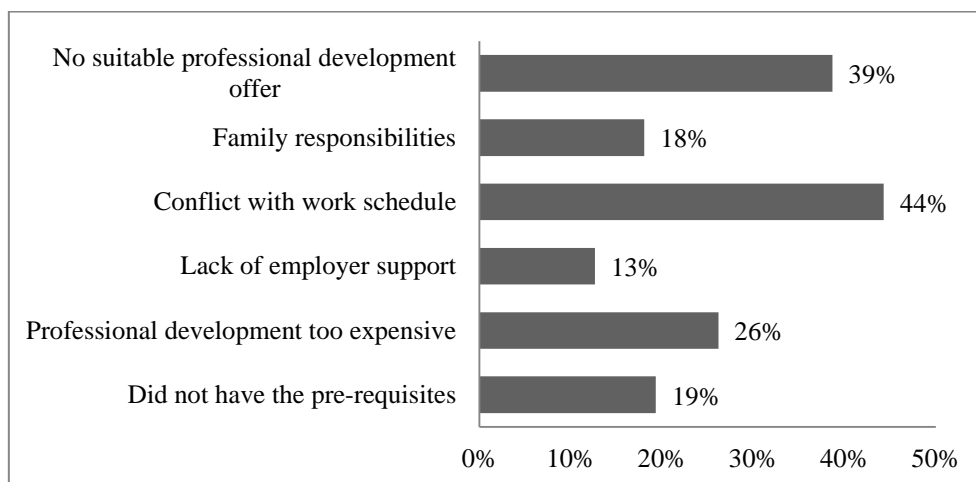
Figure 3: Reasons explaining new teachers did not participate in more professional development during the last 18 months

The new teacher perceptions of their working environment
The results regarding the new teacher perceptions of their working environment are not indicative of any specific problem (see Table 8.) In different proportions new teachers agree with the statements related with their situation about themselves as a teacher: 74% "Successful with their students of their classes"; 72% "Know how to get through to students"; and 61 % are "Satisfied with their job".

Table 8: New teachers' perceptions about themselves as a teacher in their school

NEW TEACHERS - Working environment perception	Strongly disagree	Disagree	Agree	Strongly agree	Omitted	Total
Satisfied with their job	2%	10%	61%	26%	2%	100%
Making a significant difference in the lives of their students	1%	8%	69%	21%	2%	100%
Making progress with even the most difficult and unmotivated students	1%	13%	59%	25%	2%	100%
Successful with students of their classes	0%	7%	74%	16%	2%	100%
Knowing how to get through to students	0%	8%	72%	18%	2%	100%

Regarding new teachers' perceptions of what happens in their school, almost one third of them (29%) disagree with the statement "Teachers in this local community are well respected" (see Table 9.). With the other statements, new teachers agree in different proportions.

Table 9: New teachers' perceptions about what happens in their school

NEW TEACHERS - Working environment perception	Strongly disagree	Disagree	Agree	Strongly agree	Omitted	Total
Teachers in this local community are well respected	7%	29%	51%	11%	2%	100%
Teachers & students usually get on well with each other	1%	10%	69%	19%	2%	100%
Most teachers believe that students' well-being is important	1%	6%	63%	29%	2%	100%
Most teachers are interested in what students have to say	1%	11%	67%	19%	2%	100%
If a student needs a special assistance, the school provides it	1%	9%	59%	28%	2%	100%

Finally, the new teachers´ perceptions of their class do not highlight specific difficulties but are not so clear cut positive (see Table 10.).

Table 10: New teachers' perceptions about their class

NEW TEACHERS - Working environment perception - The classroom	Strongly disagree	Disagree	Agree	Strongly agree	Omitted	Total
Waiting quite a long time for student to quieten down when the lesson begins	15%	45%	29%	8%	3%	100%
Students in this class take care to create a pleasant learning atmosphere	7%	28%	52%	10%	3%	100%
Time loss because of students interrupting the lessons	11%	41%	30%	10%	8%	100%
There is much noise in this classroom	15%	47%	26%	9%	3%	100%

Indeed, although the majority of the new teachers does not consider waiting quite a long time for student to quiet down when the lesson begins (45% disagree) one third of them claim that they have to (29% agree). In the same way, whereas the majority of the new teachers does not consider losing time because of students interrupting the lessons (41% disagree) 30 % agree with this statement. Although 52% of the respondents agree with the proposal stating that students in their classroom take care to create a pleasant learning atmosphere, 28 % of them disagree with this statement. Finally, 62% (disagree and strongly disagree) of the new teachers does not consider that there is much noise in their classroom.

DISCUSSION AND CONCLUSION

This study has described the working situation and conditions of the 4,975 new teachers having participating to the OECD's Teaching and Learning International Survey. Its purpose was to answer to the following question: *"How well are new teachers equipped to face the challenges they encounter in the classroom and achieve their school tasks/activities?"*.

The findings confirm the vulnerability of this population of teachers (Achinstein, 2006). When it comes to their employment conditions (Fenwick, 2011), only 42.05% of them have a permanent position and 46.69 % have a fixed-term-contract for one-school year or less. When it comes to their perception of the school working environment, one third of them do not feel well-respected in their local community.

New teachers seem to have specific needs in terms of professional development in comparison with the more experienced teachers. Among them, the needs related to classroom management and instructional practices in their main subject fields tend to confirm the "practice shock" described in the literature review (Ulvick et al., 2009; Achinstein, 2006; Flores, & Day, 2006; Ezer et al., 2010). This difference between the new teacher ideal of teaching and the reality they have to face (Kyriacou, & Kunce, 2007; Ulvik et al., 2009) also surface when it comes to their description of the perception of their class. Even though the majority of them have a good perception of it, the results show that this positive perception is not shared by all : although they do not constitute the majority of the respondents one third of them consider losing time because of student interrupting the lessons, waiting quite a long time for student to quiet down when the lesson begins or disagree with the statement "students in their classroom take care to create a pleasant learning atmosphere". Since the first years of experience have the strongest impact on teacher retention, the survey highlights that there is still a lot to do in this area.

With respect to the support mechanisms provided by schools to the new teacher population and its impact, the findings are quite negative and underlined the necessity for policy makers and the different stake holders to focus on this area. Regarding the crucial internal-school support (e.g. Ulvick et al., 2009; Fenwick, 2011; Alchinstein, 2006; Castro et al., 2010), the findings indicate their scarcity and their poor impact on teaching activities and situations in the school: the majority of new teachers (almost one third) declare never having received appraisal or feed-back from their principal or from their colleagues. Among the professional development activities they participate in during the 18 months preceding the survey, only one third of them claim having benefited from mentoring or peer observation and coaching as part of the formal school arrangement. Furthermore, among the 60% of the respondents that wanted to participate in more professional development than they did, 44% did not to it because of the conflict with the work-schedule, 39% because of the non-suitable offer, and 26% because of the cost. These findings confirm that new teachers need space where they can reflect and not only act (Ulvik et al., 2009) as well as the discrepancy of the support provided to them (Sammons et al., 2007).

Finally, the new teachers having responded to TALIS seem to have a positive perception of themselves as teachers and of what happens in their school since no specific difficulty surfaced, excluding the way teachers are considered in the local community (see above).

In light of these preliminary findings, the new teacher respondents in TALIS do not seem different from the new teachers considered in the literature review: they are vulnerable because of their employment conditions and the emotional situations they encounter in their working-day experience, the support they benefit from does not seem well adapted to their specific needs as "new teachers", and their perception of their working situation though globally positive, is tainted by some negative aspects. There is no way to know if these new teachers have stayed in the profession the year following this survey, but it is clear that a lot has still to be done by policy makers and stakeholders to respond to the needs of this specific population of teachers.

This paper is a first step of an on-going research project on new teachers and teacher education and training. The next steps will consider the national specificities of the respondents and will focus on analyzing the relationships between new teacher characteristics and their working conditions, needs, and perceptions.

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167 - Who are the Teacher Trainers? A Gender Perspective [42]

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Abstract: This article describes the Professional Gender Profile of Teacher Trainers, who participated in postgraduate program courses from primary schools. In addition, it intends to help the debate of professional development from the prespective of the teacher trainer, who is not considered when educational policies are designed. This research uses a quantitative descriptive methodology of censal character (N=363). The current study shows the performance of teacher trainer scientific production, and his/her personal profile features. The discussion is based on the current debate of the effective education and the gender role in teacher professional development.

Keywords: professional development, teacher trainer, educational professional profile, postgraduate program

INTRODUCTION

This paper is the result of a reflective process on the efficiency of permanent education based on research results. It is operationalized through enquiries in order to characterize the profile of the teacher trainer (TT). Two field areas are joined which are the teacher professional development and the Postgraduate Programs (PP) in relation to gender and teacher trainers. The (PP) are originated as a result of OCDE (2004) requirements in relation to teacher uncertainties when teaching the contents of second elementary cycles. The (PP) are designed in the year already mentioned, in conjunction with the Ministry of Education (MINEDUC) and universities which offer teacher training (Pilot Study). The proposal is conducted by the (CPEIP) which is the Center for Teacher Improvement, Experimentation and Research. It is directed to update the Curricular area (Miranda et al., 2007). A proposal is implemented in four Chilean Institutions of Higher Education as a Postdegree Program in Mathematics (PPMAT) and another on Study and Comprehension of Nature (PPECN).

In the year 2006, and as a result of a first satisfactory evaluation (Cancino, 2005), the rest of the Chilean Universities were invited to propose programs on the fields already mentioned. These Higher Education Institutions were also encouraged to create new programs on Study and Comprehension of Society (PPECS) and Language and Communication (PPLC). By the year 2007, seventeen post graduate degree programs were offered and from 2008, these program offerings were extended to all fields of elementary education. At present, there is an increasing interest in evaluating the efficiency of these programs. This interest could be observed in the studies of the authors like Frizt et al., (2008), González y Trebilcock (2007), and Miranda (2007).

Finally, the researches on the area are focused on educational program efficiency, but the field of Teacher Trainer investigation is left behind. According to the authors Loewenberg, Simons y Wu (2008) teachers are essential in the learning future opportunities of students, and become critical when the role of gender is added. In addition to this point, teacher trainer investigation is poor. The role of the Teacher Trainer is not understood not only in its impact on teaching teachers, but also on his or her personal and professional features.

CONCEPTUAL FRAMEWORK

The gender concept was addressed with the approach publication on Women and Development in order to define improvement strategies on social and economic class of women (Cooks, 2002). As a product of the former study, the concept category of "gender" is created and argued that the role of male or female is learned socio culturally independently of the biological features. Sex is inherited and Gender is acquired through learning. As a conclusion, women position in society is not biologically determined but culturally learned through the central role of school in this process (Arcos et al., 2007, Abramo, 2006; UNESCO, 2006; Andrade y Miranda, 2001; Cardaci, 1998; Bourdeau, 1967).

As a complement, according to Avalos (2008) the concept of permanent training is situated under the espistemic approaches which run the management of the formative processes related to teachers. On one side, the Deficit Approach and on the other, The Professional Teacher Development. The first one, emphasizes a vision of the teacher, who lack of competences and needs teacher training for a better performance. The second is oriented to the view of progress, where the educators are considered the holders of knowledge and previous experiences and engaged in a life-long learning professional process. While the Deficit Approach, emphasizes the incompetence of the teacher, due to his or her incapacities and lack of knowledge, the second values the abilities and capacities of the subject to help his process of development and strenghtening of them (capacities and abilities). This study assumes the Developmental perspective, in order to value the subject as a human being and professional in construction. The former idea is based on Huberman (2004, and Rivera 2008) which understands the process of permanent training as a life-long learning opportunity. (Jelbes, 2008; Villagrán, 2008; Quintero, 2008; Miranda et al, 2007; González y Trebilcock, 2007; Alvarado, 2006). In addition, the concept of professional profile is defined as the group of capacities, abilities and characteristics appropriately certified which permit that someone is recognized in society as a competent professional (Tabares, 2005; Hawes y Corvalán, 2005)

METHODOLOGY

The current study uses the quantitative paradigm with a descriptive study. The technic for information recolection is the life-story of the population in study which will be expressed in an instrument called Biography Chart. The Chart will be answered by the Teacher Trainers and included within the official proposals of the (PP). The information analysis uses the descriptive statistics (Miranda, 2007; González y Trebilcock 2007; Rivera, 2008).

The population is formed by 363 academicians who participated in the development of the PP with specialization in the second Elementary Cycle, from 17 Chilean universities. The geographic distribution of the study subjects is national (North to South), it implies that the TT are diverse geographically, culturally, socially and ethnically. 37 proposals were studied and divided into four groups, according to curricular area (PPMAT, PPCN, PPECS, and PPLC).

STUDY RESULTS

In this section, the results derived from the empirical study are described, analyzed and emphasized in the aspects related to gender. Gender focus of analysis is pertinent due to the debate related to the gap between the public and private education, especially in its access and quality of higher education. Besides of this, it is relevant due to the massive introduction of women into the labor market, being one of them the academy. It is observed that there inequalities and lack of opportunities for women and a male predominance in the job area. Chilean government wants to revert this situation through the implementation of new policies and measurements favoring femenine gender.

Next, Chart 1 and Graphic 1 show the results of the statistical analysis of the distribution of Teacher Trainers according to gender.

The masculine sample is higher in 59% over the femenine. The difference between them is 17% in both groups. Out of 10 Teacher Trainers, six are males. The reason male-women is 1,42. Cypher which shows a male numerical tendency, which contrasts with the total number of women elementary teachers of the country, in this case the proportion is inverse (Miranda, 2005). Next, in Graph 1, it is observed the gender according to the speciality of the post degree, where the team composition is of Teacher Trainers is shown.

The gender distribution by specialization of PP in Graphic 1, shows the masculine predominance in three of the four post graduate programs: PPMAT, PPECN, and PPECS. The exception is PPLC, where there is a feminine presence (71%), that means, 7 out 10 teacher trainers are women. According to the reproductive thesis, this phenomenon is related to the link between the femenine gender and the humanities (Bourdeau, 1967; Beyer et al., 2002). The same situation is replicated in the elementary education of this country, where the highest achievement in LC is a feminine conquer, and males in Mathematics and Sciences in national evaluations (Jiménez, 2008) in elementary education. This gender distribution, the team conformation of teachers, and the school results must be studied by specialists in the field. This study would not only be a contribution but also a future source of analysis.

The tendency TT profile is to obtain a tittle of High School Teacher (77%) with a Masters Degree in PP. Most of the studied population (77%) recognizes experience only in the classrooms of Higher Education, which in average are 17 years. Their role was teacher or in charged of Seminars (87%) and the program dedication is between 15 to 149 hours, which is considered low in relation to the proposal duration of 875 hours.

The PPECN shows an evident difference between the group of males and females, with a single experience in higher education. Males present a difference of 55 over 25 women who declare having experience in the classroom of higher education institutions only. The minimal presence of the women in the space of elementary education is a new analysis factor. This is not only to deepen how these professionals passed from one level to the other. One possible explanation is the one of the massive professional practicum as a main factor in the formation and teacher recruitment. Avalos (2008) shows the results of the projects on strethening of the teacher profession, where the early teacher practicums in the teacher programs, help a number of teachers to acquire jobs on supervision or colaboration in that area.

In opposition, the PPLC reverts the tendency of the former PP from a gender point of view. In this program, women (36) are located over a group of males (13) with experience only in higher education classrooms. In relation to the experience of more than one level in the educational system, women (19) are outstanding over males (10) in the area of humanities. The relationship between the levels is usually presented like a medium and higher level. In the following, the variables of title and degree describe the academic profile of the FF, and from the gender perspective provides clues over the possible explanations for the found differences in the distribution of the studied groups.

Table 1 describes the academic profile between the interaction of the professional tittle and academic degree in relation to gender. It could be obseved, that most part of the studied population earned the tittle of High School Teacher as an initial degree. Most of the FF who earned a Doctorate degree are males (54), in contrast to the femenine gender, who have the degree of Masters, the women TT with Doctorate are (28). The academicians who hold the title of Elementary Teacher (17) is the same in men and women. Most of them reached the degree of Masters, even though there are two cases of Doctoral Degrees, one in each gender.

There is no doubt that it is important to verify that the professional tittle is related with the academic degree and TT gender. It seems, that the studies on the history of the educative system evidences, there exist a tradition which relates more higher education with high school, instead of elementary (OCDE, 2004). From this study perspective (Cardaci, 1998; PNUD 2005), this is an element that confirms the Chilean Educational System as segmented where the male and female presence is hierarchically bstructured following the professional pyramide. Males have more presence in the summit (Coordinators-Doctors) and women in the base (Teachers-Masters) of the academic hierarchy associated to TT (teacher trainers).

From table 2, it is evidenced that the masculine gender presents 152 publications (60%) and the femenine 102 (40%). It means, there is a difference of 20 percentual points according to gender. On the other side, differences are not observed according to gender in the area of publications, detecting in both genders a higher number of publications in the area of the specialization. However, this general tendency, in the cases of PPMAT and PPLC education publications are detected. In the first case, the subject dealt with is education addressed by males and the secon by women. This last evidence, could be answered due to the political and curricular relevance they have in the chilean educational system (Miranda, 2007), this is expressed in standardized systems of evaluation and the lines of investigation in the teaching areas in the faculties of our country.

DISCUSSION AND CONCLUSIONS

The discussion considers the distinctive characteristics of the personal, laboral and academic antecedents of the TT (teacher trainers) who work in the PP emphasizing the gender and scientific production, measured in number of publications. The former, describes empirically the teacher instruction in Chile. This discussion is based on the education quality : (TT) which is one of the missing actors in the research.

The TT(teacher trainers) are formative proposals of "extensive" characteristics and its duration exceeds most of the formative permanent programs developed in the country, and they are only compared to Masters programs. In fact, the 18 months that lasts the program, make it an unusual proposal which in economical terms and in its results is important to research. That is why, a number of important recent investigations have made this program an object of study (Cancino et al, 2005; González y Trebilcock, 2007; Villagrán, 2008; Jelbes, 2008; Rivera, 2008; Quintero, 2008; Fritz et al, 2008). In that sense, there is a compromise need of academicians of Education Faculties and related areas of specialization of the PP. This is an instance for generating synergies and shared investigations (MINEDUC and Universities) in order to improve and respond to the needs of permanent training discovered by OCDE (2004) in relation to the insecurities detected in the use of knowledge by the teachers. This strategic link, should deepen the articulation of actions to fortify the teacher career and to integrate in a symetrical form the same teachers, as it was observed in the creation of standards of the MBE. On the other side, this investigation could confirm a personalized approach in the PP verifying a tutorial relationship (1 teacher trainer per every 3 elementary teachers). It was

established a system of seminars as a pertinent method. This is the same relationship which is observed in the post-graduate programs in the area of biological sciences and health (Miranda et al., 2008). These two factors introduce new elements in the discussion about the nature of the post-graduate programs in Chile (Ministerio de Educación, 2000).

The profile of the TT (teacher-trainers) was a central element of this study. An evidence of consistence is detected in the programs and areas of specialization respect to the emphasis in its disciplines (Ex. Mathematics) and professional characteristics of the teachers who work for them and their academic product associated (publications). In that sense, this study interprets that the specializations are an index of greater efficacy in the scientific production, instead of the amount of working teachers that elaborate the proposals. The former strikes the attention on the low productivity of the (Teacher-trainers) in indexed magazines, less than 1 in average per academician in all his/her academic life (in average 17 years working in the Higher Education). This point deserves more investigation, since it is an element of concern. A possible explanation to this evidence is that the theoretical frame verifies that there a few academicians that declare vocation for the scientific and investigative production in Chile (OCDE, 2008).

The personal and professional characteristics of the actors who perform in the processes of permanent training of teachers are an emergent element in the investigative experience associated to the teacher training. This is an emergent topic in the inter national bibliography on the efficiency of learning to teach with efficiency (Miranda 2005; Rivera 2008), the systematic investigation in teacher programs of curricular specialization has not been studied in this country. The examination showed differences among the specialization areas of study in scientific production and gender composition.

In conclusion, this study systematizes and opens new spaces for future research in relation to TT (Teacher-trainers) who work for permanent training programs in Chile and the relevance of the development of the teacher as professional. The intensification of efficacy indicators in the training programs and its impact on the professional and school learning must be central elements in the new fields of research. The new fields could be intervention projects and academic planification with the tendency of disciplinar training and generation of new scientific knowledlge to illuminate the efficiency of the educational practices.

179 - The Best Mirror is a Critical Friend: Pathways to Critical Friendship

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Abstract: Two Critical Friends tackle the "how" of Critical Friendship (CF) through an examination of artifacts, anecdotal evidence, and action research. This took place in the challenging, change-rich context of GCC (Gulf Cooperation Council) region education reform during the academic year 2009-2010. Using self-study and exploratory research methods, they investigate a dynamic CF process in teacher education, involving peer observation, consultancy, and reflection.

They outline the positive benefits CF brings to the enhancement of learning in a major Continuing Professional Development (CPD) initiative in Bahrain. This participatory, mutually-informing, critical friendship is scaffolded by processes noted during the collaborative relationship including context, content, and conduct.

Results of the study indicate that the CF processes, often running in parallel to established, formal work patterns, stimulate thinking about learning and lead instructors and facilitators to a different way of framing situations. This study demonstrates that CF establishes shared practice into a cohesive learning focus for productive action, and to a renewed pro-personal identity as educator.

Keywords: Critical friendship, professional development, pro-personal development, teacher identity, shared practice, community of practice

BACKGROUND

Bahrain Teachers College (BTC) opened to students in 2008-2009, and is the only 'professional' college in the University of Bahrain (UoB); that is, core ethos is focused on improving professional practice. In contrast, the UoB's old College of Education (CoE), which BTC replaced, was an 'academic' college: it emphasized theoretical learning over practice. BTC is a key part of a major, Kingdom-wide education reform initiative, which in turn is part of the 'Bahrain 2030' strategic vision for economic reform, supervised by the Crown Prince of Bahrain.

The start-up of BTC involved extensive international consultancy, the college's lead curriculum consultant being the National Institute of Education, Singapore (NIE). BTC is committed to diversifying approaches to education and assessment in Bahrain state-sector education, and its programs emphasize constructivist, collaborative, and discovery-based learning, reflective practice, 'active' student-centered learning, and continuous assessment using a variety of assessment methods.

This CF grew out of interactions at the BTC, in particular the Postgraduate Certificate in Academic Practice offered at BTC as faculty CPD by York St. John University, UK (YSJ). An M-level program, PCAP is accredited through the UK Higher Education Authority (HEA) and aligned to the UK Professional Standards Framework, leading to a fellowship of the HEA. PCAP provides a structured approach to professional development based on improving practice through critical reflection and modelling various teaching methods. Thus, capability, capacity and confidence are developed though the theorisation of practice and the practical application of theory.

The goal of the study is to share the development and maintenance of a critical friendship. As part of the PCAP program of studies, we decided to document our CF and to examine the effect it had on our work, research, and professional practice. These reflections serve as a useful base for exploring the "how" of CF: its processes, phases and identity, and to generate insights for further investigation.

Critical friendship

CF is a model of individual and collective action research that champions the co-construction of knowledge through collegial inquiry, conversation, and collaborative reflection within a climate of mutual vulnerability and risk-taking, trust and support (Cochran-Smith & Lytle, 1991; Bullough, Knowles, & Crow, 1991). Costa

and Kallick (1993) describe a critical friend as a trusted colleague who asks provocative questions, examines data and experience 'through another lens', and offers a friendship-based critique of a person's practice.

CFs take a view of their teaching practice whereby they critically appraise their development and provide supportive feedback for improvement. CF facilitates the bridging of two sometimes contradictory professional imperatives: the need to foster the tensions associated with learning, and; the need for friendly, empathic professional relationships. "It is only when you change the lens through which you view student learning – or your own practice -- that you discover whether a new focus is better or worse. But, if you never change the lens, you limit your vision (Costa & Kalllick, 1993, p. 49).

As Swaffield (2004) argues, there is a dynamic relationship between the two elements of the critical friendship relationship:

> ... critical friendship is not simply a balancing of the roles of critic and friend through emphasizing either pressure or support, but rather a richness resulting from providing both....Paradoxically, as "friendship" increases, involving the establishment and deepening of trust, so it becomes possible to increase "criticism" (p. 6)

We made a decision early on to follow Lima (2001) and conceptualize the relationship as potentially reciprocal and to stress its roots in an ethic of care and interdependence in teaching. As we reviewed the artifacts related to the development of our CF, we decided to include our voices as narrative directly inserted into the text to provide more of the flavor of the nuances and subtleties involved in the process, akin to the style of a Socratic dialogue.

> **John:** *"Critical", in terms of our CF, has a positive connotation such as "key" or "necessary". This freedom to put any educational topic or practice "on the table" was refreshing as it seemed as if higher education practitioners at BTC often talked around or avoided difficult issues rather than directly confronting them.*
> **Mike:** *Yes, we considered feedback in a number of different ways. "Warm" feedback consists of supportive, appreciative statements; "cool" feedback is more distanced and provokes thinking about the practice or raises questions; and, "hard" feedback is intended to challenge or raise concerns. Our process utilized time limits to make the best use of the available time we had and to help reduce interruptions. Often, we would meet off-campus.*

Review of Theory

The literature of critical friendship, although limited, falls into two categories: a competency model, and; a problem-based approach. In practice, both are complementary.

Hill (2002) introduces a competency model for framing CF, focusing on the requisite knowledge, skills and attitudes. Several categories of competency are conceived as learnable and practice-able in CF. The knowledge the CF requires is knowledge about a critical framework and how assumptions underpinning people's justification for their practices. CF skills are about reflective responding, scholarly reframing, investigative reframing, facilitated silence, encouraging documentation, encouraging the collection of data, scholarly reading, articulating an inquiry paradigm, big-picture facilitation and encouraging publication. The CF's attitude is intricately linked to beliefs about one's provision of critical friendship, and the value of reflection as a professional skill.

This model outlines some aspects of successful CF. However, as Zeera (2001) points out, "critical social science views methodology as inherently political, as inescapably tied to issues of power and legitimacy" (p. 58). Thus, values enter into the practice of CF within the methodological framework of qualitative research. The competency model appears to offer a deficit perspective; this may be problematic if this model is adopted without sufficient attention to the 'political' aspects of the practical context. As we shall see, these assumed a growing significance in Bahrain.

The problem-based approach addresses these problems: interactions come across as an equal dialogue among ready listeners, rather than as a struggle among contending interests. For example, Curry (2008) describes a "Critical Friends Group" which helps teachers involved with schools to work collaboratively in democratic, reflective community. This involves colleagues developing a shared mission, offering strong support, and nurturing a learning community. Curry finds that although there is development through the group, there are limitations to creating professional community through topic-based study: teachers have differing opinions of how critical friends should be and how friendly critics should be. Problems arise when teachers limit themselves to safe feedback, resisting criticism, productive feedback, or action. She suggests that

hierarchical relationships can make CFGs hard to put into practice. However, teachers with strong emotional support within the group can gain the confidence to expose and explore vulnerabilities (Curry, 2008).

Towndrow (2007) documents a study in which a teacher and he (as researcher) worked together to support and encourage each other to achieve outcomes that neither of the partners could have achieved by working alone. This study lays the groundwork for pedagogics of productive teacher professional interventions, comprised of systematic, structured attempts to generate desired change in teaching and learning, and enabling the transfer of a teacher's knowledge from one context to another:

> Grounded in the diverse literatures of organizational change, school leadership, action research, and reflective practice, critical friendship has been adopted by educators as a form of support for colleagues who wish or need to make improvements in what they do. (Towndrow, 2007, p. 4).

Towndrow models a pro-typical CF exchange framework as a cyclical process where the participants describe a practice, or ask for feedback with clarification sought from one or both sides, and the interpretations, questions or critiques offered, results in shared reflection.

> **John:** *As former school teacher and teacher trainer, I had mentored and been mentored, and even practised cognitive coaching. But CF's potent combination of discussion, peer observation, reflective practice and action research, provided support that allowed me to move my practice forward. It's interesting to note the ways that seemingly innocuous comments and incidents take on more meaning with a CF.*

> **Mike:** *Through sharing ideas and experiences, John and I are able to make connections focussed primarily on the learners' experience and needs. After a year working closely together, our CF was creative and synergistic, operationalized in a problem-based approach. The cumulative effect led us away from deficient practice; over time, our attention shifted from 'what we weren't doing' to a situational, relational and context-specific focus, that was far more positive and empathetic.*

> **John:** *In our discussions, particularly concerning the delivery of teachers' in-service CPD, I experienced a dynamic tension between existing and emerging practice, and that tension provoked my thinking; I was able to re-define my perspective in the specific context and reframe my understanding of our learners.*

METHODOLOGY

Self-study is characterized by an examination of the role of the self in the research project and the space between self and the practice engaged in. It is through written reflection and teacher conversations that we negotiate the tensions between ourselves and our respective identities (Bullough & Pinnegar, 2001).

While self-study research has "used various qualitative methodologies and has focused on a wide range of substantive issues" (Zeichner & Noffke, 2001, p. 305), the emphasis self-study places on reflection means it is highly compatible with exploratory research to enrich qualitative data gathering. Our hope was that by examining our own reflections and conversations during this period, we would understand more deeply the complexities of a developing CF. In addition to documenting and reflecting on our present actions in order to revise our future actions, we decided to employ narrative inquiry methods (Clandinin & Connelly, 2000) such as journaling, writing reflections, examining our correspondence.

For the duration of our PCAP action research (AR), we reflected on aspects of our projects in our reflective journals. To that end, we used narrative accounts to review the impact and significance of CF. Our goal was to document the CF as completely as possible through exploratory research. We wanted to avoid restricting our reflection on CF to describing previous studies. During this exploratory process, our originally vague concepts of CF gradually sharpened through the inclusion of our personal comments based on our reflections. When the AR was completed, we wrote retrospective experiential reflections as CF educators to provide sustained reflection.

Participants' descriptions

Despite differing backgrounds, both participants came to University teaching by circuitous routes.

> **Mike:** *A working-class Londoner, I left school in the mid-1970s with very little by way of formal qualifications; although 'bookish', I was deeply disaffected by the education system as it was then, and became involved in the 'underground' scenes in London. I continued reading, nevertheless, and*

spent most of the 1980's as a motorcycle courier and 'white van man'. In 1988, I embarked on access to higher education at Morley College, London, graduating a year later, and then took a four-year B.A. in English and Modern Languages, graduating with a first-class degree from the University of Westminster. While on a year abroad placement at the American University of Cairo, I took my first teaching qualification, a Certificate in Teaching English Language to Adults (CELTA).

I didn't have a chance to pursue postgraduate study because of family responsibilities; getting an income was paramount. But as I moved into interesting areas of ESOL, working with refugee learners at London education colleges, I began to feel the need for further qualifications in order to find suitable employment. So I began studying for my PGCE-TESOL at the University of Greenwich, taking advantage of local authority funding available for PGCE candidates at the Newham Community Employment Project, where I was teaching ESOL to refugee trainees, and to youngsters with learning and emotional difficulties. BTC is my third academic appointment. While I consider myself to be collegial, meeting John was a stroke of good fortune that allowed me to move forward both in my practice and in my educational research agenda.

John: *In the days before "American Idol", classical singing was a not deemed a suitable career path for a young man from Thunder Bay, Canada, of the 1970's. To assuage parental fears, I made a pact to take full-time vocal study only after completing a B.A. at Lakehead University, which I did. I sang as a tenor professionally for seven years. At the age of 28, I attended the University of Toronto to complete my teacher training (B.Ed.) and taught for 10 years with the Toronto Board of Education. I've worked abroad for 15 years in the UK, Turkey, Angola, and the Middle East, as a teacher, curriculum leader, and as both school and management administrator. During those years, I completed an M.A., Ed.D. and CELTA. Since the completion of my doctorate in 2005, I entered the educational scholarly dialogue through presentations at international conferences, writing articles, and interacting with educators. BTC was my first university teaching appointment.*

Mike and I met at BTC in August 2009, while serving on a committee tasked with revising BTC Teaching Practicum documentation. Mike's critical thinking and ability to get to the heart of an academic matter were of great benefit to the work of the committee. His written skills were impressive; he developed a summary on the role of reflective practice for inclusion in all TP documents. Through Mike, I was introduced to the concept of linguistic convergence and to various aspects of the Arabic dialect continuum, the place of Modern Standard Arabic (MSA) relative to the vernacular, and the implications of this for Arab students' second language learning.

Mike: *Once enrolled in the PCAP program, we were placed in respective study groups. For a number of reasons these never met: heavy teaching and service duties; issues connected to real and perceived status; extreme diversity in approaches to education and expectations of PCAP; a fear of engaging in the sort of honest and open discussion needed for real reflection to take place. John and I began meeting regularly to talk through our reflections, and in the process, started to include our respective Action Research (AR) topics in discussions. As we were both facilitators for Bahraini teachers' in-service CPD modules, we were well situated to collaborate. As I participated in his study, I was able to find additional information and investigative techniques to use in my own AR study.*

CONTEXT

According to Curry (2008, p. 735-6), CFs differ from other approaches to CPD. The latter often involve brought-in, outside experts offering generic, context-poor expertise, while CF's allow "insiders to construct their own learning through a cycle of inquiry, reflection, and action", which is context-specific to the practitioners' place of practice. This has the advantages of having "[a] direct link to institutional practice", "[creating] a low-stakes forum in which to explore politically charged reform topics", encouraging "constructive controversy" and "curtailed teacher isolation" (769). This resembles Schön's (1987) idea of collaborative "layers of reflection", which have the power to "transcend normal educational practice", leading to new forms of collaboration, process and practice (p.326).

BTC's evolving start-up context demanded an urgent move forward from brought-in external expertise, a "quick fix" frequently found in GCC-region education reform: the utility of such expertise is seriously constrained unless it can be reconstructed to suit the local socio-cultural-political context. This reconstruction can only be done by contextually aware practitioners 'on the ground' who are reflective

practitioners and action researchers: there is no 'off the peg' shortcut to such contextualization, and as our CF developed, we became increasingly aware of the power of CF as a tool to facilitate contextualization and reconstruction.

Further, BTC is rich in formalized situations in which practice is discussed and planning takes place. Thus, there are many traditional-style committees at BTC that adhere to a strict procedural format, and are perceived to be "high-stakes" gatherings in which it would be inadvisable to openly discuss topics deemed to be "political", or, "controversial". Accordingly, 'elephant in the room' issues often remain undiscussed. CF provided a highly effective way to overcome the lack of discussion of key issues.

The complexity of these interactions is further determined by a complex array of cross-cultural interactions that bring together North American, European, GCC, non-Gulf Arab, South Asian, African, and Far Eastern cultural practices, assumptions, and perspectives. This cross-cultural aspect to BTC's professional interactions is potentially a great strength. However, preventing it from becoming a key weakness required an enhanced level of cross-cultural awareness and communication. While the traditional management structures in place at the college struggled to provide this, we became increasingly aware of the potential of CF to facilitate inclusive communication, cooperation and constructive collaboration across cultures.

We found that CF relations provide a "low risk" forum for creative, experimental, and "low-risk" interactions around perceived "high-risk" topics connected to differences in organizational and national/ethnic culture in the developing context of professional practice at BTC. Of key importance is the diversity and mutuality of the CF, its "low-stakes" status, the fact that it is experiment-tolerant, honors diversity, and shares professional commitment, and concentrates on education reform (Curry 2008, p. 769).

> **Mike:** *Issues sprang from feelings of concern about teaching practice, particularly in the sessions where we both taught of the same course. I might, for example, meet with John informally during the working day, or in a phone call, to debrief a class or to "open up" what had happened at a meeting. I re-focused efforts for reform on practical aspects at the classroom level with the learners*

> **John:** *More formally, we'd meet to reformulate ideas for AR, or to share developing reflections or research. As the word limit was very tight for PCAP submissions, we worked together to compress our journal entries down to their essential aspects. In this atmosphere, surfacing previously-held assumptions and beliefs changed my approach to reform and the implementation of reform strategies.*

Component 1- Reflection

Modeling reflection is an integral part of the CF process, and an initial stage of binding ideas together with a colleague in deeper and substantially more significant ways. Classroom interactions, interpretations of texts, conferences with Teaching Candidates and colleagues, are all opportunities to model reflection. As Birmingham (2004) suggests, CF creates a safe space of freedom, security, time and space to take risks and ask important questions, and reflect. Even though reflection is fundamentally individual and private, it thrives best in a supportive environment. Explicitly bound to the particulars of situations and embedded within a community, it resists being reduced to a concrete measure of certainty. Through our association, we came to acknowledge that reflection is best not carried out alone.

> **John:** *For me, CF provides a mirror to facilitate reflection by knowing the context and, at the right time, feeding suggestions for further reflection. An additional benefit is that the quality of reflection is deepened, avoiding clichés and superficial responses, particularly in scholarly writing.*

> *It also adds to the richness of source. Mike was developing a CPD program which corresponded to my work in TP development. His concerns dovetailed with mine on a number of issues, including BTC context, cross-cultural communication, and decision-making. I came to see that I could sharpen my initial reactions to realities related to teaching and learning, and find ways to improve a situation or adapt to it.*

> **Mike:** *Back in the 1990s, getting to grips with RP changed forever the way I view myself as an educator. Re-visiting RP at BTC was a trip down memory lane. Although I had entered higher education through a 'non-traditional' route, I had a 'knack' for traditional university studies and thought a PGCE would be a walkover. I was mistaken, largely because of my PGCE reflective journal; I kept flunking it. Or at least, I perceived a 'referral' as a 'failure.' Focused on academic*

objectivity, 'reflection', or the journey into subjectivity as a prerequisite for action planning and self-evaluation, was utterly alien to me. I was hung up on 'technical rationality'. My struggle with my journal led me to the Schönian concept of 'reflective practice'; a seminal moment in my career as an educator. I was intrigued to get back to reflection, again. Realizing through my CF interactions with John that the 'technical rationality' paradigm is still largely unquestioned at all levels of GCC education, I was able to relate my struggles to get to grips with RP to the difficulties that many Bahraini students and CPD participants were facing in RP.

John: *I found that in the CF process, reflection became second nature. It had been years since I had the opportunity, or "luxury", of sharing thoughts in process, or practices "under development". Perhaps, the multi-cultural and multi-ethnic situation at BTC added to the need to talk through ideas completely and thoroughly, in a low-risk environment.*

Component 2 - Peer Observation

Following PCAP requirements, we completed two formal peer observations (PO) intended to provide feedback based on key aspects of practice: we were to focus on strengths, aim for aspects of improvement, and offer constructive suggestions and strategies when asked. Often in very hierarchical contexts, practitioners 'over prepare' for PO, so that observations become over-formalized, and offer an unrealistic and unrepresentative view of actual practice. However, with CF, PO quickly became a regular mutual professional development feature to the point where we could participate in each other's lessons on an impromptu basis. Of particular mutual interest were strategies used to re-focus opportunities for students to work together cooperatively in student-centered activities, in Arabic, using pairs and groupings, with more discussion time allotted in Arabic. PO opened our eyes to the support that is available for CPD, informally, incidentally and easily.

Mike: *PO has been a key strand of CF collaboration especially in CPD modules 'The Classroom Learning Environment' and 'Collaborative and Cooperative Learning', where we worked together on implementing teaching and learning strategies in a bi-lingual, environment and achieving what Giles refers to as linguistic convergence, and optimal or cultural convergence, in an Arabic context (Giles, 1979).*

John: *In the beginning of the CF, we invited each other to visit our respective classes to observe and provide feedback on specific aspects of practice. We became very comfortable coming and going from our CPD classes and developed a highly dynamic and creative working relationship that transcended mere PO and encompassed co-teaching, developing tools for students and tutor feedback, quality assurance and course development.*

Component 3 - Action Research

Given that we were both working full-tilt in a start-up organization, we acknowledged that a challenge to completing the required PCAP Action Research was restrictions due to heavy teaching and administrative responsibilities. This situation inhibits the formulation of a traditional "academic" research agenda. Accordingly, we found it necessary to integrate scholarship and research as closely as possible into teaching-learning activities, so that CPD sessions resembled what Schön has described as a "Reflective Practicum" (1987, p. 305), where through RP the practitioner becomes "a researcher in the practice context" (1983, p. 68). Schön's "reflective practicum", together with Louis Cohen's "action research" model provide a basis on which research activities can be factored into day-to-day classroom activities to the greater benefit of both participants and practitioner.

Apart from being more time-efficient, this approach has advantages. It breaks down the artificial barrier between theory and practice, the "practical" and the "academic"; it locates the research in context (Cohen, Manion, & Morrison 2007, p. 3); it ensures that the research feeds directly into practice, improving understanding and practice as an integral part of the research (Mcniff, Lomax, & Whitehead 2003, p. 124), and; it gives voice to students and participants, reducing the risk of them becoming mere "research objects" of the technically-rational "expert".

Mike: *Research-in-action allowed me to integrate activities such as demographic data gathering, course evaluation, participant and facilitator satisfaction surveys as closely into my practice collaboration with John and other colleagues for a number of activities (my AR topic was localizing*

externally-derived CPD). John was examining the use of study notes with first-year B.Ed. candidates. By working together, we found commonalities and connections in areas of linguistic convergence, motivation, and attitudes to the use of English language, throughout a wide range of teachers and teacher candidates.

John: *Data collected about student use of study notes, and the use of online survey e-tools, like Surveymonkey, were both mutually informing, and mutually beneficial. In the process, Mike and I found that many of the activities supported research **and** practice. The research grew organically out of the AR. It is interesting to note that we both generated and produced publishable research based on our combined efforts and have presented our work at four international conferences. This would not have been possible working in isolation.*

Conduct

To create trust, deepen mutual respect and avoid potentially awkward misunderstandings, we found it reasonable to establish a few ground rules:

- focus on the principle not the personality (whomever may be involved)
- confidentiality must be respected (confidences shared need to be discussed on their merit)
- learning needs of students were the top priority (teacher issues framed in this context)
- aim to be as specific as possible when giving feedback
- frame questions without a pre-conceived outcome (openmindedness)
- avoid blaming students or social conditions (context focussed)
- listening is as important as sharing ideas
- adhere to scheduled times for meeting
- be on time and prepared for each session

This distinction of process might be easily adapted to different circumstances and tailored to different individuals. The process we developed includes:

- sharing issues and providing context,
- making an overview with specific observations,
- defining issues and framing questions,
- taking time and space for reflection or discussion,
- de-briefing the results.

Roles were fluid and alternated between that of counselor, provocateur, coach, cheerleader, encourager, time-keeper (and due-date-enforcer), to secretary and record keeper.

Mike: *Such was the level of collegiality and trust that I felt confident and able to observe, co-teach, and provide feedback on a session with little or no notice. This enabled us to mutually reinforce and enhance our practice by sharing, using specific support, defining context, and by providing feedback involving theoretical insights to inform practice, that is the "underpinning knowledge" of practice.*

John: *It wasn't just the conduct of our CF but the value that we attached to it. Our shared quality assurance activities including mid-term assessments, final assessments, surveys, participants' and tutors' feedback, undertaken both as part of our duties as educator-managers at BTC and for PCAP AR, was direct, specific and immediate. Our conduct was a model for students who were impressed that their instructors were "learning" together and that they were able to articulate and share that learning.*

DİSCUSSİON

In the present GCC context, it's very common for practice in higher education to become individualized and competitive. In our experience, whilst community service involves hours spent on many committees, there were not corresponding structures in place whereby colleagues could share and discuss experiences in a non-judgmental and constructive manner. Extending and developing CF groups, with procedures for regular peer observation, could be a way forward to increased collegiality and shared practice. We now both feel more confident to focus on creating spaces for low-risk discussion with colleagues.

John: *I was revitalized in this process and feel fortunate to experience what the "push and pull" of a CF can impact on my teaching, learning and classroom practice. It's amazing how powerful that kind of accelerated learning can be if we allow ourselves to both lead and follow. CF's determine their professional learning needs and this form of CPD is much more satisfying both personally, and professionally.*

Mike: *By establishing a CF, I opened the door to more effective relationships with colleagues; I experienced a deprivatization of practice! I was able to reach out to colleagues by collaborating across different disciplines, by confronting assumptions and expectations, and by knowing my own, better.*

John: *I agree. CF was sustained professional development, based on a spirit of inquiry. From responses collected from students as part of my action research, my teaching had significantly improved and improved the learning environment and their learning experience.*

CONCLUSİONS AND İMPLİCATİONS

This study provides higher education practitioners anecdotal evidence of a CF in practice, and articulates the benefits of participating in a partnership that is organized along these transformative lines. We hope this paper will prompt further discussion about the specific ways in which CF can be systematically applied, and reasons for supporting the implementation of CF, and what some of the benefits might be in return for investments of time, effort, energy and funding.

By consciously examining CF through exploratory research and self-study, and by reflectively engaging in collaborative teaching, we enhanced our skills as co-instructors and colleagues, and renewed our commitment to working with other teacher educators. By reflecting on both this project and our teacher education practice generally, we developed deeper understanding of our research findings, identified possibilities for action research in teacher education, and examined closely our beliefs and practices as teacher educators. By incorporating journaling and other forms of reflection into our research methodologies and data collection, we experienced greater understanding of ourselves as practitioners.

While CF can never replace more traditional structures in education management, it can provide a parallel forum in which ideas and practices can be discussed and negotiated in a more creative, dynamic, and experimental manner than is possible with more traditional structures. While CF can never replace more structured forms of CPD, it can supplement these by enabling practitioners to more fully and deeply explore the applications and implications of their CPD.

All in all, our experience in developing CF as part of BTC CPD confirms Curry's observations (769) that CFs provide a safe space for creative, experimental, and low-risk interactions around perceived high-risk topics connected to differences in organizational and national/ethnic culture in the developing context of professional practice of BTC. The mutuality of the CF, its low-stakes, experiment-tolerant status, and its shared professional commitment focused on education reform make CF highly relevant to the dynamic, change-rich, cross-cultural context of the Bahrain education reform project, where 'off the peg' consultancy will only ever be an approximate fit, and 'bespoke' can only come from the practitioners themselves. When it comes to ensuring that our tailoring of teacher training best fits the needs of our student body, critical friendships can often offer the "best mirror" for reflection.

Afterword

We have said that the BTC context of our CF was 'change-rich', and have alluded to some of the challenges that education reformers faced in the academic year 2009-10.

Reflecting from the perspective of the events of the 'Arab Spring' of 2011, it strikes us how the challenges we faced at BTC presented in microcosmic form challenges being faced by the wider Bahraini society and tensions within it: tensions arising from implementing 'Theory Y' reforms in contexts where 'Theory X' (McGregor in Biggs & Tang, 2007) remains default; rival visions of Bahraini identity and the limitations of those identities; regional influences from outside of Bahrain; civil rights and equality of opportunity; the interaction between social class and ethno-confessional background; the changing aspirations of women; different generational perspectives; the tension between the desire to conserve what is local and traditional, and to embrace globalization; crises of representation and legitimacy.

Naturally, since education cannot be separated from its contexts, the 'small p' 'political' issues within the college reflected the 'big P' 'Political' issues in the wider society without.

If Bahrain is to heal, then education reform initiatives needs to continue, informed by profound reflection upon the reform's strengths, weaknesses, opportunities and threats since its inception in 2008. It is our shared belief that critical friendship -- creative, experimental, and low-risk -- offers a way forward to facilitate healing, mutual respect and understanding, reform and development in education, in other professions in Bahrain, and in the wider Bahraini society.

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183 - (R)Evolutionary Road: A Preliminary Discussion upon Changes in Academia and its Professionals

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Abstract: This paper grew out of the observation that there is little evidence as to whether the changes happening within the New Public Management paradigm and entrepreneurial orientation adversely or positively affect Portuguese academics' work and careers. Using Psychological Contract as a framework to characterize and explain the relationship between employer and employee, we have conducted six exploratory interviews with academics working in a public higher education institution. According to the interviewees, the university is not fulfilling its side of the deal. They describe the main perceived breached contents and report episodes of organizational (in)justice, as well as an unprecedented degree of peer competitiveness and increasing individualism.

Keywords: Higher education; employment relationship; psychological contract breaches; implications

INTRODUCTION

Profound transformations concerning the nature of the academic work and the academic career are now taking place, such as increased competition, diminished funding, increased accountability, and new performance appraisal practices (Altbach, 2000; Taylor, 2001; Chandler, Barry, and Clark, 2002; Deem, 2006). In Portugal, these changes are inevitably linked to the introduction of new types of governance and market-driven policies (Santiago & Carvalho, 2008).

It is argued that the transformations and pressures for competitiveness, that are also permeating the academic career, have not only changed the internal structure of organizations but also the nature of the employment relationship, often framed within the concept of Psychological Contract (Lester, Claire, & Kickul, 2001). Additionally, these recent trends have increased the perception that the (traditional) terms of the psychological agreement (for instance, job security) are not being effectively fulfilled (Coyle-Shapiro & Kessler, 2000; Aggarwal & Bhargava, 2009). In a context of significant changes and increased uncertainty within Portuguese academia, the perception of contents and violation of the Psychological Contract (PC) becomes increasingly important for both universities and academics. Nevertheless, the impact of the changing scenarios in academic organizations and career has not been fully acknowledged. Thus, our aim is to contribute to this field by reflecting upon key aspects of the recent managerial and career reforms, and to derive some conclusions in terms of PC contents and perceived violation of such contracts.

This paper is divided in five main sections. The first intends to contextualize the study, by identifying the major changes within the reform of higher education, and highlighting some main features of the contemporary (Portuguese) university. The second section explores the PC of academics and its potential breach/violation following the on-going reforms. The third section presents the methodological strategy. The fourth is dedicated to the presentation of empirical results and its discussion. Finally, the fifth draws some conclusions from the on-going reforms in higher education and how those changes are affecting the academics' profession and the PC.

THE PORTUGUESE ACADEMIC CONTEXT

As Altbach (2000) underlines, the traditional idea of the professor who holds a job for life, focused on teaching and research, and carrying a responsibility for institutional governance, is giving way to alternative perceptions of the employment relationship with fewer fulltime and permanent positions being made available. In this regard, we can pinpoint some major trends in Portuguese institutions of higher education.

A culture of accountability has emerged as a central feature of the managerialist reforms, with implications for the academic profession. The assessment of academic work is an increasingly common practice and teaching, research, administrative, and management work are becoming regular activities for academics (Altbach, 2000; Sikes, 2006). Portuguese higher education institutions have recently experienced career reforms with significant implications on the traditional terms and conditions of academics' jobs. The

evaluation criteria for achieving tenure are becoming increasingly rigorous; there are fewer vacancies for upper positions and the possibility of achieving one is progressively more related to the number of published papers in peer reviewed journals. Precariousness is an issue for every academic, especially for those occupying the lower ranks in the academic hierarchy (Santiago & Carvalho, 2008).

A qualitative study focused on Portuguese academics' career development, work values and the work-family relationship, shows that some changes are taking place in the name of competitive performance (Santos, 2007). Academic organizations are depicted as arenas of efficiency with objective standards of work performance, and adopting a discourse of competitiveness and market-orientation resulting in a long work hour's culture. In this respect, research conducted in the Portuguese academic context by Santos and Cabral-Cardoso (2008) portrays some stories of daily organizational processes and cultures of power and authority through which people are exploited and violated. These examples can also be analysed in the domain of organizational deviance and/dysfunctional behaviours.

Acknowledged the changing scenario of Portuguese academics' career endeavours, a question arises: what can be expected in terms of their employment relationship? What are the implications of these changes? To answer these questions, it is urgent to acquire a deeper understanding of the magnitude of the changes occurring in academia. Using the concept of PC and its violation/breach, we intend to trace a parallel with the existent literature on this area. Existing research suggests that employees tend to react negatively when they perceive a violation of their PC. They usually respond with lowered commitment and trust, and increased tendency to adopt counterproductive behaviours (e.g. Robinson & Rousseau, 1994; Lester et al., 2001; Rousseau, 1995; Vardi & Kim, 2007; Chiu & Peng, 2008). However, the consequences of the recent changes of the PC of Portuguese academics are yet unknown.

THE ACADEMICS' PSYCHOLOGICAL CONTRACT: CONTENTS AND BREACHES

Psychological Contract refers to understandings that employer and employee have about mutual promises/obligations included in the employment contract. It is an individual perception about what is owed and received in the employment relationship by each constituent of the contract and, as such, it is perceptive, subjective, and idiosyncratic in its nature (Robinson, Kraatz, & Rousseau, 1994; Herriot & Pemberton, 1997).

This concept has been used as a framework to examine and make sense of the changing relationships between employers and employees. The PC seems to help both parties reduce insecurity in some situations, regulate their behaviours and expectations, fulfil some gaps of the formal employment contract, and provide individuals with a sense of influence in certain events (Robinson et al., 1994; Aggarwal & Bhargava, 2009).

The importance of the PC held by organizational members also derives from the perception of breach/violence, since it affects aspects of the relationship that are crucial to employees and their employers (e.g. Robinson & Rousseau, 1994; Robinson, 1996; Turnley & Feldman, 2000; Coyle-Shapiro & Kessler, 2000).

The Contents of Academics' Psychological Contract

Although the PC comprises the perception of what the employees perceive as being their obligations to the employer, and of what they perceive as being the employer's obligations to them, we will focus on the latter. There isn't much empirical evidence dealing with the PC of academics. However, some recent empirical studies have been shedding some light on what may be the content of it (Aydin, Yilmaz, Memduhoğlu, Oğuz, & Gűngor, 2008; Krivokapic-Skoko & O'Neill 2008; Shen, 2010).

Previous studies suggest that the academics consider the following issues as employers' obligations: ensuring career development and access to relevant training; promoting fairness and justice regarding promotion, payment issues, and the distribution of the workload; providing support with personal problems; good workplace relationships and working conditions, and long term employment; and finally, tasks and activities that demand higher responsibilities, autonomy and recognition (Tipples & Krivokapic-Skoko, 1997; Aydin et al., 2008; Krivokapic-Skoko & O'Neill 2008; Shen, 2010).

The Psychological Contract Violation/Breach

The distinction between breach and violation seems to be a matter of degree: breach is a cognitive assessment of the organization's failure to fulfil one or more contract obligations, whereas violation involves a deeper feeling of betrayal, once the individual believes that the organization failed to maintain the PC, and shows feelings of anger and frustration (Morrison & Robinson, 1997). However, the perception of PC breach (cognitive assessment) may not necessarily lead to violation (intense emotional state). Traditionally, PC

violation and breach have been studied in terms of the employees' perception of their employers' unfulfillment of the promised obligations.

The violation of the PC implies the perception of a discrepancy or imbalance of obligations and promises in the exchange relationship with one's employing organization (Robinson & Rousseau, 1994; Robinson & Morrison, 1995) with detrimental effects on employees' attitudes and behaviours. Specifically, violation or breach can be experienced when a discrepancy is perceived between an expected outcome derived from the promises made by the organization, and the actual fulfilment (or failure to do so) of those promises (e.g. Rousseau, 1995).

PC breach/violation is shown to have detrimental effects on various work related behaviours and attitudes. Specifically, previous studies suggest a negative impact on performance, turnover, trust, job satisfaction, intention to stay, commitment, organizational citizenship behaviour, and deviant behaviours (Robinson & Rousseau, 1994; Robinson, 1996; Coyle-Shapiro & Kessler, 2000; Turnley & Feldman, 2000; Lester et al., 2001; Johnson & O'Leary-Kelly, 2003; Raja, Johns, & Ntalianis, 2004; Suazo, Turnley, & Mai-Dalton, 2005; Deery, Iverson, & Walsh, 2006; Vardi & Kim, 2007; Bal, DeLange, Jansen, & Van Der Velde, 2008; Chiu & Peng, 2008).

Some studies define as antecedents of perception of breach/violation: initial trust in the employer, type of organizational restructuring, type of employment contract, levels of organizational and individual performance, and a few dispositional variables (e.g. Robinson, 1996; Robinson & Morrison, 2000; Raja et al., 2004).

The perception of a lack of willingness on the part of the organization to fulfil its obligations and the possibility of doing so are the general sources of PC violation (Morrison & Robinson, 1997; Robinson & Morrison, 2000). The authors argue that perceiving a gap between what was perceived as promised and what was actually received depends of the salience of the issue at stake and the level of employee's vigilance and scrutiny of the organization's contract fulfilment. Turnley and Feldman (1999) suggest that specific contents of the PC (namely compensation, job security, training, and career development issues) contribute to the perceived degree of violation, and some individual variables (namely affectivity, sensibility to equity, and conscientiousness) as well as labour market forces (exit costs, replace ability by the employer, and availability of good job offers) contribute to strengthen the employees' reactions after the perception of PC violation.

This exploratory study seeks to uncover Portuguese academics' perceptions of PC breaches and its major implications.

METHODOLOGY

The present study adopts a qualitative approach, centred on individuals' personal experiences, their emotions, feelings and behaviours about a specific phenomenon or problem (Snape & Spencer, 2003).

Thus, qualitative research is particularly adequate for this exploratory study that aims to understand the subjective meanings that individuals attribute to changes in the academic employment contract, and the need of further clarification and a deeper understanding of the content and implications of the PC violation. This study uses qualitative research interviews (King, 2004) as the technique for data collection. This will allow us to examine the research topic from the perspective of the interviewee, and to understand how and why he/she come to have a particular view or opinion on the topic (Kvale, 1983, cited in King, 2004).

Sample and Procedures

The study sample comprises six interviews with Portuguese academics. They all belong to the same northern Portuguese university, due to reasons of availability and convenience. Three of them are from business and management field, one from humanities, and two from engineering. We interviewed four men and two women, with ages ranging between 35 and 55 years. In terms of academic position, one interviewee is a full professor for about thirteen years, and the others are assistant professors with four to ten years of work experience in that rank.

The interviews lasted between one and two hours. The conversation focused primarily on the academics' perception of employer fulfilment of the PC contents, and its implications on academic work activities. Each interview was transcribed *verbatim* and then submitted to a thematic content analysis. The themes emerged after a systematic and cumulative comparison between the data in each interview and the iteration process with the literature review (Rubin & Rubin, 1995).

PRELIMINARY RESULTS

When analysing the interviews conducted within this small group of academics, two major themes emerge: one deals with the perceived breached contents of the PC, and the other concerns some major implications that can be derived from it.

Breached PC Contents

This main theme identifies the contents that our interviewees perceived as being breached/violated by their employing organization. There's an obvious emphasis on the increasingly "degrading" working conditions in academia. Some sub-themes emerge here.

The lack of funding for research activities. The interviews flagrantly reveal the worsening working conditions of academics. According to the participants, the core roles and activities of the academics – teaching and research - are suffering the negative impact of financial constraints and diminished administrative support:

> "The University should give us more money. Yes, it should. (…) Our research centre was not given financial support due to political reasons… (…) anyway, in other universities, for example, I hear my colleagues saying that they have [support] for at least a conference per year. We've never had this here. Therefore, all the support I get is mine… (…) It is not the institution but me, (name), knocking on every door trying to get financial support (Female Assistant Professor, 39).
>
> "My perception is that the University does not have sufficient resources to give us. So, we have to create internally our research centers. (…) We are a university that proclaims to be research oriented but does not provide the necessary resources for that, it sure doesn't! There aren't any available resources from the university to do research. (…)There's nothing! We want to buy books… I had to spend money from my own pocket to buy the books that I needed! (Male Assistant Professor, 39)

The excessive burocratisation of academic work activities. All the academics interviewed feel forced to use precious time that should be allocated to teaching and research activities with bureaucratic tasks that exceed the boundaries of academic work:

> "It is absolutely scandalous the work… then, the administrative management of a [research] project that is made… solely by the researcher or the grant holder, or anyone! There's an office… it takes responsibility over small things, such as payments, but… (…) All the financial report is made by the researcher. And the payments, then, a hell of a thing (…) Hilarious!" (Male Assistant Professor, 50)
>
> Faculty, teachers and researchers have progressively being transformed into… shall we say… administrative employees. There is a set of administrative routines, documents, files, etc. that they are supposed to fill… this doesn't make any sense, it gives de impression of an organization that doesn't have an understanding of the role each actor has to play… (Male Full Professor, 55).

The disillusionment with the rhetoric of research excellence. At the same time, and paradoxally, the university claims to be a research university. In this regard, the perception of breach is related to the absence of a cohesive and coherent strategy for the university, and a dissonance between a rhetoric that emphasizes research competitiveness and publication outputs and a lack of financial and human support for achieving that goal:

> "This is… clearly a survival reasoning. I can't see anybody with a strategic thinking concerning this University's future. Some time ago we had a vice-rector that used to say that the University doesn't have resources to allocate to research. Despite that, they [the University authorities] claim that we are a research University. So, I think that those people might be well-intentioned – I believe they are – but they do not make a clue on how to run an organization (Male Assistant Professor, 39).

In fact, most academics strongly believe that the strategy that is being publicized by the University – of research excellence – is undermined by the insufficient work conditions, the teaching overload and the lack of research funding. Thus, the strategy of research excellence is looked with suspicion and disbelief by some of the academics interviewed. In the end, it functions as a marketing strategy tool for external stakeholders, mainly the community – and is seen as an exercise of mere rhetoric:

> Now, they suddenly claim that our goal is research - let's all do research! -, but this won't be easy. I think that what should be done is a question of… improving researchers' conditions, isn't it? People might say that our mission is research, but when it comes to practice… they don't give us conditions… it is something

that seems nice to say, to pass the message externally, but the reality is that no one is really interested, isn't it?"(Male Assistant Professor, 39).

This same academic notes that the pressure to increase research output is forcing some academics to invest less in the quality of the work that is being produced:

"I can see most people working on their PhD's, and hurrying up, and then the thesis come out with a very poor quality and… they just want to achieve the grade, basically they just want the degree and this brings out some problems".

The multi-skilled academic and the schizophrenic career. This PC breach refers to work overload experienced by academics, since they have to perform a set of multiple and diverse tasks. Work overload and academics' inability to respond to those challenges is therefore related to the perception of breach in terms of what should be offered (working conditions) and what they actually receive:

"In terms of research, I would like to be more productive, I'd like to have more time because I'm not a genius. So I need time to focus, I need time to write [papers] and… (…) I would like the University to give me time to prove if I'm capable or not. This semester I'm about to have a nervous breakdown because the teaching load and the pedagogical demands are tremendous, tremendous and, for the sake of the research role, one cannot stop working. (…) Then you have, for example, a paper in the review process and you receive the referee comments and you have to work on it. (…) And you have to… it's a total chaos, a total chaos (Female Assistant Professor, 39).

The work schedule is organized around various roles and a diversity of tasks, and most academics feel pulled in several directions at the same time. A male assistant professor describes this feeling as follows:

"The thing that mostly affects my work, right now, is the multitasking. (…) I mean, you have to build a career based on four pillars: research, teaching, management, and university extension. Such obligation has prompted the individual fragmentation, isn't it? (…) Almost as if a football player having to play every position: offensive, defensive, middle field/centre or quarterback isn't it? (…) With the advent of master courses, the "massification" of master degrees, Bologna and the creation of new courses, the span of subjects increased." (Male Assistant Professor, 50).

The lack of recognition by the academic organization. Our interviewees believe that their contribution to the University is not being adequately rewarded, since the University fails to reciprocate the time, energy and effort devoted to research, teaching and management responsibilities. This is a content perceived as not being fulfilled by many of the interviewees, as the following quote illustrate:

"I have worked sufficiently to get my PhD (laughs). And then, what did the institution [university] do? The institution, right after my PhD conclusion, has burdened me with administrative work. I had to replace every single colleague in senior positions, isn't it? The senior colleagues have exercised their power, in every ways: administrative work, vigilance of exams, everything! (…) I started learning to say "no". In the beginning I used to say "yes" to everything but then… I realized that I was staying behind because the same people that ask me things do not give recognition afterwards" (Female Assistant Professor, 39).

A 50-year-old assistant professor highlights the fact that he's about to become an old assistant professor without being adequately recognized:

"So, I have two research projects, some published papers, I have this and that, but… I'm still an assistant professor! (…) I never thought of myself as being a careerist in the past, but now I realize the importance of being careerist. I started figuring out what the academic career was about, all the inherent injustices and violations. And this hurts much more than… it's not really about climbing the ladder… in fact, it is the lack of recognition".

Unfair treatment and lack of transparency. The interviews echo episodes of perceived injustice. Some academics feel organizational injustice and unfair treatment:
"I think that the majority of conflicts happen because of… the way the institution is managed. (…) All the tactics used, or the possibility of defining criteria that is not truly objective, allows for different treatment. (…) But when you have more objective criteria… this [sense of unfair treatment] decreases. It diminishes this… I think that this might mitigate that perception. For me, this is the main source of conflict. (Male Assistant Professor, 39)"

Another male assistant professor (39 years) recalls episodes of unequal treatment concerning promotions. In his words:

> "Some academics have recently been promoted to associate professor without… with zero publications, scientific publications, isn't it? The only thing he did was… he was the course director for six or ten years, by department's decision (…). He didn´t do anything in teaching as well as in research. The case is now in civil court and let us see what is going to happen then. (…) Indirectly, this [unfair treatment] ends up damaging other colleagues. (…) I'm almost convinced that academic progression is based on friendships. And criteria tend to vary according to… tend to change according to individual preferences. So… career progression is a matter of convenience".

This means that evaluation criteria, even though formally defined, can be manipulated according to specific circumstances. This academic choir of voices also suggests that the exchange of favours is a common practice in the academic realm.

Implications of the Perceived Breached PC contents
This second set of observations addresses the consequences of perceived PC breaches. How do the academics feel when they perceive that the university has failed to fulfil what was perceived as paramount on their employment relationship?
Some of the sub-themes identified here are related to academic professional values (Schein, 1996). But the interviewees also emphasize the increasing demotivation, the intention to leave, the worsening relationships (interpersonal conflicts and competitiveness) and to some extent dysfunctional working climate after the implementation of the major reforms.

Disenchantment and intention to leave. According to Schein (1996), an important career anchor relates to service and dedication to a cause. In this sense, the career concept is structured in order to allow individuals to exert influence over social policies and labour relations within his/her organization. For some participants, the feeling that they no longer contribute to a common project and the loss of a sense of community resulting from dedication to a cause seem to be lost:

> "I have never been solely a faculty, since I have assumed, in terms of the profile… as well as in terms of the subject I teach and research, I have always assumed an active role beyond the boundaries of the university…. I've taken responsibility for the creation and development of a wide range of different projects over the years. And people felt the growth and affirmation of the University as a project they were part of, or something they could contribute to. Nowadays, I think we are experiencing an inverse moment, where people do not find any stimulus to give a personal contribution (Male Full Professor, 55)."

The managerialist discourse emphasizing excellence in the university collides with daily limitations encountered by contemporary academics. For some interviewees, the university cannot be seen as a "common project" and a "community of best practices" anymore. Some academics may leave the University and others have already left:

> "People of my age, or a bit older than me that, for several reasons, met some length of service criteria are gone. I mean, people I've met, with whom I've worked, mostly from my generation have suddenly abandoned the system. And why have they left? Because they do not identify with this climate anymore, they do not fit in… (Male Full Professor, 55)."

This discourse of disenchantment reveals that academics are not motivated and seem willing to leave the university, since their needs and expectations concerning the academic profession are not being fulfilled.

Escalating competition between peers and misbehaviours. Most of the academics interviewed felt that the implementation of a new evaluation system, emphasizing essentially the publication output, has negative consequences for the organizational climate and interpersonal relationships. In this regard, interviewees pinpoint a set of interpersonal conflicts and dysfunctional behaviours, such as the lack of collegiality and collaboration; increased feelings of rivalry between pears; lack of transparency or information disclosure; and finally, instrumental and political behaviours in order to "get ahead":

> I think that the new performance appraisal system is a fashionable issue and the expression of the university's discourse, a general discourse. When I talk to other people around here I can perceive them

unmotivated (…) I'm often confronted with comments, such as: "If I could… if I could I'd go away". (…) One of the most unsatisfying dimensions is the relationship between colleagues. A context of extreme competitiveness has been fostered between peers. (…) Sometimes, and this is because of the moment we're living, a logic of favouritism develops. And then, someone, regardless his own merits, is promoted or has more success due to circumstantial alliances (Male Full Professor, 55).

One male assistant professor (50 years) made the following comment:

"There is no cooperation between colleagues (…) we compete a lot, isn't it? (…) I see that every single person, intentionally or not, probably intentionally, hiding [information]. Why? Because the person feels that, if he/she gives card trumps to the adversary, when a vacancy opens, the arms were given to the competitors."

A male assistant professor (39 years) spoke of the process by which some colleagues are developing some unethical behaviour:

"I have a colleague of mine that… she has no tenure and then… she is almost panicking. As a result, relationships are not very healthy. As a matter of fact, she is now angry with me (smile) because of the responsibility over a course unit. During the time spent in my sabbatical, she was assigned responsibility over that course unit and now doesn't want to give it back to me, because she believes to be in a very fragile situation. She needs curriculum; she needs those things, isn't it?"

Additionally, the unpleasant collegial relationships and the tense organizational climate are originating other negatives consequences. Most of it can be depicted as dysfunctional emotions, such as envy and jealousy.

"(…) by the time I completed my PhD – I was supervised by a person from my department – I was invited to participate in a project outside this University and out of my former supervisor's control, and I think that he wasn't happy with that. For me, this is not a matter of concern anymore, but I believe that my colleagues still point their fingers towards me (Male assistant professor, 39).

A female assistant professor (38 years) puts her finger on one episode illustrative of the unethical behaviour of some peers:

"(…) I shared this PhD supervision with other colleague. After some initial problems with the student (…) she contacted other colleague that immediately accepted to supervise her without consulting the former supervisors… until today, he has never discussed the subject with me because… well, because he is a bit older than me, I'm just an assistant professor. (…) This was a truly dishonest behaviour, since he has accepted to supervise her before discussing the issue with us.(…)"

According to our interviewees' narratives, collegiality and the sense of academic community do not seem to be much disseminated these days. The logic of individualism and fierce competition for scarce resources prevails over academic collaboration and solidarity. The exacerbated competition is constraining the development of healthy collegial relationships between peers. This situation cannot be seen in isolation, since the few vacancies available for tenure positions also contribute to this perception.

CONCLUSIONS

Although there is a considerable literature that deals with PC and its breaches/violation, there is no comparable literature that examines the specific contents of academics' PC.

This preliminary analysis of the impact of the profound alterations in higher education institutions on academics' psychological contract reveals some important findings. On the one hand, the interviews suggest that academics are noticing significant breaches on their PC. On the other hand, some major changes on values, attitudes and behaviours are taking place as a consequence of the reforms. Each of the academics interviewed told us stories relevant to their personal experience within this new educational and professional paradigm.

In sum, this research found that psychological contract breaches were related to: (1) the insufficient working conditions, specifically the lack of financial support, excessive workload, and the obligation to multi-task instead of performing the "real" tasks; (2) the failure in fulfilling the university's mission– that is, research -, and consequently neglecting some core values of the academic profession (professional identity); (3) the lack of recognition and promotion opportunities; and (4) the unfair treatment and lack of transparency.

The main implications of the perceived breaches can be summarized as follows:
(1) disenchantment and intention to leave; and (2) the escalating competition between peers and misbehaviours.

We can note some criticisms concerning the so-called bureaucratization process. Our interviewees argue that it tends to routinize work but does not necessarily improve academic efficiency. They also complain that there is no longer time for research within the reforms.

For those academics, some changes are damaging workplace relationships and destroying some core values of the academe. As a future trend, it is likely that academics under this wave of reforms will be more and more concerned with their individual career than with seeking healthy relationships and efficient departments.

It will be interesting to see how these perceptions of psychological contract breaches evolve over time. Will these breaches be strengthened or decrease? Will these perceptions of breaches result in the perception that PC is being violated?

One may speculate whether academia is prepared to manage such attitudinal and behavioural consequences. The higher education institutions, specifically those in management positions, cannot ignore such implications. Unless there is not a truly concern with bringing about real changes and positive outcomes...

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184 - Perceptions of Physical Education Teachers in the Exercise of the Profession- a qualitative approach

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Abstract: Our professional practice in institutions of the training of teachers on Physical Education, has contributed for a bigger attention and concern with inborn questions to the definition of the teaching identity. In order to study these questions, we developed the present study, looking forward to find out about the structure of teachers of Physical Education. We mean to identify if teachers evaluate while, considering the consequence of the initial training in the definition of its teaching identity. Appealing to a methodology of qualitative form, this study has been centered in a group of fifteen teachers with distinct training in the Physical Education area in the most known institutions in Portugal. We conclude that teachers, independently of their school of teaching and their professional experience, define themselves as good teachers, assuring to possess good pedagogical capacities, looking forward to promote the learning's and to develop the capacities of the pupils, being brainstormed to them values and valuing the question of knowing to be.

Keywords: Physical education, teachers, identity, self-esteem.

INTRODUCTION

It was only in the decade of the seventies of the last century that the first studies on critical and interpretative analysis of the History of the Physical Education took place in Portugal. When studying the training and the construction of the identity of teachers of Physical Education in Portugal, we evidence that both have come to suffer throughout the twentieth century, some influences and changes, following the historical evolution, in its social dimension, politics, economical, educative, cultural and scientific.

During the first three decades of the twentieth century, the attempts prepared for an introduction of the training of teachers on Physical Education had appeared separated and without obeying to any systematic plan or consistent ideology (Crespo, 1976). In 1930 the Superior School of Physical Education was only created, in the *Sociedade de Geografia* in Lisbon. Experience acquired in this school consists an important landmark in training of teachers that did not lead to motivate the ones responsible for the launching of an official institution that would come to occur in 1940, with the creation of the National Institute of Physical Education. The creation of this institute consisted a truly significant moment, in terms of training of teachers on Physical Education. The first statute of the *Instituto Nacional de Educação Física* (INEF), elaborated in cooperation regime with the Portuguese Youth (Viana, 2001), confirmed formative and regenerative character of education to grant, having a strong constituent in the area of the medicine, along with another one of military source (Nunes, 1995). The creation of the INEF had as main purpose to form agents of education of disciplines of Physical Education (Oliveira, 1944). However, although legal normative, the difficulties in the training of these agents had stood back due, to the lack of structural investments that answered to the modest installations, the deficient acquirement of materials and the reduced number of teachers formed by the National Institute of Physical Education.

The promotion of sports education in Portugal only happened at the beginning of the Sixties, characterizing this period for an enormous enthusiasm for the physical activities, on behalf of the elaboration of curricular plans of Physical Education and in concerns with the training of teachers. However, as Brás (1996) refers, this concern was not reflective in an effective increase of formed teachers.

At the beginning of the decade of the seventy´s of the last century, we presence a modernization of the educative system, that did not ignore the discipline of Physical Education (Rosário, 1996). In this period only one superior course, not university, of training of teachers existed in function, at the National Institute of Physical Education, and two regular courses of instructors, given in the Schools of Physical Education of Lisbon and Porto.

In the sequence of the political events of the 25th April of 1974 and the change of regimen, the intention of the democratization of the society generated alterations in the structure of the educative system. The National Institute of Physical Education was extinct, having, also been abolished the Instructors Schools of Physical Education. On the contrary the Superior Institutes of Physical Education in Lisbon and the one in Porto, the first one integrated the Technical University of Lisbon, as in the University of Porto. But, although the creation of these institutes, Nunes (1995) refers that it is not easy to say that there was "training of teachers" of Physical Education at that time. In fact, in the period understood between 1975 and 1984, the courses sinned for uncertainty in the formularization of the objectives, which compromised the training of the teachers. The recognition of this ambiguity contributed, at short-term, for the reorganizations of the courses in the decade of the eighty's.

One other decisive landmark in the training of teachers of Physical Education, in Portugal, had begun in the end of the decade of the eighty`s, with the redefinition of the ISEF´s in courses, with the ISEF of Lisbon to be College of Human Motricity integrating the Technical University of Lisbon and the ISEF in Porto, being named College of Sciences of Sport and Physical Education. From the nineties of the past century, we assisted to an explosion of teaching institutions that offered the initial training of professionals in Physical Education. This growth of offers, this proliferation of heterogeneous and diversified courses, and the multiplication of courses in the state sector and the private domain, on the other hand, it became evident the recognition of the importance of this area, this gave origin to the division and the disorientation in conceptual and methodological terms and the training of professionals with different conceptions, models, abilities and representations, which in a certain form, has contributed for a certain "spilling" of the identity of this professional group.

Facing this scene, the investigation on a professional identity of the teacher of Physical Education is figured as a complicated task. To study the teaching profession and its professional identity implies the recognition of the diversity that characterizes this professional group. As Nóvoa (1992) relates, to feel like a teacher or to assume themselves as teachers, is the result of a progressive process, constructed day by day and throughout the years, since the moment of the option for the teaching profession. The identity is not an acquired data, it isn´t a property, but it is a place of fights and conflicts, it is a construction in ways to be and to exist in the profession.

Therefore, since the individual differences until the group differences or affinities that distinguish, approach or oppose individuals in relation to the others in the breast of the same profession, it is possible to find a great diversity of variables that support this heterogeneity or homogeneity. Among others changeable, we considered as determinative the passage of training of the teacher of Physical Education. This variable seems to us, to be of a special importance related to heterogeneity /homogeneity, because the fact that their exists, currently, a proliferation of institutions of initial training in the domain of the Physical Education, ones with more prestige of what others, and with a faculty with very distinct qualifications, as much in the public sector as in the private one, concurs, in our opinion, for the emergency of identities that admit ambiguities. It was on the basis of these predictable, that we looked forward to develop a study that analyzed the way that teachers of Physical Education if they evaluate while teachers of this area, studying the consequence of its initial training in the definition of its teaching identity.

METHODOLOGY

In this study we basically, intend, and as already referenced, to analyze as a group of teachers of Physical Education of basic schools (of 7th, 8th and 9th years of schooling) and secondary (of 10th 11th and 12thyears of schooling) Portuguese evaluate themselves, attending to their different initial training and the diversity of experiences that they had lived deeply. The nature of this investigation took us to consider it pertinent a qualitative study, where the direct speech submits to a interpretative logic, that, when fitting and explaining the position of the interviewed teachers, it intends to give account as the teachers of Physical Education evaluate themselves in the current Portuguese school context. Pointing out to us, therefore, in a frame of a not positive and interpretative paradigm of phenomenological and ideographical nature (Cohen & Manion, 1990) we appeal, in this inquiry, to a methodology of qualitative care that puts the tonic in the revalorization of the "person", as subject of knowledge capable to reflect, to rationalize, to communicate and to interact (Pujadas Munoz, 1992). However, it is of our interest to interpret more the perceptions of the teachers of Physical Education to return an analysis that can be a new reflection for the teachers of this area.

It was our intention, to motivate the emergency of referring data to this study, we appealed to the use of a semi directive interview, also assigned of clinic or structuralized and to analyze the data scheduled from this inquiry for interview we appealed to a technique of inquiry, capable to codify the half-free and apparently

disordered declarations: the analysis of content (Holsti, 1969; Berelson, 1971; Bardin, 1977; Krippendorf, 1980; Ferrarotti, 1986; Vala, 1986).

Our sample was constituted by a group of fifteen teachers (Figure 1) with distinct initial training of the approved area to the discipline of Physical Education in the institutions well known of our country during the twentieth century: the *National Institute of Physical Education,* created in 1940; the *School of Instructors of Physical Education of Porto and Lisbon*; the *Superior Institute of Physical Education* of Lisbon and Porto; and the *Faculties of Sciences, Sport and Physical Education,* created from the beginning of years 90.

E2, E13, E14	Instituto Nacional de Educação Física (INEF)
E10, E12	Escola Instrutores de Educação Física (EIEF)
E1, E4, E7, E8, E10, E11	Instituto Superior de Educação Física (ISEF)
E3, E5, E6, E9, E15	Faculdades de Desporto e Educação Física (FAC)

Figure 1: Codes of Interview and Institutions of Initial Training

After our decision to study this group of professionals, we proceeded to make a selection not in a arbitrary form and without looking for a objective "representation" of qualitative data character of the methodology. This selection was looking for a guarantee that the biggest possible diversity of experiences and personal characteristics was made on the basis of the passages of initial training (training institutions).

With this procedure we intended that our sample was constituted by teachers who had different training in distinct historical periods, with service time and position in the career differentiated in the direction of approaching them to the concept of sample of the maximum variation.

ANALYSIS

In a society where changes occupies a central place, the understanding of the teaching professional identity has to consider, necessarily, the teacher exercising in professional and formative environment, that is, it has to be considered the existence of an identity that is created in such a way in a theater of the work, as in a stage of the training (initial or continuous). Therefore, in the analysis of the professional identities of these teachers, we always looked forward to consider, the forms to be, not only in the profession and before the profession, but also to analyze the stages of its initial training and the modalities of training that had determined its form to be before its profession, because in accordance with Dubar (1997) the choice of a type of training normally leads to a process of legitimating of an identity form. With intention to understand the form as it is that the teachers of Physical Education of the different schools of training and acuity, we proceed, therefore, to the analysis of the form that teachers evaluate while teachers. Simultaneously we looked for terms to compare the registers of the teachers with different training, with intention to try to make out, if this construction of the representational dimension of the identity is related, in some way, with the initial training got, or the representations of this training.

Still before passing to the analysis of the results, we think that it is necessary to make reference to some aspects that we consider important. In first place, saying that the study that we present here was carried through in the scale of an inquiry including more than if leaned over on the identification question, not only in its representational referring dimension of self-esteem, but also in the different dimensions and categories that compose it. In second place, to relate that the analysis of the emergent data obeyed logic of functioning based on the vacillation of two phases. In a first phase a vertical analysis of each one of the interviews of the teachers formed in different schools was carried through and in a second phase we proceeded to a horizontal or comparative analysis with resource to the method of the "constant comparative analysis" (Miles and Huberman, 1994) with intention to identify common and distinctive aspects of the representations and perceptions of these teachers. For the effect we will present the information proceeding from the interviews, also, in frames, with the objective to give examples that relevance of some of their opinions. We think that the choice of this organized model of information, allows us to study the representations of the teachers on a systematic and analytical form, allowing a more adequate visualization of the representative general frame of its conceptions. And in third place, to say that the referring units of register to this dimension of the identity, by its character evaluative, had been signaled with the expressions of Full Approval (+), Full Reprove (-) and Reflection (+/ -).

Thus, relatively to the representations of the teachers formed for the INEF, we find in this area nine registers that distribute in a equitable form for the classifications of Full Approval and Reflection. While the first one designates four registers, the second designates five. One observation, however, the registers of Full Approval is related to teachers - E2-, who evaluates himself as a good teacher. The others five are distributed

to the other two teachers of the INEF, although the work developed in *the Liceu Nacional de Chaves* secondary school throughout more than thirty years, they evaluate themselves as reasonable teachers. But knowing that they always had fought for the affirmation of the teachers and of the discipline of Physical Education, it seems to us that this position does not correspond effectively to the value that they possess, assuming all the modesty of these professionals who want more and better for the area that they work.

T	RU	Signal	Register
E2	2	+	Yes, yes! In this aspect, due to the numbers I received when I was in the formation I consider myself as a 100 percent teacher.
E13	33	+/ -	I am a reasonable teacher. In a general form I am what I thought I would be.
E14	35	+/-	I am a reasonable teacher, I consider myself a median teacher, but I have always been a good professional that rarely miss classes.

Figure 2: National Institute of Physical Education

With effect, the teacher - E2- consider, as we can read above in the first unit of inventory in the frame, that the "one hundred percent" was always a teacher and little more could have made for the affirmation of disciplines of Physical Education in *Trás –os Montes*, northeast region of Portugal. Affirming themselves as the first teacher of Physical Education in *Macedo de Cavaleiros* looking for, not only a mark time in this region in the area of the Physical Education, but also in the sports area, foments a component more competitive. Thus, and in parallel, to the teaching of Physical Education, that was made without any gymnasium it established "(…) *two clubs, o Atlético, one, with intention to provide to whom they were not my pupils and that didn´t have form to practice sport of making* (...)" (RU 3). In turn, the teacher - E13- assuming a more humble position considers to be, as we can read in the second unit of register, a reasonable teacher who reached what she thought to come to be as teacher. Leaving the estimated one, that for most important itself always was the educative dimension, in detriment of the sportive one; she thinks she has fulfilled to her essay with effectiveness and common-sense. Teacher - E14- in the same line of thought also considers being a reasonable and medium teacher, underlining that most important for him was: *"(...) to always educate for the life and with much balance* "(RU 37). When assuming himself as a reasonable teacher, they disclose more the requirement of its appreciation and humble facing its contribution. Truly, they had always looked forward to be good teachers and to dignify the profession.

But there are teachers to whom time demonstrated that not always they had obtained to fulfill what they had desired. It stops beyond these teachers of the INEF, we also interviewed teachers of the Schools of institutionalized Instructors of Physical Education in 1969. The creation of these schools was amply contested by many professionals, because it was understood that its main objective was to form agents of education quickly, with less qualified that would fill in the gap of lack of teachers. However, it was demanded that the instructors of Physical Education who reached the same objective of education and that they exerted the same pedagogical responsibilities that to the ones formed by the INEF, that situation came to glow the polemic between the teachers and the instructors, therefore the difference of decree came to reflect negatively in the ground of the realistic professional, raising a barrier between the professional classroom (Crespo, 1976). It was for this reason that we considered important to, also, interview teachers/instructors, with the objective of trying to understand the way they have lived this situation of correct inequality and evaluate themselves while teachers of this discipline.

T	RU	Signal	Register
E12	31	+ / -	I think I am a reasonable teacher. I have always tried to be a good professional and nowadays I am close to what I thought I could be one day.

Figure 3: School of Instructors of Physical Education

The instructor teacher in the EIEF, - E12-, that taught during all her life in the same school that the two teachers of the behind cited INEF, seeming "to drink in the same source", also evaluated themselves, as we can read in the list unit of frame 3, as a reasonable teacher strengthening herself always for being a good professional, coming currently close, to be what she thought she would be as a teacher. Furthermore, she

equally places the importance in the of the young training with whom she has responsibility daily. According to it: "*I am worried in infusing values to them and attitudes and more than all I look for that they recognize the importance to adopt styles and healthful habits of life. I think that it is above all in this area that the Physical Education can and must act…*" (RU 32). In precision it finishes by expressing its condition of educator and there she understands that there is still a lot to do.

In concerning to the representations of the teachers formed by the *Institutos Superiores de Educação Física* of Porto and Lisbon, we have in this area thirteen registers that relatively reflect the opinion of these on evaluation while teachers. All these registers, to the exception of two of the teachers, - E8- and - E13-, that evaluated to a medium level, are registers that they relate an evaluation with one strong positive trend, evaluating as, or good or very good teachers still detaching some of their edge of progression.

As we can observe in frame 4, in the second unit of register, the teacher - E4- thinks that it is each better and it feels that the maturity and the evolution, while professional, can still make of it a more competent professional. However, as it underlines it is necessary that they provide the adequate conditions so that this happens. He says*: "I know that I can still improve and I can have a better compensation while teacher, but necessary if the institution that collaborates and supports the Physical Education. I cannot evolve if I have a school more bureaucratic each time and that doesn´t let me to work in some areas that I find important (…)*" (RU 10).

T	RU	Signal	Register
E1	1	+	Yes… I suppose sometimes I am to humble because I think effectively that I am a good teacher, thus the skills of my students demonstrate that.
E4	9	+	I think that I am getting better. Getting always better, because my maturity and my evolution along my life has made me think in a different way. But I am conscientious, that I can produce more and better if I want to and if they would let me.
E7	17	+	I always thought on being a good and very good professional. Very hard working not only transmitting my acknowledgements but also with my relationship with my students.
E8	20	+/ -	I consider myself a perfectly normal teacher, I am nothing extraordinary.
E10	26	+	My professional course throughout these thirty years and the public recognition make me believe that I am a good professional.
E11	11	+/-	I think I am a reasonable teacher and I approach what I thought on becoming. Although I have one thing less positive, my age It doesn't permit that I do certain exercises that I did with my students some years ago without difficulty. That leaves me a little bit sad.

Figure 4: Superior Institute of Physical Education

Here the disappointment on recent evolution of the organization of the schools in Portugal is transparent. At the beginning of its initial training, he wasn´t prepared for the bureaucratic requests of the teaching profession. Further on, he understands that it is not to fulfill its true function, that one for which was formed. The fourth unit of register of the same frame, discloses a teacher with a very similar position to the teachers of the INEF, assuming themselves as perfectly reasonable teachers, but, as they affirm, "*(...) responsible and pledged in what I make*". It obtained "*to be the teacher who thought to come to be*". For this teacher, "*is to bet in the relation with the pupils. It is with them that we pass great part of the time and they are object of our training, therefore the reflationary question is basic…*" (RU 20). This teacher, clearly, assumed that it is its condition as educator that more interests to him and in which he wants to invest. It's in this source that he feels at ease. Teachers-E1, - E7- and - E10- evaluating itself also as good teacher, with good pedagogical capacities line up for the speech of the teacher - E4-. The first one relates that, at the time being, he´s too humble, but finishes recognizing that he´s a good teacher. This perception is supported, also, by the feedback that he has received from its pupils, have praised who frequency puts it in words, "*(...) me of the one supplemental motivation*" (RU 1). In turn, as it not only enhances that she is a very pledged professional, in the transmission of knowledge, but also in the relation with the pupils, coming close, currently, of the professional who she thought would become. Effectively most important for this teacher "*(...) is the form to deal with the small ones, with the young*". Its words are well expressive: "*I notice that the relation that we have with them is a relation each time near subsequently and this situation makes me think that, the social and affective point of view, our young students require more concern. And it is, also, in this area that the teacher of Physical Education has an important paper*" (RU 19). It is the case of one other teacher - E10- who raises the fact of its professional passage, during about thirty years, having had public recognition he

thinks that he has been a good professional. As he has received a very positive feedback, also on the part of the pupils, he considers that it has played very well its role while teacher and this leaves him very satisfied. Later on, and as the teacher - E2-, his functions during these last thirty years in *Bragança* has not been summarized only to the teaching. He says: *"(...) I already was chairman of the board of arbitration of soccer of the zone, I was regional technician of the Association of Bragança during twenty two years and was gymnastics trainer during sixteen years and I always tried to fulfill with the inherent obligations to the positions"* (RU 28). As it is evident this teacher recognizes its effectiveness stops beyond the school. It feels somebody important. Finally the teacher - E11-, with an identical perspective to the one of the teacher- E8, underlines that a reasonable teacher considers itself, coming close, of what she thought to come to be. Coming very close to the form of the Physical Education of the teacher of the INEF - E13-, she ends, relating that *"what is more important for me, while teacher of Physical Education, has been the transmission of values, the promotion of habits and healthful styles of life, the defense of a physical education for the health and not only for the competition. This has been most important for me"* (RU 30). But also it is visible here that the heaviness of the years to reconsider its performance. She already cannot evidence for the physical capacity. On the other hand, the experience says that most important is in the integral formation of the pupils. More than to form athletes is to feel better prepared to educate for the health, her physic welfare. With respect to the representations of the teachers formed for the most recent schools of Physical Education, we have in this area fifteen registers that relatively reflect the opinion of these teachers to its evaluation while teachers. All these registers of Full Approval disclose that the teachers possess self confidence relatively sufficiently high to its pedagogical capacities. These teachers evaluate themselves in its majority, as being good, responsible and with a considerable margin of progression.

As we can observe in frame 5, in the first unit of the exemplificative register, the teacher -E3- considers that he is a good teacher with an edge of accented progression. Although he relates, that *"I look forward to be a teacher who worries about the interests of the children and looking forward to be their friend, without obviously leaving to fulfill to the contents program (...)* "(RU 6).

Already the second unit of register of the frame discloses a teacher who assumes he is responsible and that he tries to infuse values in the young children, considering more important the acquisition of values as the responsibility that the execution of one determined exercise. In this direction, it affirms that: *"(...) when I see that a small one doesn´t know how to do, I give a great emphasis knowing how to be, because for me this is very important. The small one cannot know how to do, but the fact of strengthening and looking for, how to go until he limits its capacities are very important. They might not know, but the interest and the effort for me are something that I must value."* (RU 12).

T	UR	Signal	Register
E3	7	+	In general terms I think can consider being a good teacher, because I consider that I am good on what I do.
E5	11	+	I am a responsible teacher. I try to introduce a question of values in the students. For me they may not be able to do the flip-flap but they must be responsible, punctual, and have to know how to be.
E6	14	+	I consider myself a good teacher and I try to be always responsible.
E9	22	+	I think that I am a good teacher and I try to be a good professional, although lately it has been difficult because I do a lot of km every day to get to school.
E15	38	+	I consider myself a good professional, but badly paid and I think that today I am a better professional than I ever thought I would be.

Figure 5: Faculties of Sciences, Sport and Physical Education

The teachers - E6-, - E9- and - E15- assumed, also, as good teachers, but they do not leave to disclose different aspects. The first one, the prolongation in this question does not put the tonic in the question of the responsibility and the importance to establish an adjusted relation with the pupils. The second teacher affirming, equally, as a good professional, considers that still, she has a very small border of progression and that therefore, can improve its performance sufficiently. However, something makes her apprehensive, with this performance, because it feels that, the, three hundred km that she covers daily to dislocate until a school, can affect these proceeds. As she relates: *"the disposal not always is best and the pupils do not have any fault"* (RU 22). As the previous teacher, she adds that most important for herself *(...)* *"is the relation with the pupils. To learn namely to be with the pupils, to learn when I must be more demanding and rigorous or more permissive those are some of the challenges in this life of teacher.... As if it must interline or approach definitive situations... Are this that are affectionate...."* (RU 25).

Finally, the third teacher, also weaved many considerations to this respect, does not consider equally a good teacher, until being better than what really he thought he would be. One more time the pedagogical concern is seen in this teacher, putting the tonic in the relation with the pupils and its education, while future citizens. However, the two last teachers do not leave to mention two aspects that can harm its performance. The last one - E15- says that he considers he is badly paid, therefore that defaulter cannot feel well to invest in its activity. The teacher - E9- of the same account, says that her performance later may be harmed because of the distance between her house and the school.

CONCLUSION

From the analysis carried throughout the interviews, and synthetically presented in the previous pages, we will be able to verify that it has some aspects that congregate more consensuses or more attention of what others. One of the aspects more consensual is detained with the fact, of the majority of the teachers, independently of the school of training and the professional experience; define as good professionals, having a good image of themselves and of the profession. However, and although this consensus, we notice some differences in the appreciations, since the teachers of the INEF and the EIEF, that is, oldest and with more professional experience, relating that they had always played with enormous professionalism their functions, they only evaluate themselves as reasonable teachers, showing, therefore, some humbleness.

On the other hand, new teachers relating for times soundless to possess progression edging, they have few doubts in affirming to be good responsible teachers. Everything is inferred as if they are more careful, indicating that the time allowed in the distance to see between the possibilities and the difficulties, and others are more confident, wanting to valid their abilities, because its generation perhaps already found another interest for the area, believing that they are enough to affirm themselves and to be recognized as being absolutely necessary in the formation of youngest. In any way, most of these teachers, understand that to possess good pedagogical capacities, allowed them to develop the capacities of their pupils of an adequate form. These, allied abilities to the promotion of the development and the learning of the pupils and to the characteristics of the personality of the teachers and its attitudes are, in the reality, an accordance with Costa (1990) and Carreiro da Costa (1994), the main characteristics associates to the concept of a good teacher. The results of the inquiry of Carreiro da Costa (1994), is carried through on the expectations of the professional exercise with students of Physical Education, disclose that their characteristics are more evidenced by the students that have pedagogical capacity, the personality characteristics, the attitudes and the promotion of the learning's and the development of the capacities of the pupils. Looking at the results of this study with the ones of our inquiry, we see that they come into sight in the same direction, since the teachers who we interviewed stop beyond detaching its pedagogical capacities, they, almost always place the tonic in the relation that they establish with the pupils looking forward to promote the learning's and the development of its capacities. In the generality of the declarations it is established great concern with the pedagogical relation and the lack and particularities of the pupils. As in the study of Nunes (1994), they assumed, almost always, as worried educators and in looking at the global formation of its pupils.

We can, therefore, conclude, that, even so, the diversity of orientations and conceptions of the Physical Education, in consequence, as much as the teachers formed in the INEF and the ISEF's how much of the growth of schools of training of teachers of Physical Education in Portugal, during the decade of the nineties of the past century, can have concurred for different perceptions on the form as the suitable teachers may evaluate themselves, they do not seem to express deep and too much harmful cleavages for the affirmation of the identity of the professional group. On the other hand, different perceptions also seem to result of teachers passing from schools of different regions of the country, schools with its human beings particular characteristics, social and physical, that have reflected in the forms to be and the performance of these teachers, as well as the different years of professional experience, that they had finished, inevitably, for defining different ways of understanding the teachers intervention in Physical Education in the perception of school scope.

This differentiation of perceptions and professional profiles has created, in our opinion, a differentiated form of intervention that, here and there, has given origin to small conflicts and protagonist that have made it difficult an affirmation of a homogenate pedagogical culture and a bigger proof next to the pupils and the educative community, in general, on what it is intended with the Physical Education in the schools. Before this situation that harms the affirmation of the consistency of the actuation of the teachers of Physical Education next to the teachers of other specialties, we think that it is necessary to reflect on such differences and to promote initiatives that strengthen the conscience of what is in cause and what can contribute to confer greater coherence to the share, being certain that this pass for equating the components of the training, either this scientific, pedagogical or technique. In any way of our study, it results clearly that self-esteem of

the interviewed teachers is sufficiently good and that they are felt capable to provide an education that raises the physical capacity of their pupils, as well as the understanding of the speed and sport activities. In general, the appreciation that makes of its performances alone is harmed by related external factors with the organization of the educative system. In agreement, with the interviewed teachers, independently, of its antiquity and its initial training, it is not for them that the pertaining to school Physical Education will leave carrying through with the demandable quality. They know what they want and what to do.

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187 - Reinterpretation of the Experiences of Teacher Education and Professional Development: the Role of Interactions among Pre-service Teachers and their Trainers

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Abstract: The research seeks to show contributions to the student teachers professional development, students of a Bachelor's Degree in a virtual course. The research starts to the point of the interaction among instructors from the school and the university, during the pre-service stage of Basic Education Teaching. It is believed that the training period in the initial Teacher Education is a time ripe for significant occupational changes, involving the identity of the transition from student to teacher's identity, enabling the development of an action experienced, reflective and critical. To achieve the goal of this research, which is descriptive and analytical and seeks to understand the contributions of the narratives in the training process. The attitude of sharing experiences, study materials and teaching, as well as the registration of such situations by those involved favored the strengthening of the group, creativity and solutions to the problems faced.

Keywords: supervised training program, teacher professional development, narratives, basic education

INTRODUCTION

In 2007, the Distance Education was established at the Federal University of São Carlos (UFSCar), in order to achieve a differentiated consumer demand, as regards the timing and formation of special interests, seeking to democratize the higher education in Brazil. Through the Brazilian Open University system (UAB[43]), UFSCar offers five undergraduate programs by way of Distance Education (EaD): Music Education, Environmental Engineering, Education, Information Systems and Technology Sugarcane. The admission of students occurs through vestibular public competition. This paper focuses on the Bachelor's Degree in Pedagogia (LPe-UAB-UFSCar), specifically the subject Supervised Pre-Service Stage on First Years of Basic Education and the role of teachers in partner schools, which receive the trainees in their classrooms. The supervised training, a compulsory element in the training of future teachers in the course of LPe-UAB-UFSCar was organized from a different proposal that aims to build partnerships between universities and schools receiving students from a perspective of collaborative work between institutions and teachers in taking action in the classroom as partners and co-responsible for training professional licensing. It is organized around the following assumptions: the School of Stage constitution as a body that acts as co-trainer of future teachers; space of possibilities for realization of the theory-practice; space acquisition of specific learning and teaching activities professional experiences favoring the moment of praxis as constant individual and collective reflection (Oliveira et al., 2010).

In order to study the design of the Distance Teacher Training, this research aims to analyze the characteristics of the curricular and methodological subjects of the Supervised Pre-Service Stage, the results of participation and the performance of pre-service teachers, the virtual tutor, the public school conductor teacher/tutor and the teacher responsible for the Supervised Training Program. The development of the subject depends on the participation of several professionals: audiovisual team (responsible for activities such as web conferencing, video lesson and animation in virtual learning environment - AVA), the instructional designer (responsible for organizing the virtual learning environment), and coordination of training and classroom tutor (linking between the University, centers and public schools). The virtual tutor is

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[43] The Brazilian Open University is an integrated system of public universities that offer courses for upper level of the population who have limited access to university education through the use of the methodology of distance education. It aims to link existing public institutions, making it possible to take higher education quality to municipalities that do not have higher education courses or courses offered which are not sufficient to serve all citizens.

a teacher undergraduate in Pedagogy with at least a Master's degree in Education and with teaching experience in the early grades of elementary school. The virtual tutor plays a role in AVA with the students, linking content, activities, learning, performance and interaction among the group of students under the supervision of the teacher responsible for planning, developing materials and activities and monitoring of the subject. The tasks of a virtual tutor are to evaluate, correct activities and events, send feedback, encourage students to participate in discussion, forums, group or individual activities, refer questions and problems inherent in the planning subject, as extensions of time, nature of activities etc. for the responsible teacher for Teaching Training.

The classroom tutor makes the linking, at the supporting pole face, among students and training schools, performs individual guidance on the administrative aspects of the school functional, mediating interactions with the school teaching staff.

The conductor teacher/tutor, responsible for an early grade class of elementary school that receives the trainee, has the function of planning and directing the training moments at school in collaboration with the student teacher. Moreover, the conductor teacher/tutor communicates with tutorial staff, mediates the interaction among the class and evaluates the process of participation and performance. This professional attends extension courses offered by the Teachers' Portal UFSCar which prepare him/her to receive the trainees (http://www.portaldosprofessores.ufscar.br).

The conductor teacher/tutor attends a continuing education program, in the distance, aiming to invest in your professional development and hence assist in training for future teachers by making them experience the daily experiences of the classroom and school. The program, organized in two consecutive modules and lasting 120 hours, has as main characteristics a deeper understanding of the context of professional experience and training of future teachers, involving both theoretical content as other practical closely related to the roles of tutor conductor, apart from those related to distance education, internet usage and the AVA. This process involves tracking a teacher responsible for the training program for mentors five mentors and regents, responsibility for mediation in the AVA.

Within this organized structure, the teacher responsible for the subject of the Supervised Stage is in charge of overall planning and monitoring of students and virtual tutors and the training coordination is in charge of the conductor teacher/tutor training.

Besides the Supervised Pre-Service Stage on First Years of Basic Education, the project of training course in Bachelor of Distance Education encompasses other stages like: Early Childhood Education, School Management and Education of Youths and Adults. We can say that the subject of the First Years aims at the construction of a professional identity as well as awakening the pre-service teachers for their knowledge of educational contexts of Elementary Schools and Public Policy Education. That subject makes the students able to analyze their experience in Supervised Training, and actual situations of their training, verifying the link between theory and practice. In this perspective, it is possible the study of transformative praxis, linking the theory and practice. It is expected the work with documents produced by the conductor teacher/tutor as lesson diaries, letters, notes and planning activities, becoming key instruments for the initial and ongoing training, analysis and intervention in the processes of formation.

The development of the study is based on analysis of official documents (Brazil, 2006; University of São Carlos, 2010), researches in the field of Distance Education (Marcelo Garcia, 1999; Moran, 2003, Reali et al., 2008; Rinaldi, 2006) and training practices, occurring in the virtual learning environment (AVA-Moodle) of the discipline Supervised Pre-Service Stage and in the Training Program for teachers of public schools that receives the trainees.

The beginning of any professional activity has its own peculiarities and teaching does not differ that. It is known that various experiments and investigations have shown the importance of support, monitor and guide those who are starting a career in teaching. However, monitoring of a more experienced professional can be characterized as a successful alternative in the training of teachers for Basic Education. Thus, this research seeks contributions to the professional development of teachers, to the virtual students of a Bachelor's Degree in Education from the interaction among instructors from the school and the university, during the training at the school of Basic Education.

We consider that context as a field of teachers training, in which different situations of teaching practice, challenges and dilemmas present themselves to the trainee, the pre-service teacher. We believe that the training period in the initial training is a ripe time for significant occupational changes, involving the transition from student's identity to teacher's identity, enabling the development of an action experienced, reflective and critical and therefore must be planned systematically addressing the needs and / or requirements of the contexts of professional practice. To achieve the goal of this research, which presents a descriptive and analytical feature, and seeks to understand the contributions of the narratives in the training

process, according to Clandinin and Connelly studies (2000), Dominicé (1988), Goodson (1992, 1994) and Nóvoa (1988, 1992), we used the teachers narratives as tools for data collection. The written narratives, referring to experiences on training, show results, which consist of a narration, history, theories and questions that will compose our experience, from which we hope to better understand the different processes that are contributing to a different Virtual Teachers Training.

Throughout the course, we insert discuss issues with the purpose of the training process: Do the school contents present difficulties inherent to the teaching and learning by students of First Years? Are there any particular difficulties in acquisition of school contents? This way, how do you, as a prospective teacher, stand? These questions allow, for example, collective discussion on the teaching of the school contents?

PROPOSED CURRICULUM AND METHODOLOGY OF SUPERVISED PRE-SERVICE STAGE

Three basic points underlying the organization of the subject of Supervised Pre-Service Stage on First Years of Basic Education: a) Constitution of the School Training as a place of teachers co-training b) possibility of implementation of the theory and practice, c) acquisition of specific learning action and professional experiences.

The course syllabus includes discussion of the subject previously read texts on topics relevant to teaching in the First Years, guidelines for participation in school life and guidelines for writing the final report. The aim is also that the trainees are able to conducting class situations, planning, developing and assessing lessons in various components in collaboration with conductor teacher/tutor. The activities performed at school by students of LPe-UAB-UFSCar course must be analyzed based on literature study and received guidance in lectures, writing the final report, which characterizes the accomplishment of subject.

The goal is enabling future teachers to deal with everyday situations of the First Years of Elementary School as planning, developing and evaluating lessons in various curricular components, examining this process, regarding the theoretical foundation, seen during the course.

During the implementation of the activities of the Supervised Training, students have the opportunity to systematize various dimensions (political, educational, personal, bureaucratic, etc.), observed in the school field.

The organization of Supervised Training allows the relationship with the guiding principles of the Course of Pedagogia UAB/UFSCar: 1. diversity, 2. autonomy, 3. research, 4. link between theory and practice, 5. cooperative work, 6. dialogical, 7. construction and 8. reconstruction of knowledge. The guiding principle of diversity that considers the student to experience life and situations provided by supervised training have the opportunity to verify the theoretical and methodological approaches adopted by the teacher and knowledge (school and non school) can be covered and constructed so diversified. It is important that students perceive and think about the different approaches and policy positions in educational activities, to understand that knowledge working in schools is not neutral. Recognize the presence of diversity in the educational act is essential, considering the different ways to build awareness and recognition of multiculturalism in the face of ethnic and cultural diversities of the country.

The question of autonomy is present, because the curriculum course is committed to providing, in particular, possibilities of life and live daily at school, encouraging them to reflect and to position itself, autonomously, in this field complex and multifaceted (Contreras, 2002; Freire, 2003).

From the moment of insertion into the school, the student is driven to be guided by an investigative conduct, aimed at understanding the profile of schools in their areas: administrative, educational, material and human resources, relationship with the community, the main problems children's learning of the group stage, activities / projects undertaken, etc. Moreover, throughout the different experiences and learning provided by Pre-Service Stage, it is expected that the student is able to establish relationships between the knowledge acquired in the course and practice of these within the school, implementing the theory and practice.

Cooperative work is presented as another important guiding principle of Pedagogy courses. The interaction of the trainee with Team School allows the construction of a healthy and cooperative relationship in order to perform actions partners. For this it is essential that practices are fruits of the guidelines and mutual help between the pedagogical coordination, direction, and classroom teacher. The attitude of sharing experiences, study materials and teaching promotes the strengthening of the group, creativity and solutions to the problems faced.

The dialogue, as advocated by Freire (2007), and their different ways of realization is one of the strongest brands of Distance Education at UFSCar. His practice is the assurance and guarantee the work performed. In this sense, considering the complexity of the Supervised Training, the exercise of dialogue is critical to the

success and learning from all segments, manifested by the involvement of institutions, professionals, students (Higher Education and Basic Education) and theoretical knowledge and practical.

Give priority to dialogue in the teaching and learning is the best way to establish interactions among others and avoid acting individually and teach by rote.

In order to train the teacher to avoid the reproduction of knowledge, and act uncritically, the Supervised Training provides the student experience at school and experiencing different situations and relationships on practice of action-reflection-action (Mizukami et al., 2002) and, consequently, for the construction and reconstruction of knowledge in its various dimensions: scientific, educational, common sense, professional and personal. Thus, the training project proposed for supervised training in the First Years of Elementary School reaches the guiding principle of construction and reconstruction of knowledge. In this pedagogical practice that is a challenge that should appear, from the first insertion in practice, to accompany the whole process of training and professional development of teachers.

In this perspective, it emphasizes the importance of Supervised Training that is committed to five areas of work: 1. Insertion experience in the context of professional practice; 2. Having experiences in a reflective, examining the context of the school, involving planning, development of pedagogical actions, continuous assessment and reflection; 3. Using theoretical and reframe; 4. Experience the educational practice as collective process and not just individual; 5. Exercising the investigative approach.

Supervised Training presents itself as a decisive moment for the professional setting of pre-service teachers, they will have the opportunity to achieve insertion experience in the context of professional practice, gain experience reflectively, to analyze the context of school (planning, development of pedagogical actions, ongoing evaluation and reflection), using theoretical and reframe, to experience the educational practice as collective process and not just individual and exercise the investigative approach.

The Supervised Training is structured into three parts. The first includes discussion on the guidelines regarding the integration in school, setting the behaviors and attitudes. Refer to the actions necessary to ensure that the training is in fact training for future teachers and also beneficial to the school that receives it, its teachers and students. In addition, guidance on the preparation of planning activities and the reflective diaries, research focus of their communication, are part of this moment.

The second moment is the inclusion in school. In this context, trainees are instructed and accompanied by a virtual tutor and a conductor teacher/tutor of the training class. In the third step, the student prepares the final report, with the systematization of experience. All questions for the construction of the report should be clarified by the virtual tutor, the teacher responsible for subject and for the whole team.

PROFESSIONAL DEVELOPMENT OF PRE-SERVICE TEACHERS

For the professional student of the Bachelor's Degree in Pedagogy in Distance Education and to the evaluation process of Supervised Training in the First Years, we use written productions of different kinds: - Narrative writing (diary and forum) - Planning activities - Final Report.

Aiming to characterize the process of teacher professional development, we opted for the use of written narratives (Reflective Diary) as a resource for monitoring and intervention in the activities proposed and developed by trainees during the practical training. The records allow the understanding and characterization of the formation process and intervention, articulating the experiences in school and other activities in the subject.

We therefore believe that stimulate thinking through writing reflective diary of virtual dialogue with tutors and colleagues bring contributions to professional development, as indicated by academic studies on the subject. This does not happen randomly, but linked to the possibilities of intervention by trainers in order to contribute to individual and collective reflection in the process of initial teacher training as well as the learning processes of teaching.

Researchers from the methodology of life history (Bueno, 2002, Dominic, 1988; Ferrarotti, 1988; Freitas, 1998; Goodson, 1992, 1994; Monteiro, 2006[44]; Nóvoa, 1992a, 1992b), focusing on personal stories, and the area the teaching profession highlight the contribution of this type of formative research for professional development in the course of oral or written. In the study by Miller (2006, p.223), it appears that the teachers surveyed expressed a formative contribution because, at various times of the interviews, signaled changing perceptions and interpretations of the results of certain teaching practices, after performing the reconstitution of professional paths and configuration of the teaching profession, through written productions. Miller (2006) also shows that the study involving the history of life, knowledge and practices of successful literacy triggers reflections from their own written and oral manifestations of the teachers on teaching. Further

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[44] Doctoral research of one of the authors, supported by the Foundation for Research Support of São Paulo - FAPESP

analysis regarding the various moments of the Brazilian educational process have been (re) structured during the reconstitution of oral or written his memoirs. This check confirms the importance and contribution of writing practices for vocational training.

Zabalza (1994) states that the teacher - by writing on their teaching, in the form of a diary -, reflect, learn and (re) builds his/her knowledge base and actions. In this perspective, the diaries as a tool to record enable "focus the analysis in practical situations, integrating the two dimensions of referential and expressive facts" (p. 83). The diary writing, to the author, takes place in ways articulated, creating possibilities to configure it in a document of expressive potential. Zabalza (1994), Yinger and Clark (1981) believe that people learn by writing, because, in performing the practice of writing, recreate the experiences, emotions and intuitions recovering and also the organization of experiences into a structured message. Moreover, a person by recording, engages in a process of reflection, creation and revision, able to dialogue with him/herself and assess the facts recorded and his/her relationship with the experienced situation, considering the reality and the goals of his/her achievement. The authors clarify that the writing does not happen in a mechanical and unconscious, show that the writing makes connections between what they already know and new information. The production is personal and active, because the author is responsible for the selection of the submitted information about facts and also the presentation of the report. The writing is active because it refers to a process that involves structuring, organizing, reading, reflection and changes the text. The reflection made possible by keeping diaries for Zabalza (1994), focuses on two aspects: the referential and expressive. Thus, the reflection can refer to the narrated object (e.g., driving lesson, the students' behavior) and the narrator, or the teachers themselves (their teaching, their knowledge, their feelings, emotions).

Zabalza (1994) considers that the diary allows us to observe and learn about the developments, how they occur, the conditions that are intrinsic, the changes that underlie these events and other situations, with two characteristics, longitudinal and historical.

The linear sequence in time with the facts that are narrated avoids the homogeneity of perspective on the events. The teacher writes the characteristics of the facts on a given day and does not return to writing until a next time. Reported each day involves certain perspective on the events, which does not occur, for example, in a written autobiographical narrative unit produced in period, because the perspective of time that this writing was prepared influences the past situations.

The Reflective Diary, covering the diary to reflect the characteristics of the students and the teachers themselves, may be called the Daily Impresses. In general, this kind of diary includes detailed descriptions of the characteristics of students and contains references of own teaching (feelings, perspectives on performance etc.). In this record, we see the dominance of the personal element.

The content of the reflections in the supervised training is related to the experiences of training classes, aiming at the thick description of the facts, as a superficial account involves reflection and analysis too superficial. Trainees, for organizing their day, focused on the actions of teachers and pupils during the training period. These descriptions were more detailed and more simplified. The records included aspects of the teacher's discourse about the actions describing thoughts, reasons for certain actions, the choice of objectives, the procedure of the activities.

That production was daily examined by virtual tutors and the teacher in charge of subject Supervised Pre-Service Stage that included interventions on the content and form of presentation and interpretation of observations and experiences acquired during the insertion.

CONCLUSION

The results obtained during the Supervised Pre-Service Stage on First Years of Basic Education provide some evidence relevant to the assessment of the project of the Bachelor's Degree in Pedagogia UAB/UFSCar, ensuring, for example, the interdisciplinary and some contributions construction of a style of teaching pre-service teachers of the First Years of elementary school. It also enabled the structuring of the continuing process of training courses in the area of Early Childhood Education, School Management and Education of Youths and Adults, allowing adjustments in the first years of supervised training and the subjects related to other training programs, with regard to aspects and successful and the negatives.

The study of history of production of the diaries revealed that, in the early stage, the students expressed dissatisfaction with the compulsory training in the course, especially those have been already working in that teaching. That sentiment was modified in the insertions in school, when they realized that teaching in the early years is very different from doing it from the adolescent or young adult.

The interaction among the trainee and the trainers allowed the school to build a closer relationship, healthy and cooperative, aiming to carry out practical action and partnership in the future professional field. Therefore, it was essential that the practices in the classroom were fruits of guidelines, sharing and mutual

aid among the instructors of the school and the university to set forth guidelines for future teachers to value the learning of teaching, still in the training period university. The attitude of sharing experiences, study materials and teaching, as well as the registration of such situations by those involved favored the strengthening of the group, creativity and solutions to the problems faced.

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190 - Universities and the Professional Preparation of Teachers in Scotland: an Uneasy Alliance?

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Abstract: This paper explores the historical conjunction of teacher education as a professional field and Education as a university subject and educational science. The relationship between teacher education and the universities of Scotland has a long and complex history. Whilst much attention has focused on the potential for policy learning through cross-national comparison, fewer policy resources have been deployed in identifying lessons that might be drawn from the fissures and ruptures of the domestic past. This paper considers the apparent paradox in the nation's historic commitment to popular education, and the relatively recent full (and shifting) involvement of its universities in initial teacher education (post-1990).

Keywords: teacher education, history, educational science.

INTRODUCTION

The history of teacher education in Scotland is a history of struggle. From its inception, formal teacher preparation has occupied an uneasy place between local needs, local administration (school boards, education committees), central control (Scottish Education Department with the schools' inspectorate) and aspirations for concurrent higher education and a self-governing graduate profession. Taking a broad sweep of developments in teacher education from the late nineteenth century, this paper explicates points of cooperation, contest and challenge. The paper is organized in two parts that reflect the 'romance' and 'satire' traditions of writing on the early history teacher education (Cohen, 1999). The first examines the case for university involvement in teacher education, including early campaigns by teachers' associations, school board support for certificated and graduate teachers, and the influence of early pioneers of Education as a university subject who sought to promote teachers' engagement with research. The paper then considers initial opposition to 'universitisation' from within the academy and the Committee of Principals of the Colleges of Education, the shifting position of central government which is principally concerned with issues of teacher supply, and the influence of the church, especially the Catholic church, in retaining influence over the school curriculum and teacher preparation. The stories that unfold do not sustain a consistent narrative of social progressivism, philanthropy and enlightened public action but reflect a constant struggle for jurisdiction over teachers' work and the professional knowledge base of teacher education.

THE CASE FOR UNIVERSITY INVOLVEMENT IN TEACHER EDUCATION IN SCOTLAND

Much has been made of the Scottish 'educational tradition' (Paterson, 2009). Critiques have been offered of 'standard' narrative histories ('Acts and facts'). Humes and Paterson (1983) have noted that the early histories of Scottish education tend to be *'narrative in form, broadly nationalistic in tone'* (pp. 1-2). Histories of teacher education similarly tend to present 'noble stories' (Katz, 1968) of redemption, struggle and progress, offering a sympathetic lens through which to view the politics of professionalization. The following section summarizes and interrogates some of the moves within this mode of emplotment (White, 1973).

The teachers' association

The Scottish teachers' association, the Educational Institute of Scotland (EIS) (established in 1847) made links with universities and 'scientific' research a key argument in their claim to professional status. The EIS claimed membership among *'not only the elementary teachers of the urban poor but also the masters of the secondary schools and members of the Inspectorate as well as university professors in a wide range of subjects'* (Bell, 1990, p. 87). Speaking on the subject of 'Professional Training of Teachers' at the General Meeting of the EIS of 1873, W. Jolly, an HM Inspector of schools, advocated *'systematic training in the*

Theory and Practice of Teaching, by means of a University Course of instruction'. Jolly stated that a university curriculum for teacher training needed to be built through the creation of Chairs and lectureships in Education, the establishment of 'practicing' or 'experimental' schools organised by universities and the creation of an 'educational museum' or 'consulting room' for serving teachers. Reporting this event at a meeting of the Ayrshire Branch of the EIS, William Glasgow (1875) notes the EIS responded by forming a Chair Committee and *'rousing teachers to practical effort on this important matter, to obtain subscriptions for the establishment of Chairs of Education in the Scotch Universities'* (p. 5). First advanced by Professor James Pillans at Edinburgh University in 1834, the first Chairs of Education were eventually financed in 1876 by endowments from the Bell bequest[45], supplemented by the precarious (and short lived) award of a government grant. The first Professors of Education in Scotland were J.M.D. Meiklejohn at St Andrew's and Simon Laurie[46] (previously an Assistant to Pillans) at Edinburgh[47].

The campaign for professional status through the award of higher qualifications was at the same time a strategy to secure positional advantage for some workers over others. Women were denied the right to graduate from Scottish universities until 1893. The 1924 *New Teacher Training Regulations* required male entrants to the profession to be graduates. Higher qualifications were used to justify pay differentials and promotion prospects and to draw gendered curricula boundaries. The Independent Labour Party and the Educational Institute of Scotland (which was opposed to school boards) did little to advance the cause of women teachers[48]. Labour struggles were organised around the primacy of the 'male breadwinner' earning the 'family wage'. The Scottish Men Teachers' Association challenged the case for equal pay in the 1920s (Adams, 1990). Career structures for women teachers in Scottish co-educational schools offered fewer prospects for advancement, although by 1918 women comprised 74% of the profession (Corr, 1997). In 1911 women school board teachers were paid half the mean annual salary of male board teachers. The average salaries of Catholic schoolmistresses were £7 lower than their female board counterparts and £4 lower than Catholic schoolmasters (McDermid, 2009). Between 1880 and 1914 Scottish schoolmasters commanded higher salaries than their English counterparts, whereas Scottish school mistresses (higher in number than male teachers across the UK) were consistently less well paid than English women teachers, although they were more highly qualified (Corr, 1997). The 1935 *Report of the Advisory Council to the Scottish Education Department on the Training of the Woman Primary School Teacher* recommended that courses emphasise the 'practical work of schools rather than a university degree' (cited by Cruikshank, 1970:172).

The school boards

The professionalization of teaching was advanced with the abolition in 1906 of the school-based pupil-teacher system (established from 1846), which had placed teacher preparation firmly outside higher education. Junior studentships (1906-1924) were introduced for school trainees aged 15-18 years. All junior students awarded the Junior Student Certificate could progress to senior studentships undertaken in a designated teacher training institution, with the aim of achieving a fully certificated teacher workforce[49]. The provision of bursaries, maintenance allowances and residential accommodation encouraged recruitment from a wide range of social classes and widened access to teaching in rural areas (Cruikshank, 1970). The response of schools boards to central government intervention varied. Edinburgh opposed the scheme and sought to retain the pupil-teacher system. In contrast, the Glasgow School Board's opposition was based on the narrowing of the teacher education curriculum for prospective teachers to elementary subjects at an early age. A Special Committee of the Glasgow School Board was set up in 1910 to consider the requirements of the junior student system set out in Circular 437 (See Roxburgh, 1971, pp.209-213). Glasgow advocated a system of teacher education that would produce scholarly teachers supported by the EIS, which continued to

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[45] The bequest of Andrew Bell, founder of the Madras or monitorial system. The Bell bequest had served to support the establishment of elementary schools in Scotland, a need that was overtaken by the 1872 Act, allowing the universities to lobby for a redirection of funds towards the establishment of university chairs (Bell, 1990).

[46] Despite much difficulty is establishing the role of the Chair in Education in relation to teacher education at Edinburgh, Laurie exerted considerable influence on the establishment of day colleges for teacher training in England. For further information on the influence of a 'Scottish diaspora' on schools and universities in England in the twentieth century, see Lowe (2003).

[47] The first English Chair of Education was established at Newcastle in 1895 (Crook, 2002).

[48] The EIS made a small number of women honorary fellows, including Margaret Black of Glasgow, Flora Stevenson of Edinburgh and Carlaw Martin of Dundee (McDermid, 2009, p.347).

[49] Training institutions also provided three additional one-year routes to qualified teacher status: a professional training course for graduates; a course for honours graduates intended to teach higher subjects in intermediate and higher secondary schools; a course for diploma holders from technical/vocational colleges. The different training routes reflected the different qualification pathways in schools at the time, which prepared pupils for Qualifying, Intermediate or Leaving Certificates (Cruikshank, 1970, p.138).

lobby for a graduate profession. The Education Department insisted that any deviation from the junior student curriculum would result in loss of the junior student grant to the Glasgow School Board. A compromise position emerged whereby Glasgow junior students followed an alternative curriculum leading to the full Leaving Certificate, followed by six months teaching experience before entering a training college. The decision incurred the penalty of a reduction in the junior student grant to the level of ordinary secondary pupils.

An interpretation of the school boards as a non-contentious progressive force in education should not be read off from this account of the struggle to improve the education of teachers. Closer inspection reveals tensions and omissions. The struggle to improve the education of teachers and extend the school curriculum reinforced rather than challenged class and gender differences. Corr (1990:46) reports working class women's opposition to the introduction of domestic instruction as a school subject. Domestic education was promoted by middle class women elected to the unsalaried civic work of the school boards (1873-1918)[50]. Adams (1990) reports that the Glasgow School Board (which had a policy of favouring graduate teachers) prohibited the promotion for women beyond the post of infants' mistress, which was only eligible for women aged over 45 years. Married women were barred from teaching in local authority schools in Scotland between 1918 and 1945. A 'resign on marriage' clause, supported by the clergy, was introduced in employment contracts for women teachers in Dundee and Glasgow from 1915.

Cooperation between the universities and colleges

Whilst excluded from formal responsibility for teacher education, there is evidence of local cooperation between universities and the teacher training colleges in the first half of the twentieth century. Professor Alexander Darroch, Edinburgh University, was an honorary Director of Studies at Moray House College of Education in the early months of the Provincial Committee on teacher education established in 1905. William Boyd of Glasgow University acted as part time principal lecturer in education at the Glasgow training college (Brett et al, 2010). Lecturers in education at the Universities of Aberdeen and Dundee gave lectures in education and psychology at the teacher training colleges (Cruikshank, 1970). University chairs in education held dual roles from 1925 until 1951: Godfrey Thomson held the role of Director of Studies at Moray House teacher training centre (and its Demonstration School) whilst also fulfilling the role of research Professor of Education at Edinburgh. At St. Andrew's the Directorship of the Training Centre was combined with the Bell Chair of Education, with William McClelland acting as the Director of Studies at the Dundee Training Centre (Cruikshank, 1970).

The involvement of university lecturers increased the influence of experimental psychology in teacher education. James Drever did much to advance experimental psychology in Scotland, influenced by developments in the laboratories of Leipzig, Jena and Berlin, particularly the investigations of William Wundt (1832-1920) and Ernst Meumann (1862-1915) at Leipzig on perception, memory, intelligence and learning. The borderland between psychology and pedagogy was being occupied by European scholars such as Decroly (1871-1932) in Belgium and Clarapede (1874-1940) in Switzerland to create a new field of 'experimental pedagogy' (Nisbet, 1999). In Scotland, Darroch published *The Place of Psychology in the Training of the Teacher* in 1911. Robert Rusk's *Introduction to Experimental Education* (1912) was based on his lectures given in Dundee and influenced by the work of Meumann. In the same year, Norman Walker of Aberdeen University was advocating the use of intelligence testing for selection purposes. McClelland introduced research in the prognostic value of examinations at Dundee; completing a ground breaking longitudinal study of school careers of 3,000 children reported in *Selection for Secondary Education* (1942). Thomson, who had worked with Thorndike at Teachers College Columbia in 1923-24, pursued his research in the standardisation of mental tests – the Moray House tests - that were extensively used by local authorities in England (1927-1935) (Lawn et al., 2008).

Lawn et al (2008) have charted the development of an influential Scottish School of Education Research (1925-50). Scottish educationists (Darroch, Boyd and Thomson) and the British pioneers of experimental

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[50] The 1875 Educational Code prohibited certificated elementary school teachers from standing for school boards. School boards were elected every three years. Eligibility to vote in school board elections was dependent on owning or occupying property with an annual rent that exceeded £4 (McDermid, 2009, p.334). (Women of property over thirty were eligible to vote in general elections in the UK from 1918. The vote was extended to women on the same terms as men in 1928). In the first school board election of 1873, 5645 men were returned to serve on Scotland's 980 school boards, in comparison with 17 women. In the final year prior to the replacement of school boards with local authorities in 1918 only 70 women were returned (McDermid, 2009, p.336-7).

education (Drever, Valentine and Vernon[51]) were well travelled and well read. Rusk and Drever held PhDs from Jena (Bell, 1990). Currie's *The Principles and Practice of Early and Infant School* was influential beyond the UK. It was published in New York and Chicago in 1891 and reprinted in 1897. It is notable in affording attention to the application of principles of psychology to early education, as well as providing detail on 'methods' of instruction. A generation later, William Boyd, whose reputation was advanced through membership of the New Education Fellowship, spent a year at Teachers' College Columbia (1930-31) (Brett et al., 2010). The result of travel in Germany and North America, combined with its own 'educational tradition', was the construction of a university-based Educational Studies in Scotland that was heavily influenced by the child-centered thought of Rousseau, Pestalozzi, Froebel and later Dewey, and the European scientific realist movement of experimental education (Wundt, Ebbinghaus, Binet)[52]. From its inception, the study of education as a university subject in Scotland carried tensions between the 'optimism' of progressivism and associationist philosophy and the 'fatalism' of psychometry (Simon, 1983).

Research engagement by teachers

The alliance between the EIS and universities was most strongly advanced through the significant contribution of William Boyd, lecturer in education at the University of Glasgow from 1907, and part time principal lecturer at the Glasgow Teacher Training Centre (see Brett et al., 2010). Higher education and engagement with research were seen by Boyd and embraced by the EIS, as hallmarks of professionalism, necessary in the struggle for professional status enjoyed by medicine and law. The Scottish Education Reform Committee lobbied to advance the involvement of teachers in 'practical research' in 1917[53]. Formed in 1919, the EIS Research Committee sought to promote teachers involvement in research studies using the EIS produced *Scottish Educational Journal* (SEJ). The SEJ Editorial announcing the formation of the modest Research Committee proclaimed, *'Research is the very life blood of a profession. No one can say with truth that Scottish teachers are anaemic'* (cited by Brett et al., 2010, p.595). The Research Committee can claim some success in eliciting the cooperation of teachers in work conducted by Boyd, but much less success in fulfilling the aspiration that teachers might routinely engage independently in small-scale studies of their own classroom practice. It is telling that the first 'experimental' enquiries prioritised by the research committee in the early 1920s focused on establishing common assessment standards in the core subjects of elementary teaching i.e. concern with 'standard tests' as 'measuring devices'. As Brett et al (2010) point out the potential of the profession to secure efficiency gains, independent of government intervention, was attached to its claim for self-regulation. Teacher control over systems for examination and pupil assessment, the currency of schooling, was central to self-determination. Mastery of methods of assessment, demonstrated through the deployment of techniques validated through scientific method, was aligned with professionalism (interpreted as possession of specialist knowledge and expertise). The partnership relation forged between the EIS and the university, to the exclusion of local authorities, limited the potential impact of the enquiries undertaken, given that scaling up from research findings would have required local authority support and coordination; and over-estimated the capacity and willingness of a large proportion of the profession to engage *in,* as well as *with,* research.

The Scottish Council for Research in Education (SCRE) was founded in 1928[54], funded in part by the EIS and in part by the Association of Directors of Education, with the intention of conducting large-scale systematic investigations that would overcome some of the limitations in scope, method and resource of the Research Committee's investigations. Nisbet (1999) argues that the appointment of Rusk, then Head of Education at Jordanhill Training College, as the first (part-time) Director of SCRE marks the dominance of 'scientific' approaches to educational research over the 'school-based curriculum-centered style of Boyd'. The development of SCRE as a collaborative research network has been documented by Lawn (2004). The role of SCRE in contributing to the International Examinations Inquiry (IEI) of the 1930s did much to position Scotland at the forefront of educational research internationally during this period (Lawn, 2008).

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[51] James Drever was appointed the first professor of psychology at a Scottish university in Edinburgh in 1931. C.W.Valentine was Professor of Education at Queen's University, Belfast (1914-19) and Birmingham (1919-46). Philip Ewart Vernon was appointed to an education chair at the University of London, Institute of Education (1949-64).

[52] The application of psychology to education led to the development of the schools psychological service and to the establishment of a Child Guidance Clinic in Glasgow in 1932 and juvenile clinic in Edinburgh (Drever) (Bell, 1990; Cruickshank, 1970).

[53] Following the example of the Teachers' Guild in England which successfully lobbied for the establishment of an Education Reform Council in 1916 (Nisbet, 1999:7).

[54] Scotland's national research body was founded eighteen years before the National Foundation for Educational Research for England and Wales in 1946.

SCRE developed a specialism in survey research/large-scale educational assessment, contributing to the three Scottish Mental Surveys (1932, 1935-7, 1947); the influential work of McClelland on Selection for Secondary Education (1942); and Assessment for Higher Education (Powell, 1976; Rusk, 1952). Whilst SCRE continued to have connections with the teaching community and education policy makers, the engagement of teachers in original research was not fully supported. The shift from a professional (and professional*ising*) orientation to the role of expert external research consultancy is noted by Powell (1976), who records the move from voluntary efforts of university and college staff with teachers, to contract research undertaken by professional researchers employed full time by the SCRE. (This was in line with the customer-contract model of research commissioning advocated in the Rothschild Report, 1971). The absence of teacher voices or accounts of teacher research is noted by Brown and Wake (1988) in the edited collection, *Education in Transition*, which celebrated sixty years of research by SCRE.

OPPOSITION TO UNIVERSITY CONTROL OF TEACHER EDUCATION

Clerical influence
The involvement of universities in teacher training was enmeshed in debates around clerical influence in the newly formed national system of schooling. Churchmen in Glasgow resisted the creation of university chairs fearing the erosion of ecclesiastical influence on the school curriculum (Bell, 1990). Following the 1872 Act, parochial and burgh schools were transferred to new local authorities (excluding Catholic schools), ending what James Scotland (1972) has described as *'guerrilla warfare between church and municipality for control of the burgh schools'* (p.121). However, teacher training was untouched, with no unified system, leaving continuing divisions within the teaching workforce in terms of length and quality of preparation, salaries and conditions of service. The consolidation of state responsibility for teacher education came with the creation of four Provincial Committees in 1905 (Glasgow, Edinburgh, Aberdeen and Dundee). The Presbyterian Church transferred control of its six colleges to the Provincial Committees and only one college (Catholic Dowanhill College) retained its independence. The anomaly of national responsibility for schooling alongside denominational control of teacher training was partially resolved, precipitated by further division within the Free Church of Scotland (Bell, 1990:95). The formation of the National Committee for the Training of Teachers in 1920 (to coordinate the work of the Provincial Committees) saw the eventual transfer of the remaining denominational colleges into one national system. Today, responsibility for the preparation of teachers for Scotland's 385 state-funded Catholic schools[55] lies with one of the seven universities providing teacher education in Scotland, the University of Glasgow.

University stance on teacher education
It would be ingenuous to suggest that all Scottish universities embraced teacher education with the enthusiasm of the early pioneers or representatives of teachers and the school inspectorate, such as those cited above. With the advent of state education, university professors were actively engaged in marking the boundaries of their specialised activity and fragile resource[56]. Whilst the universities of St. Andrews and Edinburgh pursued and gained chairs in Education in 1876 in an attempt to establish new markets in pedagogic expertise, the University of Glasgow did not respond. The institution of a 'Paideutic Chair' was vehemently opposed by Glasgow faculty in the late 1890s. The first Chair in Education was not established until 1951 when Stanley Nisbet was appointed. When Simon Laurie proposed a role for St. Andrews University in teacher training, with Madras College as a practising school, it was rejected by Government in favour of maintaining distinct (and cost effective) roles (Cruikshank, 1970). Bell (1990) notes how, by limiting the role of universities to teaching 'the theory and science of teaching', the first Chairs were restricted to offering non-credit carrying courses to volunteer enthusiasts. At this juncture, the opportunity for university involvement in mass initial teacher education in Scotland was lost. The separate roles of the universities and the training colleges became established in state financed 'concurrent' modes of attendance,

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[55] There are 2,722 schools in Scotland of which **389** are state-funded faith schools: **385** Catholic, **1** Jewish and **3** Episcopalian.

[56] Scottish universities were not affluent and fees for university attendance were comparatively low. Bell (1990, p.89) reports that university professors often provided 'junior classes' to local students as a form of pre-degree secondary education and benefited directly from fees. He goes on to note that whilst *'Oxford, Cambridge and Dublin received an annual average income of as much as £200 from each student, in Scotland it was a mere £12'* (p.89). The distinctive arrangements for the education of the urban middle class in Scotland were noted by Matthew Arnold (1868, p. 622), *'Instead of making the student, as in Germany, pass to the university through the prima of a high school, Scotland lets the University and the High School of Edinburgh compete for schoolboys; and the University recruits Greek classes from the third and fourth forms of the High School'* (Cited by Scotland, 1969, p.332).

initially by advanced (male[57]) scholars. It was not until the *Robbins Report* (1963) that four BEd courses for prospective primary school teachers were created in Scotland validated by the universities and modelled on existing Ordinary degree courses: Aberdeen in 1965, Jordanhill and Moray House in 1966, and Dundee in 1967. The existing Scottish EdB degrees (part-time advanced courses for serving teachers) were re-modelled as MEd courses (Crook, 2002).

Central government workforce planning

Central government is primarily concerned with regulation of the quality and supply of teachers across Scotland's schools. Teacher training at the turn of the 20th century was governed through an established partnership between the Scottish Education Department (as dominant partner), the schools inspectorate and the colleges. Following the creation of four Provincial Committees in 1905 (Glasgow, Edinburgh, Aberdeen and Dundee), a system of strong central control over teacher education existed until the late 1950s (Marker, 1994). When the Scottish universities sought greater involvement in teacher education the issue of workforce planning was used to rebut claims to higher education jurisdiction in the field of professional preparation. When some universities petitioned for involvement in teacher training in 1888, motivated by the availability of a government grant for every student teacher who successfully completed training, the *Scottish Education Inquiry Committee* declared in favour of continuing the existing concurrent system. The Education Department[58], with the schools' inspectorate, was able to exert close control over the colleges and had no such precedent of inspection and regulation in the universities.

The Report of the Advisory Council on Education in Scotland, *Training of Teachers* (1946) (equivalent to the McNair Report in England) once more demurred against transferring responsibility for teacher education to the universities (see Kirk, 2002:2). Richardson (2002) notes the rationale offered by SED (1946) in its assertion that teacher training would be, *'to the detriment of the higher scholarship which has thrived so well under their guardianship'*. The 1946 Report recommended the extension and broadening of college-based teacher training and drew attention to the need for continuing in-service provision. In 1958 the influential Scottish Council for the Training of Teachers (SCTT) replaced the National Committee as the coordinating and advisory body for teacher education. In acquiring independent governing bodies, the colleges had greater autonomy to develop their individual character and shape the professional identity of teachers. However, as Marker (1994) notes, *'this move towards greater independence for the colleges was still within a framework of central coordination'* (p. 14). Among the standing committees advising the SCTT, the Committee of Principals (which met monthly) exerted considerable influence on policy (composed of the seven college Principals, with greater power held by the four city colleges and the SED Assessor team). During the late 1950s and 1960s the relationship between the Principals and the SED was close, consolidated by a shared understanding of aims and regular formal and informal consultation to capitalise on the expertise commanded by the Principals (a process characterised by Marker (1994) as one of classic 'bureaucratic accommodation').

In the post-war period, the issue of teacher supply attracted greater concern[59], than the content of teacher education, which was largely devolved to college level decision makers (Marker, 1994). A Special Recruitment Scheme[60] was initiated in 1951 to alleviate teacher shortages. Marker (1994) notes that the sections of the SED Annual Reports that relate to teacher training during the 1960s and 70s are dominated by, *'teacher recruitment, pupil-teacher ratios, the elimination of uncertificated teachers, or the problem of maldistribution and the working of the designated schools scheme'*(p. 68). The persistent problem of teacher supply acted as the catalyst for SED to develop its 'intelligence capability' (McPherson and Raab, 1988, p.229) which led to the production of standardised national formula for forecasting staffing requirements, the 'Red Book' (SED, 1973). This strengthened central control and reduced local decision making; a move that would have implications for teacher education when the problem turned from one of shortages to over-supply after 1975. As the problem of teacher supply receded, some significant opportunities to improve the system were lost. SED rejected proposals in the Brunton Report (1963) for the promotion of closer partnership relations between schools and colleges (Marker, 1994).

In addition to demographic factors, economic and political factors were powerful influences on teacher education policy. The financial crisis and erosion of the post-war consensus in the late 1970s contributed to

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[57] For work that addresses the position of women school teachers in Scotland see McDermid (1997).

[58] The Scotch Education Department was based in London until 1922. Dover House remained the official address until St Andrew's House, Edinburgh was opened in 1940 (Scotland, 1972).

[59] Issue of supply arose from changing pupil demographics associated with the birth rate and staying on rates in secondary schools following the ROSLA.

[60] Provision of student grants for course fees and maintenance to encourage career changers to consider teaching.

pressures for contraction. The publication of *Teacher Training from 1977 onwards* (SED, 1977) heralded the end of the ten college system with a number of mergers and closures. The proposed closures were temporarily reprieved in the face of organised resistance and a high profile media campaign in 1977. Facing an uncertain future, the colleges re-calibrated their provision by expanding school-focused in-service provision, drawing on the educational case for career-long professional learning. Further scope for diversification into new or existing areas of professional or general education, within public sector funding constraints, was limited. Following the change in UK government in 1979, the postponed college closures were announced in *The Future of the College of Education System in Scotland* (SED, 1980). Whilst primarily tackling over-capacity through the closure or merger of three of the ten colleges[61], the SED document also contained concessionary mention of moves towards an all-graduate profession (a long held ambition of the EIS) the development of research in colleges and devolved in-service provision.

From the mid-1960s the composition of the policy community changed as new partners entered and new bodies such as the Open University and Council for National Academic Awards (CNAA) began to operate in Scotland. The General Teaching Council of Scotland (GCTS) was founded in 1966. In 1967 the college monopoly on pre-service teacher training was broken with the establishment of the University of Stirling BA/BSc with secondary teaching qualification (funded through the Higher Education Grants Committee, rather than the Scottish Executive Education Department). The expansion of the BEd degree in the late 1970s reduced perceptions of a two-tier system among the training colleges. With the end of the Scottish Council for the Training of Teachers, the influence of the Committee of Principals diminished and their role shifted from one of policy formation to reaction to proposals and reports prepared by the SED and the GTCS.

RESEARCH AND TEACHER EDUCATION IN THE POST-WAR PERIOD

By the 1950s discipline-focused educational research in Scotland, as elsewhere, had developed into a specialist field requiring advanced statistical and psychological training. Nisbet (1981) suggests that educational research was *'done by those outside the classroom for the benefit of those outside the classroom'* (p. 5). He argues elsewhere that the growth of contract research led the small but developing Scottish research community to form a *'technocratic alliance with the power blocks in education'* (Nisbet, 2005, p. 34). Psychology had secured a position of dominance and the professional application of research generated within collaborative networks with the cooperation of teachers had diminished. Within the field of educational research, alternative sub-divisions were in evidence but these did not yet challenge the place occupied by psychology. Boyd's legacy found expression in the teacher research movement pioneered by Lawrence Stenhouse in the 1960s, (awarded the William Boyd prize in education for a first class MEd at Glasgow University in 1956) and influenced by his experience teaching in secondary schools in Glasgow and Dunfermline. Stanley Nisbet's *Purpose in the Curriculum* (1957) promoted curriculum studies as field of study in Scotland.

The retirement of Thomson in 1951 marked the end of the dual university Chair/College Director appointments. The dominance of psychology in university Education Departments in Scotland and elsewhere was challenged. The first issues of the *British Journal of Sociology of Education* and the *British Journal of Educational Studies* were published in 1950 and 1952 respectively (See Richardson, 2002; and Ball, 2008). In Scotland, the commitments of individuals and the circumstances of their appointment are significant in accounting for institutional departures from particular pathways. The Bell Chairs were again a site of contestation in the re-making of university engagement with teacher education. At Edinburgh, J.G. Pilley was appointed to work with Diploma candidates. Bell (1990) describes Pilley as a humanist whose *'main concern was to produce insightful teachers rather than a technically competent elite'* (p.103). At St Andrews, J.W.L. Adams, 'a former classics inspector', was appointed[62]. In the 1970s the exclusive focus on testing pioneered in Room 70, Moray House, was challenged by Liam Hudson (Bell Professor 1968-1977)[63] and his successor Noel Entwistle (1978-2003). The contribution of David Hamilton and Malcolm Parlett, also Edinburgh based, was significant in pioneering alternative approaches to curriculum research (Richardson, 2002). By the 1980s, it was the Department of Sociology at Edinburgh, through the work of the Centre for Educational Sociology (CES) that had achieved a strong track record in research council grants for school-related studies (Bell, 1990).

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[61] Craiglockhart merged with Notre Dame to maintain its faith identity, although initially the SED preferred option was for merger with either Moray House or Dundee (Marker, 1994:133-5).

[62] The Education Department at St Andrews was closed in 1966 and responsibilities transferred to the newly independent Dundee University.

[63] A psychologist who specialised in creativity and teaching the gifted child. See, *Contrary Imagination* (1966) and *Frames of Mind* (1968).

In debates on teacher education the artificial distinction between theory and method established in the 1850s continued to be marshaled to support contrasting positions. James Scotland (1973), reflecting on the early 1970s, notes that *'one of the main criticisms of the colleges of education is of the undemanding intellectual content of their courses'* (p.40). The explicit professional orientation of the colleges, their regulatory role and the need to assert the distinct place of the colleges in the higher education landscape did not support the prioritisation of research activity; although an Inter College Committee in Educational Research (ICCER) was established to coordinate efforts. The research record of former college staff is the focus of continuing debate, both in terms of the *use of research* to inform teaching and course design, and *involvement in research* (Lomax, 1973; Scotland, 1973). Taylor (1969) records how 'action' research undertaken by teacher educators was *'regarded with tolerant scepticism by professional research people, who are very conscious of the lack of research training of the many of those involved and of the way in which the topics chosen reflect immediate and pressing concerns, rather than issues of long term theoretical importance'* (p. 225). Shipman (1969) notes disparagingly how the historical development of the colleges as 'training institutions', outside universities, positioned them as *'wholesalers rather than producers of new ideas'* (p. 257).

Divisions between 'the professional' and 'the academic' were again mobilised in the 1980s. Writing in 1984, Gordon Kirk, then Principal of Moray House and (then) defender of the monotechnic principle, lamented *'an immature hankering after university recognition'*(cited by Kirk, 2002, p.15). First mooted in 1830s, the eventual merger of the remaining monotechnic colleges of education[64] with the universities came in the 1990s, following the closure of CNAA in 1992 which had validated the BEd degree in some centres from 1983. University education of all teachers, a long-term goal of the EIS, was achieved; albeit regulated through competency-based course criteria (SOED, 1993). After a brief engagement in the examination schoolmasters between 1861-64, and the thwarted efforts of the Bell Chairs endowed in 1876, universities and the training colleges settled into a concurrent system from 1873 until 1955. Universitisation eventually occurred as a result of political and economic drivers, as much as the case for scholarly teachers and enhanced professionalism (that had underpinned accounts of EIS opposition to the English Revised Code of 1863 and the Glasgow School Board's opposition to the limitations of the Junior Student system in 1910).

The legacy of two centuries of debate on the location and mission of professional education are not easily ignored. University Departments of Education and the colleges had histories of collaboration, which was often but not always cordial. The newly formed Faculties of Education entered universities engaged in the Research Assessment Exercise. According to managers at the time, Faculties of Education in research intensive universities sought to respond by promoting research as a 'collegiate undertaking'. Whilst opportunities were created for engagement in research activity in the early post-merger phase (including support for the completion of higher degrees), 'former college staff', appointed for their professional experience (Menter, 2010), were not expected to be research active. The new Faculties continued to involve a high proportion of secondees (associate tutors) in response to an expanded student intake as a result of projected demand for teachers. This translated into different roles (and statuses) with implications for the professional status of teaching and the professional identity of teacher educators. An enduring bifurcation of research and teaching persists in many university Schools of Education. The university basis of teacher education and the place of research in initial teacher preparation is the focus of continuing deliberation (Donaldson, 2011).

CONCLUSION

This paper started from the premise that the history of education in the UK, continental Europe and North America has tended to be dominated by 'noble stories' (Cohen, 1999). The history of teacher education in Scotland is no different. What is missing from these 'liberal' or 'progressive' accounts is an explicit politics of reform that acknowledges the struggle for influence of the various parties involved.

This attention has drawn attention to the strategic agency of those who seek to influence policy. Acts of resistance include those of working class women to the promotion of domestic subjects by middle class school board women; the resistance of faith communities to the common school and non-denominational teacher education; the resistance of teachers' unions to equal pay for women teachers; the resistance of some within the academy to the elevation of education as a university subject and the inauguration of chairs in education; initial resistance to universitisation by college principals who saw themselves as defenders of the monotechnic principle and an ethos of 'service' in teacher education. Histories of teacher education are not

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[64] St Andrew's College with the University of Glasgow; Jordanhill with Strathclyde University; Moray House with Edinburgh; Northern College with the universities of Dundee and Aberdeen; Craigie College with Paisley (now University of the West of Scotland).

without 'spectacle' e.g. the city-wide procession to officially open the newly built Glasgow Normal Seminary in 1837 or the leading out of staff and students by David Stow eight years later following the 'Disruption' i.e. the split between the Church of Scotland and the Free Church of Scotland. Neither is the history of teacher education without 'heroes' e.g. the positioning of William Boyd (and later Lawrence Stenhouse) as the 'hero' of school-university collaborative research, supporting the professionalization for *teachers*; or casting Robert Rusk (and the Scottish Council for Research in Education) (and later Godrey Thomson) as pioneers of 'educational science' supporting the professionalization of *researchers*[65] and the international standing of Scottish educational research.

Critical engagement with theory and explicit consideration of the values, shaping myths and political agency of the micro-communities of teacher education may help to illuminate contest, challenge and dissonance between actors implicated in the enactment of reform and the production of stories of reform. The cultural historical perspective of critical policy sociology is attuned to such endeavour. Inter-disciplinary and self-reflective inquiries might consider and connect the dominant modes of emplotment in historical narratives and identify the reproduction of battle lines within contemporary educational discourse. The purpose of such activity is not to 'condemn' or to 'celebrate' (Cohen, 1999, p.53) but to promote constructive reappraisal that might generate a 'usable past' that confronts rather than repeats iterative challenges.

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[65] And some might say 'tragedy' in the appointment of Rusk rather than Boyd as the first Director of SCRE, in a mode of emplotment that mirrors the rise in influence of Thorndike rather than Dewey in the US.

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199 - The Professional Progam of Teacher Education. The Representation of the Students

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Abstract: Among the changes that have affected the teacher training process for the last 20 years, there is the reorganization of the ways that facilitate the matching of theoretical knowledge and practical experience (e.g. the model of alternation, tutorials and workshops, and the introduction of experienced belonging to the schools).

The article aims to show the changes in the educational curriculum for student teachers, highlighting the following points:

a) in the first part, the components of the educational curriculum at the University of Bari and at the Suor Orsola University in Naples.

b) in the second part, the findings of a recent exploratory survey which aims to understand how future teachers (student-teachers) represent themselves and test the outcome of the meeting between theoretical knowledge (in university courses) and practice (during courses at school).

(all of this has been accomplished by having about 400 undergraduate students, studying an education degree course, complete a questionnaire on representations)

The results of this study and reflections may well show the strong interest amongst policy makers who constantly seek new strategies in facing the challenges of education.

Keywords: teacher education, professional development, theory-practice relationship.

INTRODUCTION

Among the most significant changes that have affected teacher training for the last 20 years, there is the reorganization of vocational curricula in ways that facilitate the match between *theoretical knowledge* and *practical experience*. The following are the foremost innovations:

a) on a general level, the curriculum of *alternation* (Altet, 2009) between the theoretical component (university courses, and in some ways, workshops) and experience (training);

b) on the level of action, the introduction of a *didactic laboratory* to facilitate a reflection on the application of theories (consider the experiences of reflective workshops and didactic ones) (Agrati, 2008);

c) on the institutional level, the reorganization of the figures responsible for the teacher training: the teacher - the guarantor of a type of 'top-bottom' knowledge – but also most *experts* from actual schools (tutors and mentors are, as guarantors, rather, recipients of a 'bottom-up' knowledge).

These innovations have come forth as a result of years of reflection and commitment to the educational research (Zeichner & Liston, 1996; Lenoir - Bouillier-Oudot, 2006), reflecting also the outcome of the mutual efforts from both institutional and individual universities (eg . Loi No 89-486 du 10 juillet 1989 Act. No. 53, March 28, 2003).

If this, however, is what has been going on *upstream*, what has been going *downstream* then? Metaphors aside, which kind of impact have these developments had on teacher education curriculum? More specifically, what's their impact on student-teachers? What is the relationship they have developed with respect to innovative components of the curriculum (*courses*, *workshops*, *expert* figures etc.). How do they really perceive this match between theory and practice? In an attempt to answer these questions, the Italian universities of Bari and Suor Orsola in Naples have cooperatively conducted a two-year research on this subject.

The paper:

a) the first part, highlights the components of the current teaching curriculum in Italy which clarify the scope of news, especially after the recent reform (D.M. n. 249, 10/09/2010);

b) in the second part, there are the outlines of a recent exploratory research that reveals the student-teachers' opinions on the components of their current curriculum.

This study represents a first step of a broader reflection on the effectiveness of vocational teacher training today and, therefore, it also accounts for the choices that policy makers have made in planning out the teacher training outlines.

THEORETICAL FRAMEWORK
Theory and practice in pre-service teacher education
As Laursen (2007) has already pointed out, overcoming the perceived gap between theory and practice in pre-service teacher education is a widespread endeavor (Westbury et al., 2005). Today's dominating view is that theory and practice should be integrated (Leinhardt et al., 1995). Reflection is often viewed as the way to achieve this integration. According to the integrative and reflective approach student teachers are encouraged to construct their own idea of education integrating their experiences and personal practical knowledge with general theory (Shin, 2006). Alternatives to the 'application-of-theory', several models of teacher education stress the continuing cycle of interplay between theory, practice and reflection as the way to promote changes in student teachers' attitudes and practices:
- the constructivist (Kroll, 2004) or social constructivist approach that promotes students to develop grounded theories based on information gathered from the world of practice;
- the new model of 'realistic approach' (Korthagen, 2001) is based on the idea that students begin teacher education with rather persistent subjective theories of teaching.

'Reframing' of the students' mind requires much more than just presenting new theoretical frameworks to them. Instead the 'realistic teacher education approach' aims at the students having practical experience with ways of teaching that slowly can inspire new ways of thinking about teaching.

As recent reforms in this field show (see fig. 1), it need to establish a more efficient connection between theoretical frameworks and practical experience, and reflection on personal experience were both institutionally introduced in Italy along with the redefinition four components of the curriculum.

TC: *theoretical courses*: these courses provide student teachers with a theoretical frameworks for *traditional subjects* (Italian, Mathematics, Geography, etc..) and *transversal subjects* (Pedagogy, Sociology, Education etc.).

W: *workshops* are run by university professors or experiences figures and pertain to practical aspects of theoretical courses.

DT: *"direct" training*: it is a period during which the student-teachers have their chances of familiarizing themselves with practical experience at a school, as they are monitored by headmasters or mentors (an experienced teacher).

IT: *"indirect" training*: these are reflection meetings in which the student-teachers and their supervisors (an experienced teacher usually associated with the university) share their respective reflections on their practical experience at school.
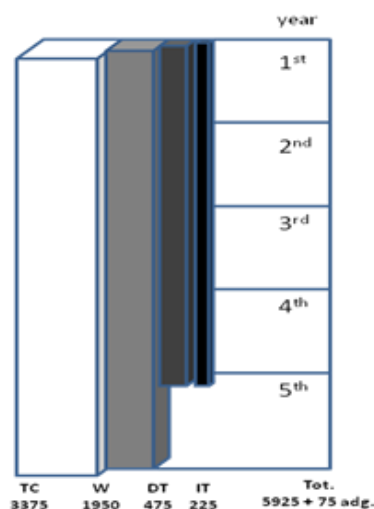
Fig. 1: The four components of teacher education curriculum

The student-teachers' conceptions

Studies on people's conceptions, which were born within sociological and social psychology (Moscovici, 1981), have the advantage of opening new perspectives on identical objects and overcome the truism that has often innervated the settings of traditional research: reality is self-evident and the subjects' idea of reality does not affect their knowledge of it).

Conversely, conceptions – which are defined as 'ordinary, everyday attitudes that are often less naïve than they appear (...) conceptions (that) are actually social constructions, with a multiplicity of significances' - are strictly related to different social integration and the way of thinking and acting of every single person (Mugny - Carugati, 1988).

With regard to teacher training, the first investigations on what teachers' think date back to the 80s and were concerned with finding out the school teachers' opinions on teaching, students, and classroom mood (Elbaz, 1984). These studies have the advantage of opening new perspectives on teacher practice as well as on the complex dynamics of teaching and learning in order to understand that there is a clear difference between formal knowledge and 'second-hand knowledge (Shulman, 1987).

The investigation on student-teachers' conceptions have, for their part, the opportunity to reveal research perspectives on the curriculum of training as well as on the perceived interconnection between theory and practice (Tillema, 1998)

Using the Jordell model, Schmidt and Knowles (1995) have shown that 'fresh' teachers (novices), when faced with concrete situations of ordinary school life for the first time, tend to act on the basis of four levels of influence:
- a personal level: biographies, previous experiences and as those at vocational education institutions. At this level, those most likely to be internally affected are newly appointed teachers;
- an environmental level: class, context, students, teacher-pupil interaction;
- an institutional level: not only school boards, principals, and parents but also the setting of curriculum and administration;
- a structural level: with particular reference to economic, social and political issues with which the school is involved.

The factors that are likely to influence the initial training of teachers can be grouped in the following four dimensions:
- personal stories and models of past actions that determine the present conduct;
- developing an understanding of themselves in the role of teachers;
- problems associated with planning, teaching and classroom management;
- the problems of the school environment and relationships with tutors or mentors.

Although the literature on teacher education and on theory and practice in education is enormous only few research projects have focused on the student teachers'conceptions. Some authors have noticed that beginning student teachers expect to be told how to teach (Jong et al., 1998, Loughran, 2005). The usual response from teacher educators and researchers confronted with this view has been that this expectation ought not to be met and that student teachers instead should learn how to reflect on teaching (Zantig et al., 2003, p. 207).

THE INVESTIGATION OUTLINES AND METHODOLOGY

Our study aims to investigate the student-teachers' conceptions about the components of the education curriculum, what they make of theoretical courses (both basic and pedagogy-based ones); their opinions on direct and indirect training (the experience matured in the classroom in close contact with pupils and mentors, and meetings with their supervisors); workshops (both interdisciplinary and transversal); and, finally, all factors that, according to Schmidt and Knowles' proposal, would act on the initial teacher training.

In particular, we tried to find out the extent to which student-teachers detect a relationship between the components of the abovementioned curriculum, and their personal involvement with such components in terms of knowledge, skills, and assessment.

Our research questions were:
- how do student teachers view the components of teacher-education curriculum?
- what are student teachers' conceptions about them?
- what type of relationship between them did they detect?

The survey - an internal research promoted by the University of Suor Orsola in Naples - was conducted on a two-group, semi-experimental project (Becchi, 1997) based on a specific sample, which is divided into two steps.

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During the first step - conducted in october 2010 - we administered a questionnaire about the conceptions of 400 students-teacher respectively enrolled at the University of Bari and Suor Orsola Benincasa in Naples, and we analyzed data focusing on certain aspects, as explained below.

In the second - in december 2010 - we conducted in-depth interviews on a representative quota of the same sample (80 students including 40 from the University of Bari and another 40 from University of Suor Orsola in Naples) determined on typological criteria – *gender* and *experience* - and we then proceed to the transcripts according to the lexical-textual approach to verify the consistency of the data collected through the questionnaire (Best - Tuzzi, 2006) (Bolasco, 1999).

The sample

The 400 students-teacher were divided into two groups: the first group consisted of 200 students registered at the first year of the primary education degree course at the University of Bari, and the second group of 200 students registered at the fourth year of the primary education degree course at the University of Suor Orsola Benincasa in Naples. The following are the sample's characteristics:

Gender: 320 females (80%) / 80 males (20%)
Age: average age of the first group (20 years old), average age of the second group (23.6 years old)
Experience (students studying a second degree, or possessing teaching experience): the first group (19%), the second group (32%)

The two groups are therefore typologically different for the following reasons:
- The *first group* consists of students at the beginning of their degree course, with little training and little theoretical experience. Also members of this group were younger and so with few years of teaching experience;
- The *second group* consists of students at the end of their degree course who have completed over 300 hours of training and with an average of 20 theoretical courses studied. On average, this group consisted of older students with a few years of teaching experience, though without a formal certification.

The questionnaire

The questionnaire administered to the 400 students in the first step follow after a meeting to present the survey. It is a structured questionnaire consisting of 60 items - including 50 multiple-choice questions - subdivided into 6 sections and 4 section respectively on *theoretical training*, *indirect* and *direct training* and *workshops*. It was built through pilot interviews on the re-elaborated on the model of teachers' conceptions designed by Mugny and Carugati (1988) and Novelli (2003, 2005). Here are some examples from the 4 sections of our interest:

Theoretical Courses		
1. What do they do?	**2. What makes them more efficienti?**	**3. Knowledge/skills mostly refer to:**
☐ Provide basic knowledge ☐ Provide general notions ☐ Prepare for the practice	☐ Clarity of contents ☐ Teacher availability ☐ Multi-discplinary knowledge	☐ Direct training ☐ Indirect training ☐ Workshops

4,5,6 What would you rate the connection between the abovementioned criteria and th...

Direct training	**year**	Indirect training	☐ *inexistent* ☐ *scant* ☐ *high* ☐ *very high*	Workshops	**TC 3375**

Indirect Training		
7. What does it do ?	**8 What makes them more efficient?**	**9 Knowledge/skills mostly refer to:**
☐ Provide further contents ☐ Reflect on training experience ☐ Link theoretical to practical knowledge	☐ Clarity of contents ☐ Supervisors availability ☐ Multi-disciplinary knowledge	☐ Theoretical courses ☐ Direct training ☐ Workshops

10,11,12 What would you rate the connection between the abovementioned criteria and the following:

Theoretical course	☐ *inexistent* ☐ *scant* ☐ *high* ☐ *very high*	Direct training	☐ *inexistent* ☐ *scant* ☐ *high* ☐*very high*	Workshop	☐ *inexistent* ☐ *scant* ☐ *high* ☐ *very high*

Direct Training		
13. What does it do?	**14 What makes them more efficient?**	**15 Knowledge/skills mostly refer to:**
☐ Provide further contents ☐ Build actual skills ☐ Provide an idea of the 'world of school'	☐ Knowledge connection ☐ Mentor availability ☐ Concrete actions	☐ Theoretical course ☐ Indirect training ☐ Workshops

16,17,18 What would you rate the connection between the abovementioned criteria and the following:

Theoretical course	☐ *inexistent* ☐ *scant* ☐ *high* ☐ *very high*	Indirect training	☐ *inexistent* ☐ *scant* ☐ *high* ☐ *very high*	Workshops	☐ *inexistent* ☐ *scant* ☐ *high* ☐ *very high*

Workshops		
19. What does it do?	**20. What makes them more efficient?**	**21 Knowledge/skills mostly refer to:**
☐ Provide further contents ☐ Build actual skills ☐ Link theoretical to practical knowledge	☐ Knowledge connection ☐ Teacher availability ☐ Concrete actions	☐ Theoretical course ☐ Indirect training ☐ Workshops

22, 23, 24 What would you rate the connection between the abovementioned criteria and the following:

Theoretical Course	☐ *inexistent* ☐ *scant* ☐ *high* ☐ *very high*	Indirect training	☐ *inexistent* ☐ *scant* ☐ *high* ☐ *very high*	Indirect training	☐ *inexistent* ☐ *scant* ☐ *high* ☐ *very high*

Data Analysis
Questionnaire
We proceeded to describe data through *average calculation*, *standard deviations* (σ) and *standard scores* (z) for the values obtained.

We have also performed an *analysis of variance* (ANOVA) based on the comparison between the features of the two groups of student-teachers as they emerged from the data collected during descriptive phase. We have, in fact, detected a high and positive correlation between values concerning the first group and the

second – bear in mind the latter group are more experienced – in reference to *theoretical courses* and *training*.

The statistical comparison between the first and the second group of student-teachers reveals significant difference for all items ($p < 0.001$) higher, as a matter of fact, in the sections dealing with *theoretical courses* and *direct training*. To sum it up, we are here looking at these differences as they emerged, stressing the group variations.

If we compare the responses to the item 1 with those to the item 13, which respectively relate to the function of *theoretical courses* and *direct training*

	Gruppo I	%	Gruppo II	%
■ Basic	96	48,0%	90	45,0%
■ Notions	84	42,0%	95	47,5%
■ Pre-pratica	20	10,0%	15	7,5%
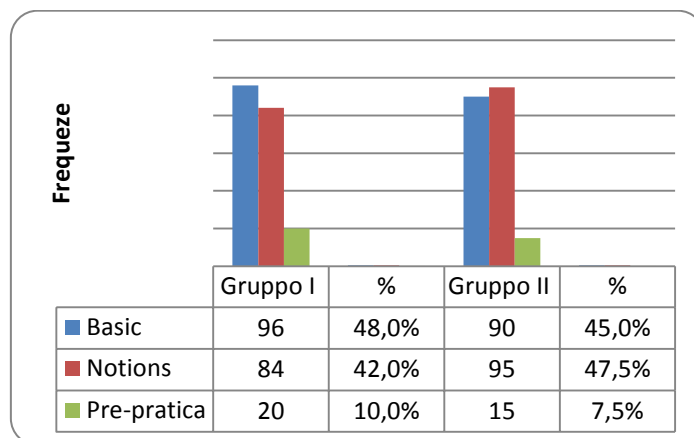
Fig. 2: The function of course

	Gruppo I	%	Gruppo II	%
■ Knowledge	69	34,5%	60	30,0%
■ Skills	74	37,0%	118	59,0%
■ Idea	57	28,5%	22	11,0%
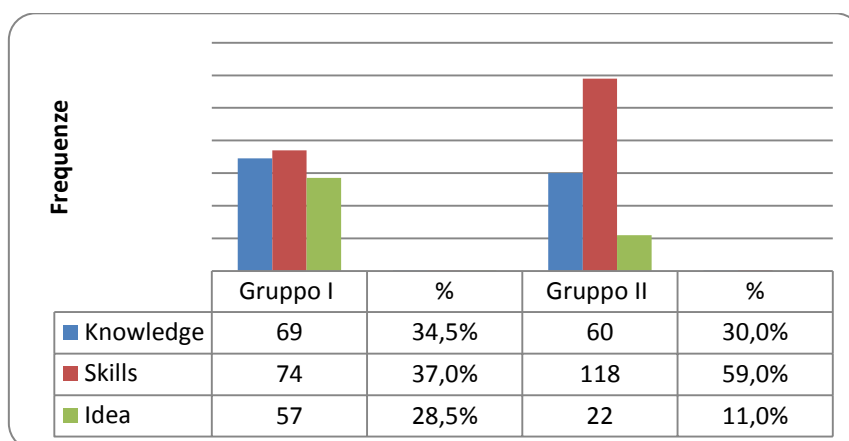
Fig. 3: The function of direct taining

we will notice that the first group ascribe a slightly higher cognitive function to the *theoretical course* ('provide basic knowledge') than guidance ('provide general notions') and, with reference to training, the group are set in attributing cognitive ($z\ 0.26$) and enabling values in equal measure ($z\ 0.83$).

In the second group there seems to be a slight bias towards the importance of theoretical courses, while in terms of direct training, there seem to be a significant prevalence of enabling values ($z\ 1.06$) over cognitive values ($z\ -0.13$).

Let us now compare the items 4, 5, 6 and 16, 17, 18 which we have already allowed us to find out what type of spontaneous references student-teachers made between the components of the curriculum. Here is what the comparison reveals:

	Gruppo I	%	Gruppo II	%
I. T.	65	32,5%	33	16,5%
D.T.	68	34,0%	105	52,5%
W.	67	33,5%	62	31,0%

Fig. 4: The link of course

	Gruppo I	%	Gruppo II	%
I. T.	70	35,0%	58	29,0%
T.C.	68	34,0%	87	43,5%
W.	62	31,0%	55	27,5%
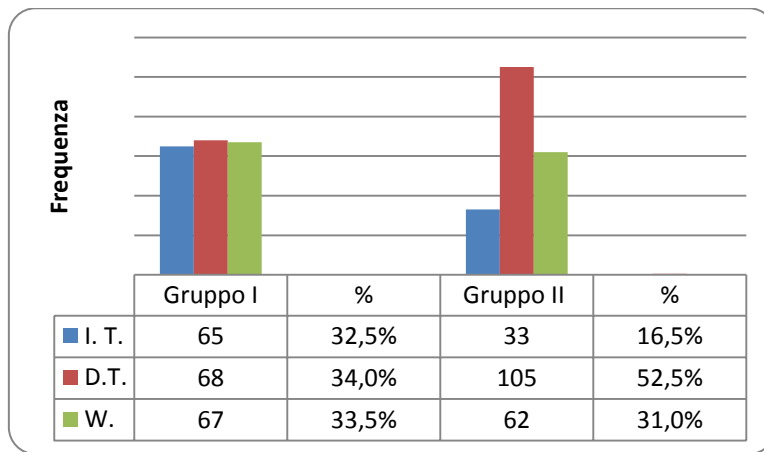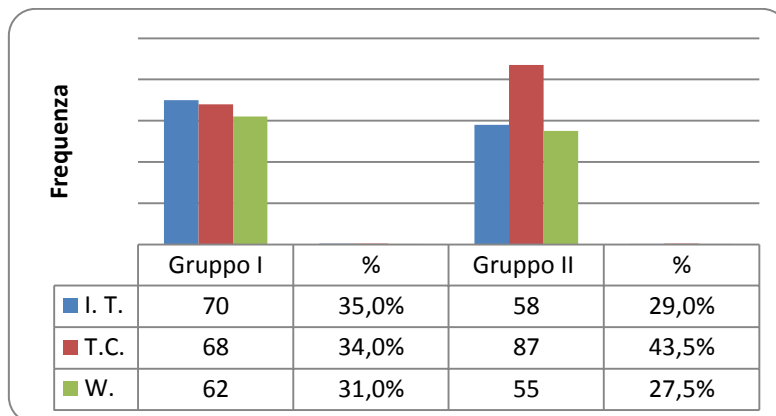
Fig. 5: The link of direct training

the *first group* have always shown a certain degree of uniformity of cross-references between theoretical courses and the other components of the curriculum (workshops, direct, indirect training) while the second group clearly show prevalence of theoretical courses over external training (z 1.05) and, interchangeably, the latter with the first (z 1.15).

A first analysis of the responses, based on the actual data reported, are enough for us to draw some considerations. Their statistical significance (p 0.052) is not very high, given the limited sample.

It is interesting to point out one aspect that pertains to the relationship between the *experience* variable - based on the years of posthumous school experience, oftentimes precarious work - and a consideration of the components of the curriculum, in particular, the relationship between theoretical course and direct training. This has emerged through by intersecting the items 4, 5, 6, and 16, 17, 18 with the years of experience claimed.
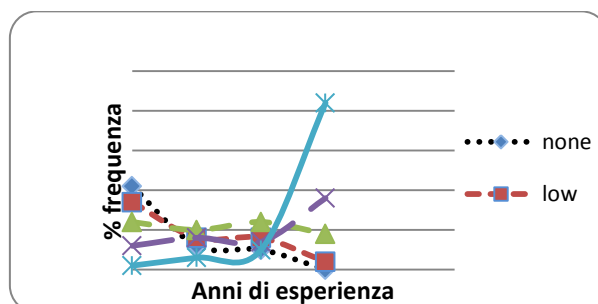
Fig. 6: Realation b.w. "link course/direct training" – "experience"

We should note that the higher is the number of years of experience (e.g. 6 years), the more positive is the assessment of the correspondence between theoretical courses and training (see solid line 'very high'). Conversely, fewer years of experience reflect a negative change (see dotted line 'inexistent').

The analysis of item 4, 5, 6, and 16, 17, 18 confirms, indirectly, the outcome of the analysis of the items 3 and 15 where the second group – the older and more experience one - said to recognize an actual reference between theoretical courses and direct training.

Please note that this trend should be subject to more detailed statistical analysis (analysis of variation - ANOVA) before being taken as indicator of a correlation. For the time being, we can consider the experience variable as an 'influence factor', but not nearly big enough to be considered an actual 'cause' that could lead us to recognize the relationship between theoretical courses and direct training.

Interviews

The data were analyzed primarily by meaning categorization (Kvale, 1996, p. 196) aiming at identifying the student teachers'conceptual structure concerning respectively the four components of the curriculum. Categorization means that theinterview is coded into categories and thus can reduce a large text into a few tables and figures.

The corpus of content analysis includes 40 interviews classified into six groups according to quantitative criteria (by years of experience). From a statistical point of view our corpus includes N= 84.576 word-tokens (statistical textual units) and V= 7.041 word-types (item). A word-token is a particular occurrence of a word-types and N measures the size of the corpus. The vocabulary includes the list of V different word-types and the frequency of occurrence of each word-types is given by the number of corresponding word-token repeated in the corpus (Bolasco, 1999).

In order to increase the amount of information conveyed by statistical textual units, we can recode the corpus and work with complex textual-units (CTUs) instead of simple word-types. The analysis allows to distinguish among different kinds of CTUs (e.g. keywords concerning three education contexts, the cognitive - *know-what*, the enabling - *know-how* and the valuable - *know-why*) (Laneve, 2001).

E.g. CTUs of definition

CTUs	Knowledge	Skills	Values
word-types	Information Notions Data Concepts etc.	Mastery Dexterity Tactfulness Familiarity Ability Competence etc.	Considerations Reflections Assessment Reasoning Decisions Choices etc.

In order to obtain a graphic representation of the system of relations existing among groups and CTUs correspondence analysis techniques were implemented (Greenacre, 1984).

Let us focus now, for reasons of synthesis, on the analysis of the terms used to describe the *theoretical courses* and *direct training*.
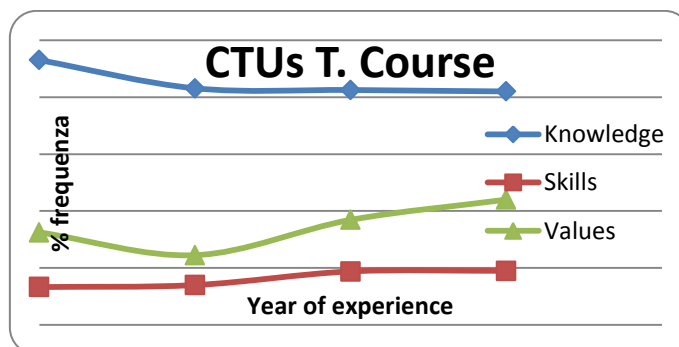
Fig. 7: The course definitions words

With regard to *theoretical courses*, the student-teachers very seldom will use expressions that fall into the enabling category while there is a predominant reference to the expressions that belong to cognitive category.

However, note that as the years of experience increase (see solid line "knowledge"), the use of expressions that belong to the cognitive category decrease significantly, with a higher incidence of references to expressions of typical of the valuable and enabling categories.
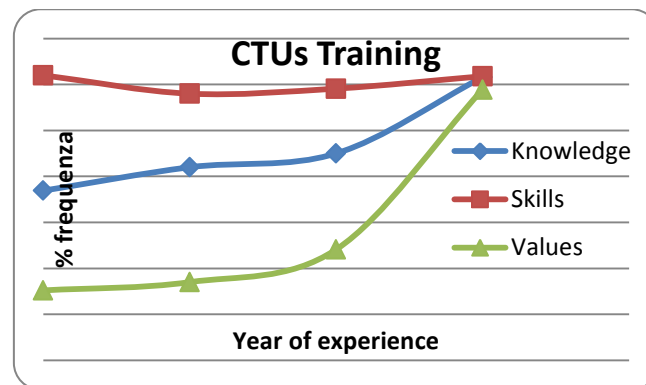
Fig. 8: The training definitions words

As far as direct training is concerned, we can see that the expressions that relate to the enabling category are predominant in each cluster of years of experience. However, it is interesting to note that the increase of years of experience is accompanied by an increase in expressions concerning the value and the enabling categories, almost indicating a pairing frequency in the case of student-teachers with 6 years of posthumous school experience.

RESULTS
In general we can say that the use of the qualitative interview technique – in relation to the quantitative data of the questionnaire - was used to verify the consistency of data that emerged from the items of the questionnaire in the first part of the investigation.

The first thing to note is about the function attributed to the *direct training*. The analysis of the questionnaire has shown, as already explained, a substantial *enabling* characterisation - more pronounced in the second group than the first (see fig. 3), as confirmed by the interviews.

The second remarkable aspect is the function of *theoretical courses*. Both the questionnaire responses and the analysis of the interviews reveal prevalent references to the *cognitive category* (see fig. 2 – basic knowledge and notions, fig. 7 – knowledge) with fewer references to the enabling category in either case (cf. Fig. 2 - pre-practice, fig. 7 - ability).

Both aspects seem to confirm the canonical images attributed by the research and institutions to the two most epistemologically significant components of the educational curriculum.

In light of this, more interesting are the results of the analysis of items 3 and 15, where group II showed mutual references between theoretical courses and external training.

As supported by the analysis of item 4, 5, 6, and 16, 17, 18, it also appears that students with school experience are more likely to recognize the references between the information provided in theoretical courses and their teaching experience in school and to recognize the close relationship between the epistemic components of the two moments - one cognitive and theoretical, and the other practical - although these are clearly different (see fig. 2 and 3).

We are still waiting for the outcome of the tests on the other components of the curriculum (workshops and indirect training) and for the analysis of variance of the data just presented with the *experience* variable to refer to a possible correlation in this regard.

We can, however, safely state that the relationship between theory and practice is more prominently perceived by experienced student-teachers in theoretical courses and training than by novice student-teachers, who instead treat every part of the curriculum indistinctly (fig. 4 and 5).

CONCLUSION
The survey we have just presented is bringing out interesting reflection cures for policy makers.

The most obvious is that posthumous school experience is a factor likely to influence opinions on theoretical knowledge and training and the very ability to recognize the interplay between theory and practice in the curriculum.

This is a rather important matter with plenty of social and economic overtones. Because of the hierarchical recruitment system and prolonged admissions to work in Italy, students who wish to become teachers often

undergo long training periods and will collect more than one qualification in the process. The student population registered for teaching qualifications, therefore, is less homogeneous (i.e. first-time freshmen) and more diverse, composed of students that are often studying a second degree, in most cases with teaching experience already gained in other school levels and, consequently, at an advanced age.

This should prompt teachers and policy makers to reflect on the type and mode of training provided and to improve the current education offer (Laneve, 2002).

Another reflection cue, less obvious and yet connected to the previous one, concerns the role played by the components of the curriculum at the end of the training of future teachers. It has emerged that student-teachers, especially those with years of experience, associate theoretical courses and direct training (fig. 8) to an intrinsic valuable dimension and vision of 'school doing'.

It is a dimension not always provided by university regulations and, in truth, nor by the actual research on teacher education (Damiano, 2007) but which, however, is shown by the sensitivity that students mature during years of school practice (fig. 8- it is significant how the frequency of class *knowledge*, *skills* and *values* is almost exactly like that of students with 6 years experience).

This figure could be interpreted as an appeal to all forms of responsible teacher training (teachers, supervisors, mentors, planners etc.) to engage in the direction of a *three-dimensional teaching*, properly *educational* and not just *informational* which could provide prospective teachers with knowledge, skills in as much with evaluation criteria that are essential to everyday school life.

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201 - Implicit in Teaching: a Contribution to the Development of the Proficient Teaching

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Abstract: The objective of the following research is to investigate the practices which contribute to the creation of the teacher-master identity. Mixed instruments were used: explicitation interviews, video-research, writing anecdotes. The results of the first step of collaborative inquiry revealed a rich repertoire of routines and some unexpressed levels of professional assumptions embedded in the development of expert teacher identity. Teaching practice is influenced by his/her biography, student's memory and relations with his/her past mentors, conceptions implied in the choice of a job, good-teacher-action indicators and ethical views about practice. The findings suggest that teaching practice is not based only on an evident kind of didactics, but it rather consists of acts, routines, aim-directed activities, gestures, memories, beliefs, which are not instantly decipherable, but that contribute – if explicitated and analyzed by teachers with the support of researchers – to the creation of the teacher-master identity and his/her expertise in teaching.

Keywords: implicit didactic, professional identity, proficient teaching development

INTRODUCTION

The objective of the present research is to investigate the ways, practices and routes which contribute to the creation of the teacher-master identity and his/her expertise in teaching. This expertise in research has been defined *magistralità* (excellent teaching practices).

There are two operational perspectives carried out in the present study: the analysis of teaching practice (Damiano, 2006; Laneve, 2005) and implicit didactics (Perla, 2010) with particular reference to the studies on the role of emotions in educational effectiveness (Perla, 2002; Day, 2009), to narrative inquiry (Connelly & Clandinin, 1985; Demetrio, 1998) to teachers' talking and walking (Mena Marcos & Tillema, 2006). The first stage of this collaborative research has been carried out - for two years - with 80 secondary school teachers from Apulia. Different techniques were used throughout this stage: explicitation interviews (Vermersch, 1994); video-research (Tochon, 2009), writing anecdotes (van Manen, 1991). Grounded theory (Strauss & Corbin, 1994) guides the data collection and analysis whose goal is to highlight some indicators of teaching excellence routines. It is worth noticing that the results of the first step of the enquiry revealed some unexpressed levels of professional assumptions and a rich repertoire of routines embedded in the development of expert teachers' identity.

RESEARCH OBJECTIVE

The research on "teachers' practical knowledge" (Elbaz, 1983) nowadays focuses its attention both on the noticeable and remarkable aspects of teaching practices and on those hidden and not obvious facets, which could be defined as "implicit didactics" (Perla, 2010). Implicit knowledge is seen as fundamental to all human cognition (Polanyi, 1962) and to knowledge management in particular (Nonaka & Takeuchi, 1995). It has been argued that a large portion of the knowledge required for executing organizational activities and processes is implicit (Lubit, 2001; Spender, 1996). According to these interpretations, teaching practice is not an engineering act, based only on an evident kind of didactics, but it rather consists of acts, routines, aim-directed activities, gestures, memories, beliefs, none of which are instantly decipherable.

The study of the implicit educational variables may help us understand the epistemology of the skilled teaching knowledge and the ways whereby this knowledge grows and evolves.

The main object of this study is, therefore, the identification of some indicators involved in the creation of teaching expertise, based on the assumption that the knowledge about "proper teaching" is not an exclusive property of academic researchers and that it is produced by the teacher himself/herself, perceived as an *active practitioner* and a maker of his/her personal vision of excellence in teaching.

Some underlying, basic questions at the base of the present study are here summarized:

a. What can teachers-experts (Loughran, 2010) – also defined teachers-masters – do (Perla, 2010)?
b. What are their memories, their beliefs, their passions?
c. What are the routines involved in their teaching methods (Vinci, 2010; Morgese, Vinci, 2010)?
d. Considering the explanation of these aspects, is it possible to identify some typical facets of teachers-experts' educational communication?
e. Is it possible, given these facets, to identify some criteria in order to corroborate and assess teachers-experts in the light of the principles indicated in the Italian *Nuova Formazione Insegnanti* (New Teacher Training).

This survey, which has been carried out in order to find useful answers, is only part of a broader research which aims at the analysis of the so called *underlying meanings of practical knowledge (impliciti del sapere del pratico [insegnante])* (Perla, 2010). Its basic hypothesis states that teachers-experts (we prefer another definition, *teachers-masters*) transmit their competence through unspoken knowledge and actions: these aspects have not been deeply examined in educational theories so far.

The objective of the present research is the identification of the features of excellent educational methods, starting from the analysis and the understanding of the underlying routines in practices[66], theorizing educational methods with a *bottom-up* approach instead of considering aprioristic modeling of virtuous processes, the latter deriving from paradigms found in classical pedagogical anthropology. Furthermore, this research aims at defining some standards or competence descriptors to the assessment of educational routines in the long run.

Its purposes are congruent with the continuing development of teacher accountability, innovation, collegiality and leadership throughout the career span.

This is basically due to two reasons.

The first reason deals with epistemological motivations: educational knowledge of virtuous teaching methods is fostered in order to identify some typical features which can be taken as reference points to the professional development of teachers and in order to establish training procedures for newcomers in this discipline.

The second reason deals with a more professional scenario concerning the meritocracy-driven development of Italian teachers' careers. Lately, the most enlightened governments (United States are at the top of this list) have included, in their political agenda, honours for virtuous educational methods as well as the selection of shared, public and open criteria which foster the activity of worthy teachers. Barack Obama, President of the United States, right after his election stated that there should not be any opposition in "rewarding excellent teachers with incentive pays […] We need to hire, train and reward the best teachers. The most important factor in the education of students is represented by the person they face in classrooms".

A broad number of virtuous teachers with more generous wages would represent a sort of driving force for the whole system and would result in the creation of new roles and functions which are essential to the educational structure (trainers, coordinators, etc.) (Oliva, 2010). Consistently with what President Obama states, we think that the identification and fostering of this *target group* play an important role in Italy, considering the partnership between primary and secondary schools and Universities that will take place as soon as the official Regulation of *Nuova Formazione Insegnanti* (New Teacher Training) comes into force. This issue is quite problematic if we consider places and actions carried out by this group of excellence: from tutoring and supervision activities at Universities to mentoring projects dealing with the *Tirocinio Formativo Attivo* (training period) in secondary schools which is due at the end of university studies, or the so called "middle management" which will become an important reference point within schools, thus boosting the relationship between the education system and its related territory.

This new vision of *virtuous practical knowledge,* together with a new awareness in the epistemology of excellent knowledge and a well-defined spread of this experience between teachers-masters and teachers to be trained represent important issues in the current field of education.

These are also the main objectives foreseen in the long run of the present research.

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[66] The underlying routines in educational methods that I am referring to are made up of life memories, informal routines in classroom activities, simple epistemology, beliefs, emotional patterns, professional actions: this creates an unaware level of transpositional expertise which can transform the theoretical, scientific and epistemic knowledge in taught knowledge (learnt by students).

THEORETICAL FRAMEWORK AND DESIGN METHODOLOGY APPROACH

The present collaborative research has been carried out together with 80 teachers of *licei* in Apulia (Italy), chosen by students, co-workers and principals by means of three anonymous questionnaires. Students were asked to indicate the most stimulating and interesting disciplines; teachers were asked to indicate four names of co-workers who could act as reference points within the different departments in the *Liceo;* principals were asked to indicate four names of teachers who could be designated for trusted tasks. A cross-check methodology allowed the selection of 80 virtuous teachers chosen according to the preference of students and professional communities.

Eighteen *licei* (from different curricula) in the whole provincial administration of Bari were chosen.

The theoretical framework arises from phenomenology (Mortari, 2003; Perla, 2010) and generates its methodological outcome as a *theoretical* stance aiming at underlining that reality and material things refer to a series of "underlying" and "non-visible" ideas that can be understood only through active, "wide-eyed" openness (Stein, 1998). The three-step methodology chosen for the present research is defined as *esplicitazione* (explicit manifestation) (Perla, 2010), and it is structured as follows: a) the awareness of the teaching practice; b) the "teacher's talk"; c) the return to the teaching practice.

The heightened awareness is brought about by describing as objectively and thoroughly as possible what a teacher sees and remembers of his/her own acts, so that a kind of *snapshot* is obtained, which is to be as faithful as possible to the lived experience. The "teacher's talk" (the second step) aims at revealing the representations of the teaching task developed during a teacher's career. The forms in which this is accomplished have an expressive nature: the account of the classroom life, the narration of significant episodes, the recall of their personal and professional biography. The teaching practice cannot be theorized except by starting to narrate it. The cycle of explicitation closes by returning to practice: what emerges from the account is analyzed, deconstructed, explicited with the teachers themselves, who then "take it back" to the classroom (herein lies the sense of such a research, which is both collaborative and ameliorative) until the constituents of the teaching practical knowledge are identified, and the possible ameliorative effects in the classroom are revealed. The explicitation programme does not have a reflective function only, or that of the distancing of the practices[67] (Laneve, 2009, p. 44) by way of their analysis (Laneve, 2010); it also has a liberating and cathartic function. It helps alleviate the tensions which always underlie the relationship between personal identity and teaching identity (Berry, 2008): these two are not always in sync with the requirements of the professional context.

This method triggers a "circular" cognitive movement which is also reflective and heuristic, aiming at combining teachers' professional and private life. Its final goal is the utmost valorization the idea of teachers: this concept is too often underestimated in theoretical discussions about education systems. In this methodology teachers' thoughts become as essential as researchers' analyses in order to develop this kind of research. In this process teachers do not act as *sources* or *addressees* of scientific analyses on education, but they play an active, collaborative role in building up scientific discourses about teaching methods. As E. Damiano (2006) writes, this re-arrangement acts as a sort of *emancipation* of "pragmatic individuals" when compared to academic researchers: "teachers will not address researchers in order to know what they can think or know; vice versa, researchers will be asking teachers about their knowledge of educational methods. Researchers will take cognizance of this reversal of roles, as it is not an easy task" (p.31).

In the course of the research, three techniques are used:

   a. Hermeneutic-explanatory interview (Vermersch, 1994), so that excellent teaching beliefs and memories come out.
   b. An essay dealing with a worth mentioning school-life *episode*;
   c. Filming classroom activities using the so called *stimulated recall* technique with teachers, so that implicit routines concerning "explanations" during these activities come out.

Interviews and essay writing activity allowed the creation of a significant *corpus verbatim* which has been processed through Qda - *Qualitative data analysis* (Strauss & Corbin, 1998) encoding. The corpus has been segmented in shorter strings, then analyzed following a two-level approach. In the first method an *open code* analysis has been carried out (open encoding, meeting criteria such as fidelity and interpretation of "hidden features" within texts: this approach "opens" texts towards "cautious" (Pozzato, 2001) semiosis carried out by researchers who, throughout this stage, should suspend the related meanings he/she is likely to produce, even though this would result in a difficult task. Nevertheless, suspension of judgments (*epoché*) has to be considered a proper myth.

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[67] "The analysis of aims at acquiring the knowledge about the performances and at formalizing the practical knowledge through the distancing of the practices".

In the second method texts are analyzed by *select code* technique (a progressively selective encoding, in order to unveil teachers' beliefs, knowledge, explanation of master educational methods: recurring meanings are gathered into macro-categories). In this selective encoding a grid of linguistic, emotional and ethical implicit meanings within texts has been created: this methodology was used in a previous research (see Table 1) (Perla, 2008) and allowed the identification of several *coding lists* concerning recurring implicit meanings within the general discourse.

Table 1: Grid of implicit meanings within texts

Indicators	Descriptors / Index terms
Implicit linguistic	Omissions Inaccuracies Incompleteness of the enunciation Assumptions Implications Incomplete sentences Lack of words Lack of specifications Lack of justification Lack of arguments Impersonal subjects Generic deictic expressions (for example: "I did what I could" without specifying what was actually done) Imposition of rules Generalizations Vagueness Hermeticism Convoluted thoughts
Implicit affective	Linguistic signs/indicators of emotions: altered forms of nouns (superlatives, diminutives, emphases, exclamations); Use of first person; References to emotional states (basic dominant tonalities); References to feelings (complex dominant tonalities) References to emotive situations, to critical incidents
Implicit political – ethical	Linguistic indicators of judgment: "has to, must, should"; Use right / wrong, positive / negative, good / bad Use of unjustified / unwarranted assertions Prescriptive enunciation References to professional ethics References ideological, political, ethical Prejudices, beliefs

A further analysis was carried out on the corpus of video footage. The surplus value arising from video-recorded footage (Goldman et al., 2009) is represented by the actual identification of precise elements in teachers' activity such as his/her voice, his/her non-verbal behaviour, his/her gaze direction. Furthermore, *stimulated recall* technique indicates that videos should be watched and commented by teachers first, then by researchers and finally by both of them together; this would result in the identification of typical elements that otherwise would not be recognized.

The video-analysis of lessons has been carried out according to a three-level scale: the first level is *macroscopic* and it analyzes a *macro-sequence* within a classroom (and its related class) considered as a whole and in the long run. A more detailed level follows: it is defined *mesoscopic* and it is used to fraction a discourse by analyzing a specific theme[68], that is conversational productions uttered by teachers and students[69]; in the final stage (*microscopic* level) *facettes*[70] are analyzed. This idea[71] was firstly introduced by

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[68] A theme is a 10-minute conversational unit of the whole fragmented discourse, focusing on a specific topic usually made up of an introduction and concluding remarks and defined by *marked* actions and acts arising from the interaction among actors involved in it.

[69] The thematic analysis is the basic structure used to piece together what is taught; it is used in order to study the professional knowledge of a teacher. By observing a class one may reconstruct, after proposing an hypothesis, his/her knowledge starting from actual *actions* performed by the different actors within the class as well as the related *context*.

[70] *Facettes* are simple sentences grouped according different categories (conceptual, linguistic, procedural, etc.) used to study those interactions which practically define knowledge. As a result of the classification of transcribed material,

J. Ministrell (2001) and it indicates a simple sentence with its corresponding knowledge element detected by inference, starting from the actual context of utterance.

The methodology used in video analyses was the fractioning (*découpage*[72]) (Vinci & Damato, 2010) in different themes: this technique splits a scene in major sequences.

From the analysis of the corpus of video footage by means of *découpage* technique, some routines have been identified.

Here is a summary of the main steps involved:

- Accurate transcription of the material to be analyzed and, by means of observation grids, partition and sequence analysis of video footage. This operation is carried out by different researchers pertaining to different disciplinary areas with different tools;
- In the second step results of the different segments are compared, that is the sections individually selected by researchers, in order to find intersection points or recurring patterns in the different analyses; as they are the result of a multiple perspective, these points are to be considered the connections among a series of interpretations;
- The materials are finally gathered in a synopsis, a table or tree-model hierarchical representation of every element in the video sequence, also defined *macrostructure* (Dolz & Toulou, 2008).

A multi-perspective verification has assessed the quality of interpretation of the materials gathered for the analysis; the actors involved in this stage are researchers first, then teachers, and both categories together.

Here is a sample of the *coding lists* obtained from the analysis of spoken and written corpora.

As we returned texts to teachers, for every text string we included an additional "suggestion for explicitation": this was an expected procedure because we provided every string with an input, asking for an explanation of non-clear notions in the texts we collected. The result of this research carried out by teachers and researchers was the identification of several "typical elements" which became useful in order to outline two different typologies of master activities: implicit excellent teaching practices relating to knowledge and those relating to epistemology.

Table 2: *Coding list* samples from the corpus of interviews

Coding list Consigne de départ Interview	Text strings in interviews	Suggestions for explicitation	Identification of typical elements
4	"Frankly I could not explain the reason for this interview. It may be due to the to the lack of motivated teachers or to the crisis of the two fundamentals of excellent teaching practices: humanity and competence"	What are the reasons for the crisis of the teacher?	Search for auctoritas
26	"I really do not know what to say; though I think that talking about teaching today means to recover the true meaning of teaching".	What is the word for describing the teacher's educational functions?	Unconventionality of the teacher
Coding list First approach - interview	Text Strings	Suggestions for explicitation	Identification of typical elements
Coding list Consigne de départ Interview	Text strings in interviews	Suggestions for explicitation	Identification of typical elements

they are considered detailed analysis units on a microscopic scale, reflecting students' ideas which later become the starting point for didactics; nevertheless, they do not take into account the complexity of classes as well as educational methods.

[71] The French term *facette* comes from the English word *facet,* coined by Jim Minstrell in 1987 to designate small knowledge elements, ideas or thoughts inferred from research on students' ideas or comments made in class.

[72] *Découpage* is a French term (masculine singular: *le découpage*), but in this context (in the original Italian version) we decided to use the feminine article, thus *la découpage*, in order to designate a research methodology and to avoid any ambiguity with an artistic-decorative technique called *le découpage,* precisely.

Table 2: *Coding list* samples from the corpus of interviews (cont.)

4	"I had a teacher in primary school who had 61 pupils and we used to call him "panocchietta" (little cob), because he used to the use his stick against naughty pupils…. He was tall, sturdy, and had a scathing look…"	What are the memories associated with this teacher?	Physical appearance, gaze (non-verbal elements)
56	"My teacher taught a method more than contents. And the method is the search for truth. Instead of saying: this author said this or that author said that he would ask us, - what's your opinion? He used to stimulate our mind, our reasoning…"	What to you mean by teaching method? What are the things you have been taught that go "beyond the mere didactic method"?	Search for truth
Coding list Memories interview	Text strings	Suggestions for explicitation	Identification of typical elements
3	" I remember Ms Lamacchia, who showed me how to look at philosophy as a sort of inner digging and drilling. Her being consistent showed us how to enjoy the dignity of life, that is a life in the service of others. The sense of consistency and revelation".	What does being consistent and revealer mean to a teacher?	Raising the awareness of the students
35	"When my teacher read our homework, she used to block our exercise books with her left hand on the page, as with her right hand she marked mistakes in red. Her hands' nails were always tidy and red polished the same color as the mistakes, this may be the reason why I rarely use red polish, because I relate it with the mistake…"	What was the meaning of mistake correction and how was it experienced?	"Correction" as a way to grow up
23	Well, I do not remember very well, I think I have a lapse of memory. But I have good memories of some of my teachers in primary school (I had three teachers), mainly emotional memories. I believe that a teacher is someone who can love you, understand you, advise you, and orient you towards a certain way of behaving which is socially shared… I do not think I have ever had a figure like this, or maybe I have, but I really need to take it out of my blurred memory: it's my primary school teacher. I remember when I got her angry because I had ripped out some pages from the exercise book to write the same sentence again. It might sound as a foolish, meaningless episode, but it actually taught me that a mistake is a human thing, not to be condemned, and that it helps you grow up…"	Which strategies can be used to teach the positive side of making mistakes?	"Correction" as a way to grow up
Coding list Metaphors of excellent teaching practices	Text strings	Suggestions for explicitation	Identification of typical elements
3	"My teacher is a sower, a travel companion, able to step aside in order to give prominence to the pupils.	What does it mean to step aside in order to give prominence to the pupils?	Attitude of giving

Table 2: *Coding list* samples from the corpus of interviews (cont.)

Coding list Consigne de départ Interview	Text strings in interviews	Suggestions for explicitation	Identification of typical elements
<u>35</u>	"Unattainability, ideological commitment: I remember well a teacher who openly stated his ideology, Mr Amoruso.	What does Mr Amoruso "teach"?	Professional Engagement
<u>Coding list Memory-related writing</u>	Text strings	Suggestions for explicitation	Identification of typical elements
<u>3</u>	"The episode that better recalls an instance of excellent teaching practice is related to the memory of a teacher in ginnasio. This teacher strove against the Principal and the whole Teachers' Board so that we could be again part of the school magazine we had been expelled from, because of a foolish intemperance. S/He wanted us to be readmitted so bad, that he fought like a lion to persuade his/her colleagues. S/He eventually made it, and we realized how much s/he was interested in our personal growth, we felt appreciated". "In my teaching practice I pay a lot of attention to the method: since I teach literature, I think it is appropriate to start from literary criticism, because it is important that students know that there are many possible definitions of poetry. Before explaining humanism, I give a cultural background of the movement. Then I go into details, pushing my students to look for the truth in themselves".	How are worthy people encouraged? What does it mean to look for the truth?	Fostering talented people Search for truth

Table 3: Routine summary samples taken from the fractioning (*decoupage)* of a lesson

Action Routine	Verbal communication routine	Non-verbal communication routine
Supporting the student in the summary of the lesson	Anticipations	Eye contact
Supporting the students in the practice	Praising the students	Hand gesture
Examples Statement of the content of the lesson	Gratifications	Listening position: hand under the chin and nods
Hinting at the content of the upcoming lesson Operational tasks to students	Expressions used to get students' attention	Position in problematic moments: hard look, rigidity e static posture
Self-correction of mistakes Filing the class roll	Directiveness, decision-making	Position to ask for help or further explanation: half-shut eyes
Links to concrete actions Exercise-books check	Encouragements	Position to emphasize words: eyebrow raising
Interdisciplinary connections Comments to the students' answers	Scolding, berating	Position towards the students who contradict the teacher: rigidity, low eyebrow

CONCLUSION: Implicit excellent teaching practices: from the identification of typical elements to profile outlining

Here are the results of the present study.

From the analysis of the *corpus verbatim* some typical traits[73] dealing with two identity-related profiles of implicit excellent teaching practices have come out: *excellent teaching as life knowledge* and *epistemic excellent teaching*. The first profile, which includes distinct educational elements, is the most recurring one. The second profile, which includes teaching elements arising from the relationship between teachers and "material aspects" of knowledge are less frequent in the corpus. The term *Epistéme* (the combination of *epi* [on, upon] and *Histanai* [to set, place]) means "sense of balance": it is knowledge, cognition, science. Considering what they have written, it looks like teachers identified excellent practices as everyday and common knowledge or existential knowledge rather than cognitional knowledge: this knowledge is full of ethos, actual examples, affection. The analysis of routines has revealed epistemic excellent practices deeply connected to educational transmission (Chevallard, 1985).

The identification of typical elements, even though carried out on a considerable corpus (80 interviews, 40 essays, 40 episodes) cannot reveal generalized inference.

Nevertheless, the survey has generated an interesting path for those who search for efficient markers in teaching methods. In the future, the number of teachers involved in this survey should be bigger, and they should represent a bigger area and come from different institutions (next year primary school teachers should be included in the survey).

Here is a summarized sample of excellent teaching indicators which arose from the identification of typical elements:

Excellent teaching practices as knowledge through life experience

a) Excellent teaching practices and (personal) memories

In every *corpus verbatim* teachers refer to teachers who exerted significant influence on their personal experience. In first approach questions, that is those involving long-run memories (which reveal permanent and *silent* interpretations), *teachers* and *excellent teaching activities* refer to early school memories: 35 out of 80 teachers recall their primary school teacher (their first "institutional" teacher, namely). Memories act as a sort of "archive" of professional and personal identities: "As we have our own experience, I often recall some inner models my teachers taught me when I have to take decisions in class", a teacher revealed in the interview. The so called *imprinting* of excellent practices is to be found in early experiences with teachers. The "recall" of primary school teachers summons up informal, daily life episodes rather than educational methods: other elements such as affection, endearments, irony prevail.

b) *Excellent teaching practices and body-related activities*

Despite a widespread dualism between soul and psyche or body and spirit, every teacher makes reference to the physical appearance of a teacher as a way to convey codes but also to release emotions. Body-related elements are meant as *gestures* as in the case of the teacher's hand "writing on the exercise book", the idea of "tidy, red-polished nails" or "piercing, stern blue eyes". Teachers' physical appearance is a visible identity and represents the aesthetic dimension of excellent practices. The tacit content has dealt with body-related elements meant as professional and educational activities (their sequence and final aims). Actual actions and activities are hardly recalled, while teachers' posture is a vivid memory as it recalls the physical entity of the teacher within a classroom.

c) *Excellent teaching practices and narration*

This term comes from Latin *gnarus*, which means "expert". The most typical feature of recalled teachers deals with his/her ability in narration. A teacher-narrator is likely to be associated with terms such as "warm", "protective", "reassuring". The tacit content has dealt with the way in which this trait has come out, as we could not state if narrating activities were part of past experiences or an educational process.

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[73] This technique (*tipizzazione* in Italian) comes from a term used in paleography to indicate highly formalized and standardized writings and its related elements. In the analysis I have carried out, this technique highlights the most typical elements in a written or transcribed (as in the present case) production. This stage comes before proper formalization, the latter being built on these typical elements and embedded in a personalism-related theoretical framework in which actions are seen as "acts" and "choices". For further references concerning personalism as act and choice see E. Mounier (1984).

d) *Excellent teaching practices and care*

Excellent practices have an "expert eye" because they deal with kind and caring activities. Teachers-masters take care of their students with panoptic gaze, thus gathering details in relationships or seemingly superfluous things, integrating this vision in an *overall, supportive, valuable and inclusive* perspective. This perspective deals with the relationship between a teacher and his/her students, with particular emphasis on what students arouse in teachers. The tacit content dealt with the ways one takes care of himself; teachers have recalled episodes in which their teachers took care of them, while episodes of professional care are less frequent.

e) *Excellent teaching practices and examples*

From the analysis of video footage many routines dealing with practical examples came out, that is acts performed by teachers which their students had to repeat. Examples imply imitation, aiming at reproducing the most outstanding elements of its reference model, thus conveying a process of consensus-based social reproduction which relies on emotional relationships; as in osmosis, this conveys some values to non-adults, attitudes, habits and behavioral methods which are typical of one's belonging group. Examples came out as a particular, informal educational method which is learnt without direct teaching processes (the latter being a very frequent element in the association of ideas between educational and efficient methods): a good teacher is someone who can pragmatically exemplify a general rule, showing up qualities within a group ("this is a good example of literary text"), or indicating behaviours to be imitated (following someone's example).

Excellent teaching practices as episteme

f) *Excellent teaching practices and learning*

A frequent association between teachers-masters and learning processes came out. A teacher is recalled as a "treasure chest full of knowledge"; he/she acts like a grandfather/grandmother "who knows everything about every building we looked at"; he is "a strict teacher who loved my writing style and my reading skill"; she is "a teacher who spoke Italian perfectly, without that typical regional inflection!". This deep knowledge is seen a fundamental element in excellent practices.

g) *Excellent teaching practices and communication*

Teachers-masters have a straightforward and ironical interaction, but this does not mean that they neglect objective contents. The analysis of the material we gathered highlighted how taught lessons are associated with questions, curiosity, discussing issues and encouraging students.

In conclusion, it is possible to say that this survey highlighted five issues which deserve a deeper examination:

1) Every teacher hardly succeeded in recalling the sequence of his/her professional activities. Recalling their primary school teachers was easier than indicating good professional teaching methods as they could not think over their professional activity. Excellent practices are an observable element in their memories but it is not confirmed in their actions.

2) There is an unexpected imbalance towards ethical-emotional educational activities rather than epistemic-transposition ones. There is a particular issue dealing with knowledge in teaching communication, as it relates to exposition and transmission rather than constructivist theories. *Lectio Magistri* becomes a privileged liaise, but there are few active methods.

3) Research could be useful in order to enhance teachers' activities: writing activities and returning the material we gathered allowed a process of observation and contemplation. This could be helpful as in *Licei* inner-digging activities are hardly carried out.

4) We do not have enough elements to state if excellent teaching elements could be used as official criteria for their identification: new markers for every criterion should be categorized, especially as far as video research is concerned.

APPENDIX
Explicitation-ermeneutic interview

Consigne de depart

This interview deals with two main areas: *teachers* and *excellent teaching practices.*
Can you imagine the reason why I have decided to interview you about these areas?

Section 1: First approach

What are the words you associate with the idea of *teachers*?
Do you remember the name of your first teacher (age: 0-11)?
Do you remember the name of your teacher (age: 12-23)?
Have you had teachers in your adulthood (age: 24-35)?
If you had to choose among the names you have mentioned, who would be the first teacher you would think of?
Is it a name you associate with primary or secondary school, Universities, non-educational organizations (parish churches, associations, etc.)?
Could you define what a teacher is?

Section 2: defining the identity of teachers

Who is a teacher, in your opinion?
(Primary school teachers only) Could you indicate, in your opinion, the most typical elements that qualify a primary school teacher?
(Secondary school or University teachers only) Could you indicate, in your opinion, the most typical elements that qualify a secondary school or University teacher?
Please indicate three adjectives you associate with the idea of teachers
Please indicate three metaphors you associate with the idea of teachers: a teacher is like…
Could you define the term *magistralità* (*excellent teaching practices*)?

Section 3: memories

Could you tell a relational episode about your teacher?
Could you tell an episode in which you felt like your teacher was teaching you *a lesson*?

Section 4: practices

What meaning(s) would you give to the term *magistralità* (*excellent teaching practices*)?
What are in your opinion the actions that qualify a virtuous teacher?
Did the teachers you have mentioned in the previous question have extra-curricular, social or cultural activities?

Section 5: Excellent teaching identity

Do you think you inherited something you identify in your personality from one of your teachers?
(Teachers on duty only) Is your teaching method similar to your teachers' approach?
(Retired teachers only) Was your teaching method similar to your teachers' approach?
Please choose the most appropriate definition that describes the identity you currently perceive: educator, teacher, education professional, intellectual, schoolmaster.

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207 - Reform and Recontextualization of Policies: the Role of Supervisors in Brazilian Public Schools

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Abstract: In Brazil, since the 1990`s educational approaches have favored the definition of national minimal contents, of the length of learning span and of the implementation of evaluations aiming at better quality. This quality has been measured basically by the performance of the students, teacher and institutions. This culture of performativity (Ball, 2004) has, thus, initiated external evaluations and new patterns of management searching for competence and productivity, but, on the other hand, has fostered competition. In the team of management professionals of primary and high schools, the supervisor has been considered the main agent, the one who is responsible for keeping the teachers involved and committed with the fulfillment of performance goals established by external indicators. Therefore, the supervisor has the key role in the mediation between the Department of Education and the teachers. She/He carries out pedagogic tasks related to the professional development of teachers and is responsible for the political effort to implement the principles of the reform. In this paper we present part of the data collected through a research project which focused on the performance of two supervisors facing these changes, in an attempt to answer two questions: 1) What were the pedagogical and political meaning and objective of the supervisors´ performance relating to the teachers of these two schools? 2) How do the supervisors carry out the task of providing the teachers´ professional development in schools guided by external evaluations? In relation to the idea of professional growth, we must cite Marcelo (2009) who considers this notion both an individual and an collective process which happens throughout life. The same applies to the concept of performativity, understood by Ball (2001, 2002, 2004) as a method of regulating the performance of the people and the organizations which are then controlled by the results achieved by them. As regarding the methodological aspect of the study, a research was carried out in two schools (A and B) of primary education in the city of Rio de Janeiro, and data includes observation in these schools and interviews with the supervisors. School A is situated in an urban area, and the majority of the students´ parents attended high school whereas school B is situated in the outskirts of the city and most of the students´ parents are functionally illiterate. Both supervisors have been in this position for 15 years and do their work as part of their personal life project. In each school data was collected through participant observation during the teachers' meetings and class councils. The study has shown us indicators that in both schools the supervisors revealed that there is a recontextualization of the policies and that they are partially accepted by the teachers. The teachers are critical in relation to an effective improvement of the quality of teaching. In school A, the changes were accepted and seen as temporary policies. In school B, the changes are implemented provided they do not jeopardize the school pedagogical project, which involves reading and writing.

Keywords: supervisor, teacher qualification, performativity.

INTRODUCTION

Since the 1990s, educational proposals in Brazil have given priority to setting minimum national content, length of time spent learning and application of external evaluations aimed at improving quality. This quality has been measured basically through the performance of students, teachers and institutions. A number of authors have written about these new proposals.

These reforms have attributed a new profile and new roles to teachers, often disregarding the wisdom of these professionals. As Lee Shulman pointed out in a lecture entitled *Ensino, Formação de Professor e Reforma escolar* (Education, teacher training and school reform) presented in a seminar held in Brazil on the topic *Como anda a reforma da educação na América Latina?(How is the reform of education faring in Latin America?)*:

> As a member of the Union, I wish to assure you that teachers are not the enemy. Without teachers as allies, the dream of educational reform will be lost. (...) Reform must begin by respecting the wisdom

of professionals: we must take advantage of what our best teachers already know, understand and believe seriously, and build on these foundations. Any reform that does not see anything positive in what teachers already do is doomed to fail, because the teachers will be treated as enemies, rather than colleagues and allies (1997, p. 133).

The English teacher and researcher, John Elliot (1998), in his book "Curriculum as an experiment" argues that "there can be no development of the curriculum without the professional development of teachers as researchers in their own practices in schools and classrooms" (p. 17). In this book he makes a comparison between the reform processes in England in the Seventies and Nineties. He concludes that in the 1970s the teachers were invited to participate in the development and implementation process of the curriculum in a more democratic way and their opinions were heard and taken into account because the implementation was taking place through a process of action research.

The English researcher Stephen Ball (1977, 1994, 2001), analysing the continuous cycle of production and implementation of curriculum reforms, notes that these are not simply received and incorporated in the context of practice. This is a movement that involves relationships between different contexts and arenas of struggle which produce recontextualizations and reinterpretations. It is true that teachers are influenced by the discursive context in which the policy is produced, however, these do not have such unambiguous meanings and in its various fields of activity the interpretation of the text of the policy has clear links with the cultural and social relations of these spaces. Ball also reminds us that in the dynamic interaction between the different contexts of curricular reforms, there emerge, within this area of school life, in place of classrooms, a plurality of movements that express resistances, accommodations, subterfuge or conformism. Therefore, there is a reinterpretation of the reform by the teachers and even by the school management when it gets to the schools.

For the changes proposed by the reforms to occur in the school environment, Goodson (2008) notes that what is needed is balance and harmony between the internal issues, external relations and the personal perspectives of the teachers. This means being sensitive to the educational context and the personal missions of the teachers, because the changes only occur with an inner change in beliefs and personal plans. For Goodson (2008) it is the "personal involvement that underlies the teacher's sense of vocation and dedicated professionalism" (p. 108).

The author stresses that exactly the opposite occurs, the reforms "seem to insist that change will happen regardless of the personal beliefs and missions of the teaching body" (Goodson, 2008, p. 109). Therefore, some reforms are symbolic rather than substantive, since teachers disconnect their own search for identity from the proposals being implemented.

For Canário (1994), these reforms create a perverse effect that ultimately nullifies or counteracts the conditions that would be necessary to introduce the proposed changes, since they are imposed top down, belittling the practices that the teachers had been developing, and thereby aggravating their identity crisis and the teachers' *malaise*.

This change process has set up a performance culture (Ball, 2001, 2002, 2004, 2006) in schools, which begin to take on the "habitus of private production, with its commercial sensitivities and their utilitarian morality in educational practices" (Ball 2004, p. 1116) with new forms of discipline based on competition, efficiency and productivity. Education begins to be considered as "means of production and supply to meet market objectives of efficient transfer of quality control " (Boyles, 2000 p. 120 quoted by Ball, 2004, p. 1116).

The State begins to take charge of distance, decreasing the hierarchical structure of the system through the decentralization that is one of the strategies of disengagement of the State in relation to its social obligations toward the tip of the system, i.e. the school. The latter begins to have financial, administrative and pedagogical autonomy. A new form of management is established, focused on competition, efficiency and productivity. The school administrator's role is to encourage an attitude and a culture in which the teacher feels responsible and at the same time committed to the organization, i.e. he or she commits to the goals that the school needs to achieve in a given period. According to Ball (2006), "administrators become leaders more than controllers, providing the visions and inspirations that generate a collective commitment from the corporate group to be ' the best '"(p. 13).

THE PEDAGOGICAL COORDINATOR: POLICY MEDIATOR

In Brazil, in the management of elementary and middle schools, the pedagogical coordinator has been seen as a central figure, responsible for keeping the teachers involved and committed to meeting performance goals set by external indicators. Thus, the *Coordinator* is a key figure in mediating between the Board of Education and the school teachers, developing pedagogical functions related to the professional development

of faculty and a political function involving the implementation of the principles of educational reform proposed by the political administration at the time. In this context it is his or her job to motivate teachers to meet the externally specified requirements and objectives. Often, professionals in schools have to rethink their beliefs about what to teach, how to teach and how they relate to children, in order to play the game. This causes an atmosphere of instability due to constantly changing requirements and the ratings between schools, according to the new educational reforms. Coordinators and teachers have a new benchmark for their work, in addition to their own concepts and theories about it: they begin to work based on numbers and figures, performance indicators, comparisons and competition. Thus the ability and attributes of "being" a coordinator or teacher change. Teachers are often unable to identify with their practice in the classroom, because the most important thing is how to achieve specific externally imposed goals, even though it means ceasing to establish ties with the children with whom they work. While as coordinators they must primarily exercise the role of controllers and regulators of teachers' work.

In this context, we ask: 1) what is the meaning and educational and political purpose of the activities of the coordinator vis-a-vis teachers in two (2) schools in the pursuit of quality education? 2) How do coordinators work to help in the professional development of teachers in schools driven by external evaluations?

RESEARCH DESIGN

The research that gave rise to this work sought to examine the adaptations in the school context, after the deployment of a new educational reform in a particular socio-political context. The current management of the Municipal Secretary of Education of Rio de Janeiro proposed an educational reform that includes strategies that are inextricably linked to the curriculum and teaching practices of Elementary Education, which means new pedagogical guidelines, schedules of bi-monthly activities for each grade, and in each curricular component a list of descriptors, defining the skills to be evaluated in each two month period and unified bi-monthly reviews for the entire network in the Portuguese Language, Mathematics and Science.

In addition to these strategies, the external evaluations have brought new parameters in recent years for the teaching profession. By external evaluation we are referring to Prova Rio and Prova Brazil, instruments drawn up by professionals from UnB, as ordered by the City Hall of Rio de Janeiro and the Ministry of Education, respectively. The first was established by the Municipal Secretary of Education as an instrument for measurement and preparation for the second, which at the national level, is part of the total schools result in the IDEB (Index of Development of Basic Education). The results in the IDEB classify schools, indicating those which need greater financial or pedagogical support. In the case of Municipal schools network in Rio de Janeiro, students are evaluated based on two of the instruments and the results are disseminated, setting the basis for the average that must be achieved at the forthcoming evaluation and indicating those schools that should be rewarded for having exceeded their goals.

In the context of the changes that would be needed in the routine of schools based on these proposals, we observed the work of the coordinators, to reflect on the issues raised above.

The first aspect to be clarified regards the fact that in the city of Rio de Janeiro, in order to act as a coordinator, you do not need to be a specialist. The position of pedagogical coordinator "can be exercised by any teacher with more than five years of experience, nominated by the school Director with the approval of the Regional Office of Education" (Oliveira, 2009, p. 30). Resolution SME no. 1074, of 15/04/2010, issued by the Secretary of Education defines the role of Coordinator as being responsible for organizing the process of planning, monitoring and revision of educational action in conjunction with the Director and teachers, aiming at the improvement of the teaching and learning process. For the Secretary "an educational system has quality when its students learn and pass the year, when it serves all the children and young people" (Klein, 2006, p. 140).

The data in this work are based on *participant observation* during the Study Centres and Class Councils (CE's and COC's), as well as in semi-structured interviews with coordinators of two schools (School A and School B) for entry grades at an elementary school in Rio de Janeiro. In schools in the Municipal education network in Rio de Janeiro, the Study Centres (CE's) are fortnightly meetings held on Wednesdays for two hours, involving the pedagogical Coordinators and teachers. These meetings are envisaged in the timetable drawn up by the Secretary of Education for planning activities, evaluation of schoolwork and continued training of teachers. It is the Coordinator's role to discuss "with the teachers actions that will be carried out with a view to improving the performance of the students" (Bomeny, 2009).

The Class Councils (COC's) are bi-monthly meetings lasting for four hours, in which teachers, the Coordinator and school management come together to assess student learning and possible interventions to improve that process. The Municipal School Network in Rio de Janeiro proposes continuous assessment, with the register as a basic instrument, grades for externally prepared tests and a global grade (marks from

the tests and student development). The COC's for School A take place solely between teachers, management and coordinators, while in school B, class representatives are invited to present to the teachers negative and positive points and suggestions for improvement of the school.

School A is located in the urban area and the parents of the students have mostly completed middle school. This school caters to 571 students from Nursery to Elementary, mostly coming from the community of Ladeira dos Tabajaras (a "favela" – slum – in the South zone of Rio de Janeiro) and environs, or whose parents work in the homes of the upper middle class residences of the neighborhood where the school is located. In a piece of research conducted by the school management for the re-structuring of its Pedagogical Political Project, it was discovered that the families served by the school use the beach and the surrounding squares as their main leisure activity and mostly have a home computer with Internet access. The teachers often complain of lack of interest by families in their children's school issues, but generally the parents accompany the performance of the students and understand that educational attainment offers the prospect of a more promising future for their children. Situated in a privileged location and having obtained good results in recent external reviews, School A is an important educational reference in the region, but it is not the only one. There exists between the professionals who work there a strong sense of responsibility for maintaining this status won by the school.

School B is located in the urban periphery and the parents of the students are mostly functional illiterates. This school caters to 170 students in the Nursery and 467 students in the Elementary section; much of the community served is situated around a former hospital for the mentally ill and squats. The residences are small, lacking basic sanitation and pavements. The surrounding population is composed of low-income blacks and mulattoes working in the informal and temporary markets. One can clearly see the lack of access to consumer and cultural goods, the poor prospects for the students for the future, due to lack of encouragement on the part of those responsible for studies as a way of progress and access to a better quality of life. School B is as an important reference for this community.

School B was the winner of a contest with a project planned by the Coordinator and the Reading Room teacher, based on their shared concept of reading, and this became a reference for all the work of the school. The external recognition of this work was in line with the desire of its professionals to build a stronger image academically, erasing the stigma created by the origins and location of the school (former a Centre for the mentally handicapped) and by recent excellent results obtained in external evaluations.

Despite structural and contextual differences in the schools examined, both coordinators work in an Elementary school and have approximately 10 years in this role, which is part of their personal life project.

THE FINDINGS

The initial issues raised for our study were: 1) what is the meaning and educational and political purpose of the activities of the coordinator vis-a-vis teachers in two schools in the pursuit of quality education? 2) How do coordinators work to help in the professional development of teachers in schools driven by external evaluations?

In the analysis of data collected in meetings (CE and COC) in relation to the objectives of the study we focused initially on the issues discussed, the dynamics of the meetings and the work of the coordinators. Based on careful reading of our observation reports and the data obtained in semi-structured interviews with coordinators the following points emerged: the vision of what is a quality school, the importance of interpersonal relationships, the primary concerns, problems and challenges faced and the influence exerted by external evaluations on the progress of work of the coordinators and teachers.

What is a quality school?

The meaning and the educational and political purpose of the work of the coordinators is connected to the striving for the "quality school". First, we must understand that the ideas on "quality education", which the coordinators of Schools A and B believe in, have their differences in their pedagogical beliefs and experiences of schol reality. In School A, the teaching team, guided by the Coordinator, believes that it will achieve an effective "quality education" if it exceeds the targets set by the Municipal Secretary of Education in the external evaluations, and also meet the expectations of teachers about what students should learn in that grade, and which, in terms of objectives and content, "is broader" than the educational proposal of the policy in force. And, for this coordinator, "quality education", translated into "effective learning by his or her pupils, also involves investing in personal and social development".

At School B, "quality education" as pursued by the coordination team and the teachers translates into the search to achieve the goals set by the Municipal Secretary of Education in external evaluations, which has not yet been reached, "without losing sight of the main project of the school with a focus on training of readers".

The Coordinator of this school understands that, to "achieve the desired quality of teaching, we must also invest in the cultural repertoire of the families of our students. "

Thus understanding what is really a quality school is differentiated and this can be verified by the observation data of the work of the coordinators in the two schools in the research carried out.

The role of the Coordinator in the professional development of teachers: emphasis on interpersonal relationships

Analyzing the work of the coordinators of the two schools, based on observation and interviews carried out, we note that both believe that "interpersonal relationships are central to the work of coordination of teachers".

In School A, the pedagogical coordinator can count on the ongoing support of the assistant director, who seems to identify more with the pedagogical and relationship issues than with school bureaucracy. They appear to be in tune with their guidance and in explaining the work to the teachers. Relations are based on personal knowledge, since both have been in the school long enough to know details of the personal lives of the staff (teachers, mostly with long careers at the school). As the Coordinator served as a teacher in the same group, the *a priori* colleague relationship facilitates communication with the teachers. It is clear that the coordinator seeks to develop the necessary power of persuasion for the group to rethink some practices, especially when it comes to methodologies and student results, but also demonstrates confidence in the teachers, giving them the autonomy to work in the classroom.

The Coordinator of School B seeks to strengthen the interpersonal relationships between teachers and technical and administrative staff through her work. This is evident in the care taken in organizing collective snacks before the CE and the COC. The gathering around the table is "the moment of meeting, relaxing, laughter and letting off steam among teachers, the coordination group and management". We also see this attitude during meetings in which interest is clearly shown in listening to the opinions of teachers, accepting a share of responsibility for the problems faced. Coordinator B gives a self-assessment of her work, admitting to the group, for example, that "this year I haven't had the opportunity to give you much guidance" (Coordinator B, field notes). Through these actions, she shows skill in developing good relationships which is the basis of her work as pedagogical Coordinator of the school.

With respect to the structure of the meetings of the CE and COC, in both schools they always begin with the reading of a poem or short story, followed by a free demonstration of the feelings raised by the text. At School A the text is selected by the Reading Room teacher, who leads this reading and discussion activity. The Coordinator does not find out what the text is until that moment, but actively participates in the discussion. While at school B, the Coordinator is the one who selects the text to be shared, from her personal repertoire or based on her aims for the meeting. Her choice is always imbued with meanings and aims to "touch" the group. This is evident in the testimony of the teachers during the meeting:

> *"I used to read on one subject. With this I started reading other subjects. But only for learning. Now I have started reading for fun..."*P1
> *"The Coordinator brought a poem by Cecília Meirelles. I identified with it. I found it very interesting!"* P2
> *"Behind all the subtlety and fragility of a poem there is a force able to discover it"* P 3
> (field notes, School B)

Thus, one can see that the strategies used by this coordinator to share with teachers the texts that she likes, appreciates and is moved by, are more of an educational than theoretical discussion about the pleasure of reading because reading without asking anything in return is simply a desire to socialize readings "with" the teachers, without obligation to respond or tell the central theme and this is how commitment to the *school's educational project* is expressed.

How meetings are arranged – themes and requests

The organization of these meetings is the responsibility of the coordinators. In School A, the subjects of the CE are defined according to the demands as perceived by the Coordinator and Deputy Director and with the demands raised by the Municipal Secretary of Education. The Coordinator presents and hands to each one present the agenda and topics to be addressed at the beginning of every CE. She attempts, during the meeting, to ensure that she acknowledges everyone. She often deals with the functional issues initially (dates, periods, events...) and theoretical training aspects are dealt with at the end of the meeting. In this school there is a partnership with an institution which assists the school by funding some demands that

cannot be covered by money from the Municipal Secretary of Education. One of these situations is the hiring of professionals for giving lectures or workshops for teachers on topics such as "ADD syndrome" or "the use of concrete materials in mathematical lessons". It is the function of Coordinator to realize the demands of her group of teachers and coordinate with the partner institution the themes to be addressed in addition to the organization and guidance of the format of these orientation meetings.

At School B, the Coordinator uses an activity strategy for discussion of the topics of the meeting. She argues that this "feeds the subject's needs as a human being" and that from the proposed activity pedagogical issues can be reached, such as: lack of discipline, evaluations, the significance of teaching and forming readers. The choice of themes aims to provide teachers with a basis for reflecting on some themes, such as: "giving a class is no guarantee of teaching", "blame the family for the failure and indiscipline in school" and "learning to read and write goes beyond decoding".

Problems and challenges faced by teachers and school management team

At School A the teachers and Coordinator share the same view on the biggest challenges of their work: "the external intervention of the proposals of the Municipal Secretary of Education and minimal commitment of families with the academic issues of their children". However, the reaction to these challenges differs between the Coordinator (and Deputy Director) and some of the teachers. While the first deal with the challenges proactively, without constant complaints or inertia in their work, some teachers say the challenges impede their work and thus justify all the difficulties with their students. During the CE and COC, the Coordinator displays or reproduces the demands concerning the dates or arrangements related to the policies of the Municipal Secretary of Education or external assessments neutrally, without judgment or criticism, but clarifying that the current demand must be fulfilled. She demonstrates in this way *an acceptance of the standards laid down*, whilst at the same time recognizing that *the work of the school goes beyond these goals.*

The *problems* faced by School B are identified differently by teachers and the Coordinator. For the teachers, the school's biggest problem is the indiscipline, lack of commitment by students and parents to their studies and personal care. During the meetings, Coordinator B proposes that the teachers reflect on their relationship with the students and the significance of this behavior. She questions whether they are like this due to the difficulties in the learning process, whether they are very authoritarian and if they guarantee enough space for student participation in conflict resolution. In addition, the Coordinator B gives examples of ways to work with the "students", for example, talking quietly to the child, surprising them in the way they are reprimanded. Although the Coordinator pays attention and suggests actions with children considered to be undisciplined, for her the focus of discussions should be about a reflection on interventions to make students learn the alphabet through texts, because she identifies a traditional teaching practice of reading to focus on decoding the correspondence between letter and sound to decipher words automatically and thus understand reading.

This dichotomy in the conception of language teaching instigates Coordinator B to invest in her own training, making use of courses offered in the community, but also inviting educators to discuss the process of literacy and acquisition of the alphabet, thus contributing to the training of the teachers. Another recurring action of Coordinator B is her struggle in favour of the inclusion of children with special needs, proposing activities with these students and discussing the issue in meetings.

In School A we also note a discrepancy between the conception of teaching advocated by the Coordinator and some of the teachers, especially the older ones. It is clearly the desire of the Coordinator (supported by the Associate Director) that the teachers develop "more reflective and constructive activities with their students." She demonstrates this desire through positive comments about the less traditional practices of some teachers or suggestions based on her experience of the classroom. However, as the students' learning results are satisfactory, she does not argue when some teachers justify their teaching habits with lines like *"I have always taught this way and it worked, I won't change now because of a fad ..."*

FINAL THOUGHTS: THE COORDINATORS, THE PROFESSIONAL DEVELOPMENT OF TEACHERS AND EXTERNAL EVALUATIONS

The study gave us indicators that in two schools there is a recontextualization of policies with partial acceptance of them by some of the teachers, however, teachers are critical of the effective improvement of "quality education". At School A the changes are met, incorporated into the teaching practice and seen as temporary policies. At School B changes are met as long as they do not compromise the educational project of the school which involves reading and writing.

The understanding of the external evaluation that the schools are subject to reflects this recontextualization of policies in the school context, and differs between them.

In School A, the assessments are included as part of the educational process and are not sufficient to assess the learning of their students. Thus, the teachers incorporate the materials and preparation for evaluations into their routine, but they do not stop carrying out activities and assessments which they believe in. The coordinator supports this practice since she also considers that the external evaluations, being multiple-choice, do not evaluate the basic skills of the students, such as the production of text, for example.

In this context of recontextualization of an educational purpose, we note an acceptance and commitment to the strategy, also because teachers feel they are being evaluated by the instruments and its results. However, the external evaluations are not the sole focus of the work. The role of Coordinator in observed situations has always been to keep this concept clear, ensuring the commitment of teachers in preparing their students for the exams and encouraging them to develop teaching strategies and evaluation techniques with a much wider scope than that offered by the instruments received.

The focus of discussions at school B is on "forming the reader", on the formative evaluation, observation instruments, diagnostics and records that help the teacher make interventions more finely tuned to the needs of students. This does not mean that the Coordinator disregards external test results. These are analyzed with the teachers who cannot be held responsible for the sluggish performance of the school, which for the Education Department was insufficient. To the Coordinator these results do not reflect the commitment and involvement of the team. "*We don't have a normal job".*

In both schools the external evaluations have brought new concerns and demands for the coordinators, who in addition to the deadlines and results thereof have to worry about the good progress of their group of teachers, ensuring harmony in teamwork.

In school, this concern involves ensuring a sense of team, a desire to overcome difficulties and the self-confidence achieved by previous results and the recognition of the external public. The instructions of the Coordinator, supported constantly by the management of the school, are clear and non-critical, and seek to avoid developing any sense of competitiveness between teachers, although some evidence of external competition (comparison with results from other schools) is noted in some meetings.

At School B, despite the reform creating a performance culture, some teachers and the coordinator take care to maintain good relations, whilst not forgetting the day-to-day relationships in school, saying Good day, giving the right look, talking to others: "Revisit our group relations. We are a group that can handle whatever may come. I really want this! " (Coordinator B, school meeting)

In neither school is there support for the belief that the external evaluations will ensure the improvement of the quality of teaching. The new policies are *recontextualized* and basically aim *to regulate the pedagogical process without a real transformation of the learning process and the situation of failure at school of many students.*

However, if on the one hand the reform in education creates a performance culture, on the other teachers and coordinators in their relationships in schools, when implementing the proposal, adapt according to their educational and social project.

A study by Day and others (2005) with teachers from Australia and England showed that teachers should be helped in relation to enthusiasm and commitment to their work as this is closely connected to their professional development. The Coordinator's role is key in this process. Another important aspect highlighted is the development of a collaborative culture and development of a reflective process between teachers that enables them to participate in school decisions and maintain their level of satisfaction in their work in the classroom.

FINAL CONSIDERATIONS

Through the analysis of our empirical data we reinforce the importance of the educational and political role of the pedagogical coordinator in schools. Regarding his or her educational role, research shows that the identity of teachers and the culture of schools should be taken into account when considering policies that will end up changing aspects of the teacher's daily practice. This fact is confirmed by the findings of the study of Flores and Day (2006). Professional identities take time to be built and are based on aspects of teachers' initial training and socialization experiences in the field of work. According to Ball (1994) policies are recontextualized and in this process, teachers are actors.

The teachers' meetings, the so-called Study Centres (CE's), are important forums of exchange between teachers, coordinators and management. Schools, like the ones in this study, in which the coordinators can maintain collaborative cultures, processes of reflective practice and shared decisions, are more likely to retain the commitment of teachers to student learning. This confirms the findings of Day and others (2005).

In these schools the work of the coordinators plays an important political role because the commitment of the teachers to student learning has a direct impact on the quality of teaching.

As regards the discussion and implementation of new policies the data shows that it is important to maintain an environment of exchange of experiences. Teachers cannot be seen as mere executors of reform but as actors who contribute in recontextualising the processes of change in practices and in this political process the importance of the Coordinator as the main mediator between the proposals of the Education Department and schools in the network is re-affirmed.

External evaluations are being partially accepted by the coordinators and teachers of the schools surveyed. Such acceptance is because they are regarded as provisional, temporary transformations and as long as they do not compromise the political pedagogical projects of the schools they can be accepted. These external evaluations are seen by coordinators and teachers primarily as new ways of regulating the teaching profession and not as factors that can contribute directly to improving the quality of teaching in schools. The reform should not have as a priority goal the improvement of statistical indexes. Teachers are more convinced by aspects related to social justice and forming part of their professional identity and mission to teach, as expressed by their commitment to student learning (Hubermann, 1992; Nóvoa, 1992; Goodson, 2007, 2008) than with external rewards and incentives that might lead to competition between schools.

As incentives for improvement of teaching, the schedule of reforms should include better working conditions and wages for teachers in general (Marcondes & Tura, 2006; Zeichner, 2008).

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208 - Relating Self-study to Life History: A New Approach to the Study of Teaching Practices

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Abstract: My aim is to establish relations between self study (with a commitment to social justice) and life history methodology (as proposed by Ivor Goodson) in order to discuss the study of teacher education practices, emphasizing points of contact and similarities between these methodologies. I intend to develop a theoretical analysis of key features of self study and life history methodologies in order to propose a new approach to the study of teaching practices. The starting point of this paper is an interview with Professor Ivor Goodson (2007) about the possibilities of relating his proposal of life history with self study in order to develop a method of analysis emphasizing how the way teachers understand their own experience and the context in which they work contribute decisively to the transformation of this context and to a more critical approach to their own practice. This may lead to a stronger commitment to social justice in teacher education. This work tries to articulate these two methodologies that can be employed in the study of teachers' practices contributing towards the professional development of teachers. This was done through the identification of a number of categories found in both methodologies. In this theoretical analysis I shall explore the following central categories: *self* and *reflexivity; context, transformation/commitment to social justice;* and *collaboration*. I shall explore these categories using educational literature relating to both methodologies. In life-history the teacher's life should be the main focus, the starting point for the study of practice, since it seems 'less threatening', according to Goodson. In self study we start from practice and arrive at the study of self since it is not possible to study the practice without understanding the self, as practice is embedded in self. The discussion of the categories examined shows that both methodologies have essentially the same aim and that in combining them we can further elucidate our object of analysis and enrich our proposal in transforming teachers' practices.

INTRODUCTION

My aim is to establish relations between self study (with a commitment to social justice) and life history methodology (as proposed by Ivor Goodson) in order to discuss the study of teacher education practices, emphasizing points of contact and similarities between these methodologies.

THEORETICAL FRAMEWORK

I intend to develop a theoretical analysis of key features of self study and life history methodologies in order to propose a new approach to the study of teaching practices.

The starting point of this paper is an interview with Professor Ivor Goodson (2007) about the possibilities of relating his proposal of life history with self study in order to develop a method of analysis emphasizing how the way teachers understand their own experience and the context in which they work contribute decisively to the transformation of this context and to a more critical approach to their own practice. This may lead to a stronger commitment to social justice in teacher education.

According to Goodson,

> *I see many parallels between self-study and study of teachers' lives. But perhaps the most cogent parallel is that to do with reflexivity. As I understand it self-study is considerably concerned with reflexivity and the capacity to reflect on one's self and one's actions. This is precisely the objective in studying teachers' lives, particularly in studies where the researchers collaborate with teachers about their life study. So much of the work on teachers' lives turns on the relationship between the researcher and the teacher. In my view both of these parties are researchers of the teacher's world and it is important that the external researcher and the teacher researcher work collaboratively to reflect their own reflexivity in theorizing about the teacher's life world.* (Interview, 2007)

In this theoretical analysis I shall explore the following central categories: *self* and *reflexivity; context, transformation/commitment to social justice;* and *collaboration*. I shall explore these categories using educational literature referred to both methodologies.

ANALYSIS
The first category is: **self** and **reflexivity.**
Goodson maintains that,

> *We need to broaden and deepen the conception of self away from a singular, unitary, linear notion of narrative of self towards a multiple and more fluid notion of self.*
> *The focus in this work is on the reflexive project of selves which meant to refer to the multi faceted aspect of the project.(...) the self has multiple facets and prospects.* (Goodson, Interview, 2007)

In the 1980s Goodson was developing an explicit argument for the use of life history methods in studying teachers. Writing in 1981, he argued that researchers had not confronted the complexity of the schoolteacher as an active agent in making his/her own history; many of them still treated teachers as interchangeable types unchanged by circumstance or time (Goodson, 1981). As a result, new research methods were needed.
Hamilton and Pinnegar (1998), in their discussion of self study methodology ask precisely, what is self-study?

> *Defining it as the study of one's self, one's actions, one's ideas (...). It is autobiographical, historical, cultural and political and it draws on one's life but it is more than that. Self-study also involves a thoughtful look at texts read, experiences had, people known, and ideas considered. These are investigated for their connections with and relationships to practice as a teacher educator.* (p.236)

According to this view, *self* has been defined in many ways which are not incompatible, but rather can be articulated to take into account the diversity of experience.

The second category is: **context.**
Context plays an essential role in both these methodologies, since the analysis and discussion of the teacher's experience has to be centrally related to its social context, as the background against which it must be interpreted.

> *A great deal of work has been done about teachers' stories and teachers' narratives and these do not place the teacher's work and the teacher's life world within a historical perspective. What this means is that stories can be told as timeless stories about teacher's life and teacher's work. They therefore miss out the substantial degree to which the teacher's life and work is politically and socially constructed in different ways at different times in history.* (Goodson, Interview, 2007)

Both life-history and self-study use the work of Wright Mills (1959) as a central reference in order to link biography to history, "personal troubles" to "public issues".
Goodson, points this out, "The life history approach has the potential to make a far-reaching contribution to the perennial problem of understanding the links between 'personal troubles' and 'public issues', a task which, as C.Wright Mills (1959) pointed out many years ago, is the essence of the sociological enterprise." (Goodson, 1995, p.90) Thus, the life historian must constantly broaden the concern with the personal truth to take account of wider socio-historical concerns… *(*Goodson, 1995, p.80) The fully researched life history should then allow us to view the intersection of the life history of men with the history of society, thereby enabling us to understand better the choices, contingencies and options open to the individual.
Bullough and Pinnegar (2001) in their discussion of self study methodology also emphasize the importance of Wright Mills (1959). As Mills warns, articulation of the personal trouble or issue never becomes research until it is connected through evidence and analysis to the issues and troubles of a time and place. Biography and history must be joined not only in social science but also in self-study research.

> *When biography and history are joined, when the issue confronted by the self is shown to have relationship to and bearing on the context and ethos of a time, then self-study moves to research. It is the balance between the way in which private experience can provide impact and solution to public*

issues and troubles and the way in which public theory can provide insight and solution for private trial that forms the nexus of self-study and simultaneously presents the central challenge to those who work in this emerging area.(2001, p.14)

The third category is: **transformation/commitment to social justice.**
In both self study and life history we find a commitment to contributing in a critical sense towards social justice. This may be seen as a consequence of the relation between self and context leading therefore to a critical perspective.
Critical research can be understood as aiming to the interpretation of the issues analyzed in relation to the broader social system of which they are part with the objective of achieving a deeper and more complete understanding of its determinations, making explicit the systems of domination, oppression and ideology in order to lead towards a transformation of this situation of inequality. Thus, researchers adopting this perspective try to develop their work as contributing to those groups of people who are marginalized and oppressed in their struggle for the transformation of these political and social contexts.
For Goodson (based on Giroux concept's of 'transformative intellectual', 1988) planning the conception of self as intellectual plays a crucial role in the reflexive project of self building.

> *The material conditions under which teachers work constitutes the basis for either delimiting or empowering their practices as intellectuals will need to reconsider and, possibly, transform the fundamental nature of the conditions under which they work. ...more specifically, in order to function as intellectuals, teachers must create the ideology and structural conditions necessary for them to write, research, and work with each other in producing curricula and sharing power. In the final analysis, teachers need to develop a discourse and set of assumptions that allow them to function more specifically as transformative intellectuals.* (Giroux, 1998, p.xxiv)

In relation to commitment to social justice we use the self-study research of Shulte (2002):

> *My goal as a teacher educator has been to prepare teachers with the attitudes and skills necessary to reflect on their practice in a way that will increase their effectiveness with a diverse student population, particularly if they have had little experience with diverse classrooms. Critical reflection contributes to the transformation of prospective teachers' thinking about cultural diversity by helping them to develop a conscious knowledge of "the influence of culture on the way we personally make sense of and respond to the physical, social, and spiritual world" (Hollins, 1967, p.102). my study reflects this social-reconstructionist tradition.* (Shulte, 2002, p.31)

The fourth category is: **collaboration.**
Collaboration is a main aspect of both self-study and life history.

In Goodson's view:

> *So much of the work on teachers' lives turns on the relationship between the researcher and the teacher. In my view both of these parties are researchers of the teacher's world and it is important that the external researcher and the teacher researcher work collaboratively to reflect their own reflexivity in theorizing about the teacher's life world.* (Goodson, Interview, 2007)
> *…the interview is passive in that first period where they're eliciting that prime narration, the first narration, a kind of script of life, but then there would be some more stages which I describe as collaboration and location where you would ask a series of questions about that first narration of the life story which seemed to locate it, challenge it and interrogate it and position it, sociologically and historically.* (Goodson, website:Holding on together: conversations with Barry)

What kind of collaboration is important in studying teachers' stories? Genuine collaboration in studying teachers' stories is a viable "trading point" between life story giver and researcher taker, according to Goodson. Much of the work that is emerging on teachers' lives throws up structural insights which locate the teacher's life within the deep structure and embedded environment of schooling. This provides a prime "trading point" for the external researcher.

The role of the 'critical friend' in self study methodology is relevant for the understanding of how collaboration can be achieved. Self-study research, in an ironic counter to its name, often requires collaboration. 'Critical friends' represents a central concept of such work.

Loughran and Northfield (1998), for instance, say that, even though the term 'self-study' suggests an individual approach, we believe that effective self-study requires a commitment to checking data and interpretations with others. According to them, colleagues are likely to frame an experience in ways not thought of by the person carrying out the self-study. Although the importance of collaboration may seem to contradict the personal nature of self-study, it is essential for checking that focus, data collection and interpretations do not become self-justifications and rationalizations of experience. Collaboration provides some confidence that experiences and interpretations can be offered more widely for consideration by others, an important aspect of any study(pp.12-16).

FINAL CONSIDERATIONS

This work tries to articulate two methodologies that can be employed in the study of teachers' practices contributing towards the professional development of teachers. This was done through the identification of a number of categories found in both methodologies.

> *The pursuit of personal and biographical data might rapidly challenge the assumption of interchangeability. Likewise, by tracing the teacher's life as it evolved over time- throughout the teacher's career and through several generations- the assumptions of timelessness might also be remedied.* **In understanding something so intensely personal as teaching it is critical that we know about the person the teacher is.** *Our paucity of knowledge in this area is a manifest indictment of the range of our sociological imagination. The life historian pursues the job from his [sic] own perspective, a perspective which emphasizes the value of the person's own story.* (Goodson, 1981, p.69; original emphasis, cited in Goodson & Numan, 2002, p.269)

In life-history the teacher's life should be the main focus, the starting point for the study of practice, since it seems 'less threatening', according to Goodson.

In self study we start from practice and arrive at the study of self since it is not possible to study the practice without understanding the self, as practice is embedded in self.

The discussion of the categories examined shows that both methodologies have essentially the same aim and that in combining them we can further elucidate our object of analysis and enrich our proposal in transforming teachers' practices.

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229 - Teachers' Voices: The Professional Lives of Icelandic Teachers

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Abstract: The primary action of this study was to hear teachers' voices, and support them to be heard in the society as well as in the professional world. Qualitative research methods were used to create opportunities for r\eiterated cycles of interviews in partnership with six teachers. Working together we aimed to reveal a holistic perspective of the changing nature of the teachers' work and professionalism. Processes included focusing on the work, lives, knowledge and ethics of the teachers, interpretation of the consequent information about the nature and dimension of their work in education. By gathering and documenting their experience our intention was to gain a better understanding of the new professional lives of teachers and in doing so to be able to use the results for the development of the teacher education.

Keywords: teachers, teacher professionalism, teachers' jobs, teacher commitment

INTRODUCTION

International research reports changes in both teachers' work and teaching environments. Despite local variations, common factors can be seen across many countries: government intervention, increasing teachers' workloads, little attention to teachers' identities or the importance of teacher wellbeing (Day & Gu, 2010). While we know a great deal about teachers work, we also know that the profession is diverse and extensive. We hear from teachers that the work and expectations are constantly changing and becoming more challenging (Guðjónsdóttir, 2000). Some are concerned about the teaching profession and point out that constancy is missing, that the "best" university students don't become teachers, or after having gone through teacher education programs students do not return to the field and that a number of those who begin their carrier, particularly subject teachers, do not last very long in the profession (Darling-Hammond et al., 1999; Van Kraayenoord, 2001). Others, such as Halperin and Ratteree (2003) cited research demonstrating that "a silent problem" was emerging — namely that a growing shortage of teachers across the world was appearing in response to inadequate support of teachers' human and professional roles.

Yet, in spite of these negative observations and the demands of the work, many people do make it their lifelong profession and become successful teachers. Hargreaves (1994) assumption is that it is not the salary, expanded reputation or promotion that keeps teachers going, instead it is the passion and the reward that is built into the profession, the joy of working with children, to care for and support them. He believes teachers feel their importance. That teachers are pleased when they think about certain incidents although they admit to have experienced frustration, inequity or difficult situations (Gose, 2007). Brunetti (2001) conclusion from research findings was that working with young people and seeing them learn and grow is a principal motivator for teachers. Stanford (2001) came to similar conclusion, to make a difference in students' lives and learning was prominent reason to stay in the profession.

The primary action of this study was to hear teachers' voices, and support them to be heard in the society as well as in the professional world. Qualitative research methods were used to create opportunities for reiterated cycles of interviews in partnership with six teachers. Working together we aimed to reveal a holistic perspective of the changing nature of the teachers' work and professionalism. Processes included focusing on the work, lives, knowledge and ethics of the teachers, interpretation of the consequent information about the nature and dimension of their work in education. By gathering and documenting their experience our intention was to gain a better understanding of the new professional lives of teachers and in doing so to be able to use the results for the development of the teacher education.

LITERATURE AND THEORETICAL FRAMEWORK

It is important to study teacher's work from different perspectives (Hargreaves & Goodson, 1996). Each teacher is unique, and by listening to their stories we have the opportunity to build a holistic picture of their professional lives. Furthermore, we can see the similarities and differences between teachers in one country and between countries (Levin, 2003).

As noted above, changes in society affect teachers work. For the last decades radical changes have taken place around the world as well as in the Icelandic society. Women's participation in the work force is more than 80% in Iceland, which is among the highest in Europe. Technological advances are constantly growing and the accessibility of information has rapidly changed. Migration is growing which means that the diversity in the student group according to language, culture and religion is becoming greater and inclusive education draws also a more diverse group of students into the schools (Guðjónsdóttir & Karlsdóttir, 2009). Children spend longer hours in school and teachers report that the upbringing is increasing at the cost of the academic work (Jóhannesson, 1999; Karvelsdóttir, 2004). In addition to these changes the increase in government intervention into the teachers' role and the work in schools has lead to a number of changes that effect their professionalism: for example increased workload for teachers, little attention to teachers' identities or the importance of teacher wellbeing are all factors (Day & Gu, 2010).

In Sólveig Karvelsdóttir's (2004) research about teachers' work and feelings in a challenging school neighborhood, the teachers sincerely discuss their work, their workload, worries and emotions. According to Hargreaves (1994) teachers' responsibilities are more extensive and their roles more diffuse than before. He wonders what these changes mean, how to understand them, and if the job is getting better or worse.

Day and Gu (2010) indicate that teacher professionalism continues to be associated with a strong knowledge base, ethical commitment to students, professional responsibility and management classroom practice. They also point out that teachers who are committed to their work and to their students are also ready to learn, to develop and to change. Teachers who are effective teachers are passionate about their work, their students, their subject, and believe that the way they teach can make a difference in student lives. This is not a choice between knowledge, pedagogy or art as all are needed (Cameron, 2007). For teachers, to be effective, strong knowledge of pedagogy and in their subject is needed, but also a strong feeling for the work that includes passion, responsibility and a commitment. However teachers need support and encouragement to become and sustain this commitment and energy. Support from school leaders and colleagues can make a difference, but also that politicians, policy makers, the teacher education pay attention to that the lives and work of teachers is intertwined, and the focus must be on the physical condition, and the psychological, emotional and social environment (Day & Gu, 2010). Commitment and engagement is the key for good teaching and effective learning and is related to the feeling for the individual and a holistic perspective on the wellbeing, self-efficacy, agency and professional identity (Day, 2004).

Circumstances that are related to situations in the life of each individual, especially things that are related to personal or professional challenges, effect teachers' commitment and their abilities to be resilient. An understanding of why some teachers have the resilience that is necessary to stay in teaching, a job that is continuously developing and becoming more and more complex, is the key to support teachers to develop the competence needed for good teaching. Lortie (2002) believes that continuous education has supported teachers' development and that teacher reflection means that teachers spend more time to think about their decisions and responses and the result is a better and more careful decision making.

It is important to study teacher's work from many different angels (Goodson, 1992; Hargreaves & Goodson, 1996). The education students receive relies on what teachers think, believe and do at the classroom level (Hargreaves, 1994). According to Levin (2003) each teacher is unique. By listening to the stories of many teachers we can get a holistic picture of their professional lives and see the similarities and differences between teachers in Iceland and between teachers from different countries. Thus, we believe that it can be useful to receive information from teachers and learn about their profession, attitude, ethics and vision. Many researchers and scholars have recognized the importance of researching teachers' work and learn about their profession from teachers themselves. Reporting the conclusion can inform others about teachers' work and build up understanding for the profession. It can influence the schools, the policymakers, and teacher education; strengthen it and improve (Connell, 1985; Jóhannesson, 1999).

METHODS AND DATA SOURCES

To understand the underlying phenomena of teachers' professional lives, it is critical to work collaboratively with teachers themselves and listen to their stories and their perspective of the profession. Thus, it is critical to create an opportunity for teachers to reflect on their practice and report stories from their professional lives (Loughran & Northfield, 1998). Qualitative research methods provide the opportunity to adapt the questions to the particular experiences of each teacher. The cyclical approach of critical research provides space for clarification and deeper discussion.

Data collection was created through semi-structured interviews with six teachers. The sample was purposeful and to maximize the participant differences, novice and experienced teachers, men and women, teachers who teach young children as well as teachers teaching adolescence where invited to participate. Their teaching

experience is from 3 to 35 years. This small number of participants doesn't give us all the variance we would like but the group is as mixed as possible.

Each teacher was given two opportunities to reflect on their practice. The teachers decided where the interview would take place, and chose either their school or to come to our workplace. Each interview took between one and one and half hour.

To support the teachers through their critical reflection we used the Professional Working Theory Instrument (PWTI) that provides a framework for reflection and dialogue on teachers' professional working theory (Dalmau & Guðjónsdóttir, 2002). The questions were open-ended inviting the teachers to elaborate fully their own lines of response.

Teachers' own "personal pedagogy" or "practical theory" or "living theory" based on theory, practice, and ethics lies behind everything they do (Handal & Lauvås, 1987; Muchmore, 2001; Whitehead, 1993). Built on these ideas the professional working theory is formed of the kind of understanding that evolves through the constant interplay of professional knowledge, practice, reflection and ethical or moral principles. Explicit professional working theory is developed through systematic and comprehensive critical reflection and collegial dialogue. So developed, professional working theory also contributes to the construction of professional identity, the creation of professional knowledge and the development of collegial approaches to practice (Dalmau & Guðjónsdóttir, 2002).

Data analysis went hand in hand with the interviews. We audio-taped the interviews, listen to them and transcribed. We have grouped them into the three main categories; practice, theories and ethics, but also by the themes and repeated patterns that emerged. To seek verification from the participants we have sent them drafts of reports as they have developed.

FINDINGS

Researchers' stories, their voices as they discuss their experiences as teachers and their hopes and beliefs form the basis of the findings. The chapter is divided into three categories; practice, theory and ethics — the quotes are direct words from the teachers' translation to English by the authors.

Practice

The teachers talked about their practice, told us about a typical day or a typical teaching periods. They found it hard to think of typical days, because they felt they are all different but they also said that is one of the reasons they stay in the job. The diversity makes the teaching interesting. Teaching is never boring, it is hard, demanding and challenging but not boring. Discussing the change a teacher of 28 years said:

> If I compare the teaching at present to my first years it has change a great deal. In the beginning we were teaching students, but we were not necessarily aware of students´ status or situation, at that time discussion about diagnosis had not really began. Our students either managed themselves or not. We had a group of students we supervised but we really didn't know their background nor did anyone expect us to do so. If we had challenging students we learned little by little how to work with them, but parent collaboration was minimum only twice a year except if something really huge happened. This has change a lot.
>
> Before I taught a lot each week, about 43 class hours for at least 15 years and in addition to that I was occupied with politics, curriculum writing, was a committee chairman and spoke about the teaching as my hoppy! I was very well organized, my teaching plans had to work what ever happened.
>
> These last years so many things have been added to the teachers' job, the teaching is more students focused, we view student status and check if they have been diagnosed. We try to understand his or her unquietness, ask us how we can encounter each student and this calls for much, much more time on the job. We think about different teaching strategies and that takes time also.

The teachers take notice of the National curriculum and the individual school curriculum as they plan teaching and learning. They use basic materials and add to it according to the students' needs and interest. "*I check the goals my students need to work towards and then I check if the main material covers that, if not I bring in exercises or mathematic problems from other resources. I also try to use something from students' daily lives.*"

In some of the classes the students create their individual learning plan along with their teachers. All the teachers find it important that their students become independent and responsible in their learning.

I use individualized learning in two subjects, Icelandic and mathematics. The students receive a plan for the whole week. In there I put in what is to be done in the other subjects but they decide themselves what to do in Icelandic and mathematics. I have a minimum requirement, a basic material that everyone has to cover . . . and then they set up their own plan. They are very clever in doing it.

The teachers find it fundamental to show interest in and care for the children. In an addition to that, again and again, they talk about the importance that the students are assured that they wish them to succeed in their learning. *"To motivate them I make them feel that they have some responsibility, that they can control things themselves and they can for example postpone the boring pages until later if they wish to do so. This makes them interested and passionate."*
According to the teachers that have long experience classes or students groups have become more and more diverse. This calls for differencing the teaching and responding to students' abilities, interests and experience.

I had four girls in one of my groups last year that had difficulties with learning, to read and Icelandic. They were 10th graders and were sick of school. It was a challenge to get them going, to help them build their confidence, to realize their abilities. If they were going to literature class, I read to them because it was hard for them; we discussed the content and wrote together. I would write the text on the blackboard and they would copy it. It mattered a lot to them to have the spelling right. We read a book together and then they did a collage to illustrate the content. We used the computers and they created webpage with a focus on their interest. In the end they had to take the same test as everyone else and you know they did very well and got high grades. The content was similar but they learnt it in a very different way.

Teachers stories from the classroom are endless, they talk about students learning, about success but also about disappointment. They find it rewarding when students with learning difficulties succeed or begin to believe in themselves.

Theory
Discussing what lies behind teachers' pedagogical decisions we learned that it doesn't only differ but it is often a tacit knowledge. One teacher said she had used theories to back her up at the beginning of her teaching carrier, but theories come and go, and come again. Now she relies more on her experience. However, she also point out that teachers must be able to discuss theories and debate to be at an equal stand with the once who consider themselves as specialists in education. *"You must have good knowledge of the theories if just to be taken seriously"...* Another teacher said: *"What I learned during my teacher education affects my teaching but I am not always sure where I take things from".* Others still rely on well known theorists.

First when I began my teaching I favoured Piaget and Vygotsky, then I discovered Tomlinson and she appealed to me, but now I look to Bruner's theory that one has to know the child's cultural background. I find it extremely interesting to step into the child's world.

In discussing theories one notices the emphasis on the child and on theories that have the child in focus. *"It is necessary to learn to know the child and it is a part of meeting the individual need."* The teachers find it difficult to discuss these things and tell us that they don't really build on theories it is more their experience that they take into count. However participating in this research and having the change to reflect on their experience and to discuss their job professionally one of the teachers reports:

When I finished my teacher education I did a final project on how to work with students. I kept my project but have not read it until few days ago I fetched it from my attic and read it again. It was very interesting because I am learning that the theories I wrote about in my final project are the theories that have been very strong and evident in my pedagogy through the years. Of cause literature theories are there since that is my subject, but Thomas Gordon, and from the Scandinavia countries Sverre Asmervik, Böe and Hilling are all theorists that I studied and as I read about their ideology again I realized where my pedagogy came from.

The teachers reported that they found it difficult to discuss theories. As they gained experience they relied on their experience not some theories they learned in school. They also confessed that they are not used to discuss this matter. *"It's not what we talk about at my school"*, replayed one of them as we asked about theories they relay on.

Ethics
All the teachers place emphasis on the students being happy at school. They say their emotional well being is important and it makes the ground for education to grow. *"How can we NOT start by fostering systematically their mentality, their feelings and well being?"* The teachers realize that they are role models for their students. *"It is important for me to smile. I have a picture of a big smile on my desktop to remind me to begin each day by smiling to the children."* They find it very important how they respond to students and what comes about on the job, what they do and how. *"I find it very important that my students come to class on time, that they turn in their assignments on time and therefore I must do the same myself."* They find it sometimes hard to be aloud to be human, to do mistakes or show their emotions.

> During my first years of teaching it was expected that I was tuff and had a hard-shell, I went through huge deprivation the first two years. I felt I had to change myself as a human being. I am very sensitive but I had to move away my emotions and put on a mask and play to get through.

Sometimes teachers have to teach something they don't agree with, something that is in the curriculum or they know students will be tested on in standardized testing. This they find frustrating. Other times they experience conflicts because they feel they need to cover some knowledge in a certain time but at the same time they have the feeling the students are not really learning.
Teachers discussed what kind of teachers they want to be or become.

> When I decided to become a teacher, which was not until close to my graduation, I started thinking of my values and what I felt was important for me as a teacher. I came to the conclusion that I wanted to become a teacher who cares, who shows empathy. I began my teaching carrier with one thing in mind and that was to make my children enjoy school.

Another teacher said: *"If I can make my students leave my class with the feeling of being able or the feeling of "I can" and "we all can", then I feel I have succeeded."*
Teachers´ practice, theories and ethics don't stand alone, they are interlocked and make the holistic picture of the new lives of teachers, the new professionalism. Hearing from the experienced teachers how their jobs have developed and changed and how the newcomers bring in different perspective of what they think teaching is, provided us with rich insights of teachers' professional lives.

CONCLUSION
Learning in partnership with teachers about their professional live was the fundamental basis of this research. The teachers found their job fulfilling and working with the children delightful. They emphasized the children's well being and success in the school. This is in accordance with Brunetti (2001) and Stanford (2001) who reported that the main motivator for teachers is working with their students and to make a difference in their lives. Or as one of the teachers said: *"The attitude towards the students comes first, number two is the teaching methods you choose, that you know them, and you need theories to justify your choice of teaching."* These stories show that the teachers possess a great knowledge of how children learn, the environment they need to be able to learn and how to work with children so they will succeed. From the stories we can also see that the teachers have a definite plan for their teaching and stretch individualization in their practice. They use theories and some mention specific theories or theorists others have created their own professional working theory. Teachers' knowledge is not always recognized and often tacit and stays with each individual teacher. However, it is important to value it, make it known and increase understanding for the teacher profession. It can influence and strengthen teachers' position and the teacher education. The results can also be useful for policymakers.
Teachers with long teaching experience discuss the changes they have gone through and say that teaching was more subject oriented when they began their teaching but now it is more student oriented. They find that this can also been seen in the responsibilities the society has added to the schools and the teachers. Teachers are not only teaching certain subjects but caring is becoming a greater part of the curriculum and participating in bringing the children up. The teaching is more student focused at the same time it has

become more centralized with a national curriculum with defined goals and objectives as a framework and evidence based teaching. This makes teaching complicated and calls for a new professionalism with strong knowledge in pedagogy and subjects, but also passion for teaching, responsibility and a commitment to children and the profession (Day & Gu, 2010). According to Reeves (2009) the new professionalism focuses on learner-center practice, clarity about moral and social purpose, evidence-informed practice, critical reflection, collegiality, collaboration and commitment to professional development and knowledge creation. In this research we learnt about teachers who have the resilience needed (Day & Gu, 2010; Lortie, 2003; Hargreaves, 1994) to stay in this complex and ever changing job that teaching is. Working with children and seeing them grow, develop and learn matters but for teachers to able to do so attention must be paid to their working condition and the environment (Day & Gu, 2010). Through partnership with teachers, the teacher educational community can learn about and understand why some teachers have the resilience necessary to stay in teaching and the encouragement to become and sustain this commitment and energy. Doing that we might learn what kind of working conditions is needed for the new professionalism to develop and grow and how to support teachers through teacher education.

*The research was a collaborative work of Hafdís Guðjónsdóttir and Sólveig Karvelsdóttir and the paper is written with an honour of Sólveig who passed away in January 2011.

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236 - Teaching of French in Upper Secondary Education: Improvement of Interactive Speaking Proficiency through Peer Feedback

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Abstract: Ample research is available about how learners acquire a second or a foreign language, how they learn while speaking in interaction and which kinds of tasks provide opportunities for meaningful use of the target language. Less research has been conducted into the manner in which learners learn from each other while speaking together, observing interaction and giving each other feedback on their performances. The present study investigates these aspects in communicative teaching of French as a foreign language in upper secondary education. We designed a curriculum consisting of speaking activities, constructed on the basis of a fixed task format, and a rubric for assessing the performances during the execution of the speaking tasks. Twenty-five students and a teacher of French participated in this project. The students learned French as a foreign language. They performed seven interactive and communicative speaking activities in which they executed the roles of interlocutors and observers. First results indicate that these activities stimulate the students in thinking about and interacting in the target language.

Keywords: classroom research; communicative teaching of French; interactive speaking proficiency; peer feedback; upper secondary education

INTRODUCTION

Language teachers experience great difficulties in stimulating their students to speak the target language. In the Netherlands, this is certainly the case for French. Much time and energy are needed from the part of the teachers in order to engage their students in oral language acquisition situations in which the target language is practised. There is much research about how (foreign) languages are learned and how language acquisition is facilitated while speaking in interaction (cf. interaction-hypothesis: Long, 1996) and which kind of tasks provide opportunities for meaningful use of the target language (e.g., Task Based Learning: Willis, 1996). From second language acquisition (SLA-) theories we know that exposure to comprehensible input and negotiation of meaning in interaction are necessary for effective language speaking learning to take place. Less research has been conducted into the manner in which learners learn from each other while speaking together (peer modelling), while observing interaction and giving each other feedback on their performances (student-led or peer feedback). Moreover, cognitive learning theories suggest that thinking about and reflecting on second language learning processes are important facilitators for the improvement of speaking proficiency (Ortega, 2009). In addition, learners need feedback on their performances while learning the language and using it in different situations. All these different perspectives and insights have to be taken into account when teaching and learning a foreign language. In order to investigate these aspects and to collect data on speaking, peer feedback and modelling, we designed an experimental curriculum for learning French as a foreign language (L2 learning setting) with speaking activities aimed at improving the students' interactive proficiency. During the execution of these activities the students performed the roles of interlocutors and observers.

In the following sections, we will first review research on interactive speaking, observational learning and peer feedback in L2 learning settings. Next, we shall illustrate the design of the curriculum by giving examples from the practice of intervention. In order to evaluate the results of these interventions, we made use of questionnaires, completed by the students, and interviews with the teacher. The research is still ongoing and runs throughout this school year (August 2010 till June 2011), so we are still in the very process of collecting data and have not had the opportunity yet to fully analyze this. We will conclude by giving recommendations on implications and further research.

INTERACTIVE SPEAKING AND PEER FEEDBACK

The main question of many foreign language teachers is how to encourage students to make use of the target language in the classroom. Starting and experienced teachers, often struggle with the daily teaching practice in which students speak in their mother tongue or complain that it is too difficult to use the target language after the teacher's request to speak French, German or Spanish. In general, learners are not used to being taught in the target language. Moreover, Dutch students only have Foreign Language lessons two or three hours a week inside school. They work with textbooks in which the instructions of the tasks are mainly written in Dutch. In addition, the instruction by teachers is not always provided in the target language. As a result, there is little exposure to input within the context of the classrooms. Outside school there is not much exposure either. This picture is totally different for English as a foreign language: young people grow up with the English language; they hear or sing English songs, watch English films, play games and therefore use English in interaction.

Against this background we designed a new curriculum for teaching French in upper secondary education. It is an exploratory study on curriculum development in which the complete process of teaching interactive speaking proficiency in French at an introductory level has been described. This process took place in one project lasting eight months and consists of lessons with specially designed assignments, followed by instruments for evaluating the results. Although using the materials offered by the textbooks in use, we had to change and freshly design these materials in order to make them suitable for our purposes. Or, to put it differently, we started from scratch, while at the same time staying within the current teaching process in that particular classroom that happened to be our experimental class.

In designing our experimental course, we encountered several problems. We could only overcome these problems by explaining and discussing the themes that we considered important for stimulating the use of the target language by students within the context of an experimental curriculum. Therefore we have designed a curriculum in which we focus on the following methodological principles (MPs) that are relevant for teaching foreign languages.

METHODOLOGICAL PRINCIPALS (MPs)

Some relevant SLA-methodological principles

Methodological principles (MPs) are universally desirable instructional design features, motivated by theory and research findings in SLA, educational psychology, general educational curriculum design, and elsewhere, which show them either to be necessary for SLA or facilitative of it (Long, 2009). MPs specify *what* should be done. One of these MPs is for instance: *promote learning by doing*. From these perspective research findings in SLA it can be concluded that frequency of usage determines acquisition (Ellis, 2002). Another research claim with great practical potential, i.e. is the Comprehensible Output Hypothesis (Lynch, 1997; Swain 1985): producing the target language may be the trigger that forces the learner to pay attention to the means of expression needed in order to successfully convey his or her own intended meaning. The idea that learners acquire language through interaction is supported by Long's (1985, 1996) so-called Interaction Hypothesis. During interaction interlocutors must provide each other with comprehensible input in order to convey meaning. Long's hypothesis sets out to define how learners provide each other with input that is mutually intelligible.

Another MP formulated by Long, is; *use task, not text*. In order to stimulate real communication in the target language in school, communicative tasks are necessary. The value of communicative tasks in supporting language acquisition has been discussed by various authors, including Ellis (2003). Tasks directed at sharing personal experiences elicit interaction on social and personal topics. A task should also elicit cognitive processes (such as classifying, ordering and evaluating) and have a communicative outcome. An activity is genuinely communicative if it involves at least two participants working together to complete a task by exchanging information possessed by one and not the other (Gatbonton & Segalowitz, 2005, p. 331). Two requirements for genuineness of communication are implied in this definition. First, new information must pass from one interlocutor to the other (an 'info gap' is filled), and the solicited information must be crucial for the continuation of the assigned task (the task can be made more communicative by introducing an overall goal, such as finding out what the students have in common). Based on these requirements for genuine communication, tasks can be classified into three categories from the perspective of which kind of 'info gap' has to be filled in (Prabhu, 1987; Willis, 1996): information-gap activities involving a transfer of given information from one person to another, reasoning-gap activities involving the discovery of new information through inferences, and opinion-gap activities involving the identification and expression of

personal preference or attitude. These types of tasks could be part of genuine communication and have to be taken into account when two participants are communicating.

Levels of attainment derived from the Common European Framework of Reference (CEFR)
However, a second point has to be taken into account as well, because the type of communication can be executed on several levels, ranging from basic to proficient, bringing us to the question: how to define levels of attainment into tasks? The Council of Europe (2001) has developed a Common European Framework of Reference (CEFR). This CEFR is a document which describes i) the competences necessary for communication, ii) the related knowledge and skills and iii) the situations and domains of communication. Three broad levels are distinguished:
- Basic User: A1 and A2
- Independent User: B1 and B2
- Proficient User: C1 and C2

For our purpose, which is teaching interactive speaking proficiency in French at an elementary level in upper secondary education, only the level of the 'basic user' is relevant. The students who participated in our research, learned to communicate at the level A2. The CEFR is an evaluation instrument through which students can make their level of proficiency visible, formulated in the form of 'can-do statements' (see Appendix 1 for examples). For instance, descriptors of such 'can-do statements' at the level A2, for 'spoken interaction', are formulated as:

> I can communicate in simple and routine tasks requiring a simple and direct exchange of information on familiar topics and activities. I can handle very short social exchanges, even though I can't usually understand enough to keep the conversation going myself.

Actually, we included this description of 'spoken interaction' at the level of A2, because this is also the learning goal of interactive speaking proficiency in French we wanted to achieve with the students participating in our research to achieve. In order to reach this goal we based our experimental curriculum on several methodological principles derive from research findings in not only SLA but also in educational psychology.

Some relevant educational research-methodological principles
To some extent, in our designed curriculum, some aspects of the teacher's role are conveyed to the pupils themselves. The pupils are working together within the context of cooperative and task-based learning (*MP Promote cooperative / collaborative learning*) and therefore the students themselves became part of the feedback process. Apart from being interlocutor as one of two participants during the process of communicating, every student fulfilled the role of observer of the communication between his/her fellow students. As teachers, we tend to think that providing feedback to our students is done exclusively by ourselves, but there is no reason why students should not be part of the feedback process. For this, students have to learn how to observe the fellow students' performances of speaking proficiency in order to provide them with useful feedback. This turned out to have a powerful effect on their own performances (Hattie & Timperley, 2007).
The manner in which students provide feedback is particularly important. In order to provide feedback students need the criteria of our expectations from the students during the execution of the speaking tasks. In order to help the students make an assessment of the observed performances, we compiled a rubric to be used by the students. This rubric was aimed at being a powerful tool for structuring the process of peer feedback.
In summary, we included the following MPs in the experimental curriculum:
- cooperative and task-based learning (Johnson & Johnson, 1994)
- roles of interlocutor and observer of communication (Braaksma, 2002)
- peer modelling and providing peer feedback based on observing (Braaksma, 2002)
- rubrics for the content of speaking proficiency (Sadler, 1989)

PURPOSE OF THE STUDY AND THE RESEARCH PROBLEM
How can we implement MPs in the classroom? The main goal of this article is to propose a Communicative Language Teaching (CLT) approach to curriculum design. In the newly designed experimental curriculum for the improvement of French speaking proficiency, we made use of different forms of feedback given by the students themselves based on observing each other during the speaking assignments. We are focusing on students of 16/17 years old, in upper secondary education (level A2, based on the competencies proposed by

the CEFR), learning French as a foreign language with the help of a curriculum consisting of the following instructional practices:
- interactive and communicative speaking activities, based on:
- a fixed format in which students, in groups of three, alternately execute the roles of interlocutor and observer;
- use of a rubric which has been developed in order to support the process of giving feedback by the observers.

The overall research problem is how to improve the students' interactive speaking proficiency through peer feedback. Based on this research problem, we formulated the following three research questions:
1. How can we stimulate students to use the target language during speaking interaction assignments?
2. What are the instructional practices for providing student-led feedback based on the observation of speaking activities executed by fellow students?
3. What progress do the students make in interactive speaking proficiency based on the newly designed experimental curriculum?

METHOD
This study is an embedded case study design (Yin, 2003). A whole class is involved and the analysis of the data is focused on how the participating students and their teacher are executing the assignments for enhancing speaking proficiency and how they appreciate the progress in teaching and learning.

Participants
The participants in this experimental study were one experienced teacher of French and one class of twenty-five 16/17-year-old students of a secondary school in the Netherlands. All students of this class participated in the study and we collected our data through their activities and opinions.

Setting
The experimenter's role is to prepare and to organise a series of assignments, and the teacher's role is to coach and guide the students during the execution of these assignments. We started the project 'interaction and communication in French' with a kick-off meeting in week 35. At the beginning of each assignment, the teacher distributed handouts with the instruction on the task. All tasks were learner-centred, so the learners/students had to read the instruction carefully, because it is the task itself which provides the information on the working and learning process of the students. After reading, the students did an individual pre-task, and a task in groups of three. We also developed a task-specific rubric. This rubric consists of a set of descriptors. It refers to specific content and to generic dimensions, such as pronunciation, fluency, grammar, vocabulary, based on the CEFR, level A2. The pupils used the rubric as a checklist in order to prepare their own performance and to give feedback on the performance of their classmates. Peer feedback in this phase plays a crucial role in order to improve speaking proficiency.

Materials
We designed a series of assignments aimed at eliciting speaking activities. In terms of the Communicative Language Teaching (CLT) approach, all these assignments function as scaffolds for the development of the students' interactive speaking proficiency by mutual exchange, negotiation and co-construction. Therefore, a wide range of complementary activities is needed.
The framework of the task consists of a pre-task phase and a task phase. The pre-task phase is the shortest phase in this framework and could last between five and ten minutes. It prepares students to do the task. The questions in the task guide them to generate ideas and to focus on the content and the language. The aims of this phase are: starting up the thinking processes; activating prior knowledge about how they learn and which language they need and motivating them to learn.
The task phase is the longest phase and could last between thirty and forty minutes. Students do the task in groups of three. They alternate the roles of interlocutor and observer. The task-cycle consists of the performance of the task, the observation of their classmates during the performance, the feedback after the performance, and vice-versa.
The students need a reason to speak to each other. Therefore we designed information-gap activities. Each student in this group has information that the other students do not have. The aims of this phase are: interacting in the target language, helping each other to fill in the info gap and giving tips and tops (observers).

In order to give an impression of a designed task, we have added an example of this phase. In Appendix 2 we have added an example of a complete task, written, of course, in the target language. In Appendix 3 we have compiled the activities executed in phase 1, week 35 – 41 (2010).

Exercise 21, page 36 Task 'la météo'
Format in groups of three:
- Number one doesn't show his or her map, but presents the today's weather. He started with: today it's … in Paris/ … Number two draws the weather, the temperatures and the cities on the map. Number three shows his map and controls the results. Next, numbers one and two exchange their reasons why they hope that tomorrow or the day after tomorrow the weather will be ... They ask each other a question about this wish.
- Number three listens, writes down a tip and a top and gives feedback at the end of the conversation.
- Next, number three presents the weather, number one draws. Number three shows his map. They do the conversation. Number two listens and gives tips and tops.
- Finally, number two presents and two and three do the conversation. Number one listens and gives tips and tops.
- They swap roles.

Data sources
Data are being collected from various sources, in which both the students and the teacher participate. We make use of questionnaires, observations and classroom discussions with the students. The interviews with the teacher are aimed at collecting information on her opinion about the students' learning processes elicited by the designed tasks. Observations are focused on what students are doing during class and how they interpret and execute the tasks. All these sources will be providing us with a lot of information about how to improve the students' interactive speaking proficiency in French.

RESULTS, DISCUSSION AND CONCLUSION
The first results indicate that the execution of the designed activities and assignments stimulate the students in thinking about and interacting in the target language. However, within the context of this paper, no further results, discussion and conclusion will be included. The research is still ongoing and runs throughout this school year (August 2010 till June 2011), so we are still in the very process of collecting data and have not had the opportunity yet to fully analyze them in relation to the research questions. This will be done in the following version of this paper and will be presented at the ISATT2011 conference.

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Appendix 1: Spoken interaction (level A1, A2 and B1): European can-do statements

http://www.languages.unimaas.nl/niveaus_common_european_framework_reference/CEF_English.htm

LEVEL		A1	A2	B1
SPEAKING	**SPOKEN INTERACTION**	I can interact in a simple way provided the other person is prepared to repeat or rephrase things at a slower rate of speech and help me formulate what I'm trying to say. I can ask and answer simple questions in areas of immediate need or on very familiar topics.	I can communicate in simple and routine tasks requiring a simple and direct exchange of information on familiar topics and activities. I can handle very short social exchanges, even though I can't usually understand enough to keep the conversation going myself.	I can deal with most situations likely to arise whilst travelling in an area where the language is spoken. I can enter unprepared into conversation on topics that are familiar, of personal interest or pertinent to everyday life (e.g. family, hobbies, work, travel and current events).

Appendix 2: Example of the structure of a designed task
La météo, exercice 21
Grandes Lignes, cahier 2, havo 4, niveau CEFR: A2

Antisèche

1. Quel conseil as tu eu la dernière fois? Ecris comment tu vas faire attention à ce point-là.

2. Quel temps fait-il aujourd'hui ? Dessine toi-même une carte météo de la France sous forme d'une hexagone:
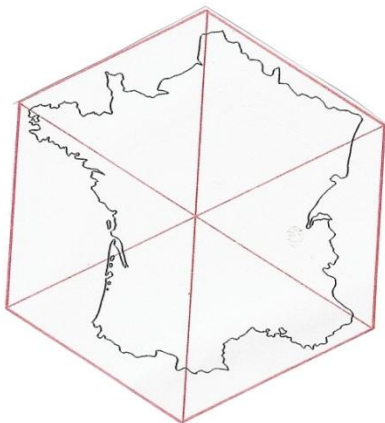
Ecris les mots nécessaires dont tu as besoin.
Ecris en mot-clés pourquoi tu voudrais savoir les prévisions de la météo de demain ou d'après demain.

Exercice 21 à la page 36 Tâche préparatoire
Déroulement: à trois:
- Le numéro 1 ne montre pas sa carte météo, mais présente le temps qu'il y fait. Il commence par: aujourd'hui il ... à Paris/ ... Le numéro 2 dessine le temps, les températures et les villes sur la carte. Le numéro 1 montre sa carte et contrôle le résultat. Ensuite les numéros 1 et 2 échangent leurs raisons pour lesquelles ils espèrent quíl fera ... demain ou après-demain. Chacun pose une question sur ce souhait.
- Le numéro 3 écoute, écrit un conseil et un compliment et échange-les à la fin de cette conversation.
- Ensuite le numéro 3 présente le temps, le numéro 1 dessine. Le numéro 3 montre sa carte. Ils font la conversation. Le numéro 2 écoute et donne des conseils et des compliments.
- Finalement le numéro 2 présente et 2 et 3 font la conversation. Le numéro 1 écoute et donne des conseils et des compliments.

Phrases/mots utiles:
Quel temps fait-il aujourd'hui? Quel temps fera-t-il demain ou après-demain?
Il pleut/ pleuvra, il neige/neigera, il ya des nuages/ il y aura des nuages, il fait beau/ il fera beau …
Demain je vais faire du vélo. J'espère qu'il fera sec.
Question possible: pourquoi tu ne prendras pas le bus?
Après-demain je vais me promener avec mon chien. J'espère que les températures seront en hausse.
Question possible: pourquoi tu trouves cela important? Tu pourras mettre des vêtements chauds.
Bof, mais moi je n'aime pas vraiment le froid, la pluie …
Oui, exactement!
Je ne connais pas le mot en français, tu pourrais m'aider?

Appendix 3: Interventions

Phase 1 2010 Week 35 - 41

<u>Kick-off meeting</u>
- Kick-off meeting of the project 'interaction and communication in French', the topics and the tasks.;
- Presentation of the researcher;

Questionnaire 1:
- Items about the task instruction, their interest in the project and the students' attitude towards and experience with interactive and communicative speaking activities

<u>Designed speaking activity 1</u>; *Une enquête sur les ados et les marques*
Type of task
- Information- and opinion-gap activity;
- Reading activity in textbook and speaking

Format
- in groups of three, alternating execute the roles of interlocutor and observer

<u>Speaking activity textbook</u>; *Mon style à moi*
Type of task
- Preparation for an assignment
- Mood board

Format
- in groups of three, alternating execute the roles of interlocutor and observer

<u>Designed task-specific rubric</u>

<u>Assignment</u>
Type of task
- Presentation of the mood-board

Format
- Half of the group, role of observer, listening and filling in a simple evaluation form

Questionnaire 2:
- Items about the learning outcomes of the observing activity

<u>Designed speaking activity 2;</u> *Sortir*
Type of task
- Information- reasoning- and opinion-gap activity
- Listening activity in textbook and speaking activity on the basis of a holyday diagram, filled in by the pupils.

Format
- in groups of three alternating execute the roles of interlocutor and observer

Questionnaire 3:
- Items about their interest in observing the speaking activities, the learning outcomes of the observing activity, the collaboration process and the content of the info-gap the learning outcomes of the observing activity

244 - Teacher Professional Development through a Teacher-as-Curriculum Maker Lens

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Abstract: How teacher professional development is conceived, approached, and studied communicates the view held of teachers. It also conveys the conception of knowledge underpinning teacher learning and how experience figures into the chosen perspective. Most often, others' prescriptions of what teachers should know and do takes precedence over teachers' personal professional understandings of their growth. In this chapter, a different image of teachers—teachers-as-curriculum-makers—will be presented, along with a different notion of teacher knowledge, a personal practical view emerging from the narrative continuities of teachers' lives. The consequences of not focusing relentless attention on teachers as learners along the career/life span and all that "the paradigm of the practical" (Greene, 1994) has to offer will also be considered, together with the long-term impact on the teaching profession.

TEACHER IMAGES | TEACHER KNOWLEDGE

The dominant image of teachers-as-curriculum-implementers upholds the position that teachers are merely agents of the state, paid to do its bidding. In this prevailing view, shifts in teachers' practices occur because policy makers at various levels of the system mandate changes that teachers must dutifully—due to legal requirements/subordinated line positions/lack of power—follow. Within this scenario, the teacher is a "technician, consumer, receiver, transmitter, and implementer of other people's knowledge" (Cochran-Smith & Lytle, 1999, p. 16). This image of teachers as being positioned in an educational conduit (Clandinin & Connelly, 1995; Craig, 2002), delivering curriculum products to students, has spread like wildfire in the teaching enterprise, particularly in the policy arena, but also significantly within the theoretical terrain due to theory's long-standing estrangement from practice (Schwab, 1969). Clandinin and Connelly (i.e., 1995) liken this top-down approach to change by injection, with each new injection resulting in new knowledge prescriptions for teachers. Sadly, externally imposed measures tend to be disconnected from what teachers have experientially come to know and do in their practices. This is highly problematic because teachers' practices reflect their personal practical knowledge in action (Connelly & Clandinin, 1985; Clandinin, 1986), not simply what others expect of them, although others' expectations enter the mix (Clandinin & Connelly, 1992).

But this prevailing paradigm ignores the existence of an alternate image of teaching, one that is more sensitive to teachers as active agents (Schwab, 1954/1978) and the mindedness Dewey (1908) afforded them. In this view, teachers are curriculum makers—"the fountainhead of the curriculum decision" as Schwab (1983, p. 241; also see Fox, 1985, p. 77) put it—who "*must* be involved in debate, deliberation, and decision about what and how to teach" (Schwab, 1983, p. 245, italics in original). The image of the teacher-as-curriculum-maker focuses attention on the primacy of the teacher in organizing, planning, and orchestrating classroom interactions because only the teacher is situated at the interstices of the curricular exchange and meets students face-to-face. Thus, curriculum is what happens—what becomes instantiated—in the moments when teaching and learning fuse. In that fusion (see Figure 1), teachers use what is in their students (learner commonplace), their teaching situations (milieu commonplace) and themselves (teacher commonplace) to make curriculum (typically organized around the subject matter commonplace) in a way that cannot be captured in a codified knowledge base without negating the continuity of experience (Dewey, 1938) that facilitated the human knowing.
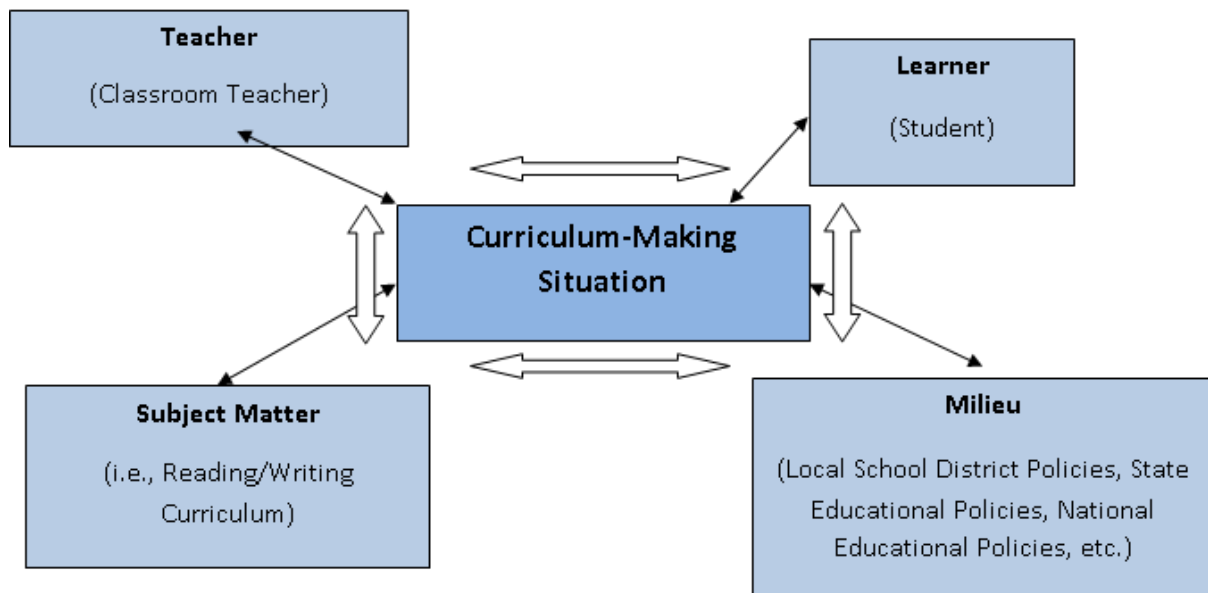
Figure 1: Schwab's commonplaces of curriculum

In a nutshell, knowledge culled from experience cannot be "tested, packaged, imparted and sent like bricks across countr[ies] to build knowledge structures that are said to accumulate" (Eisner, 1997, p. 7) because the teacher, like the student, is indispensable to the body of knowledge that exists (i.e., Dewey & Bentley, 1949; Fenstermacher, 1994) and essential to the curriculum making act (Schwab, 1983). In essence, the teacher is "the most responsive creator of curriculum" because he/she "negotiates the formal planned curriculum of governments and publishers within his/her practice, alongside the lives of learners" (Murphy & Pushor, 2010, p. 658). Consequently, in the teacher-as-curriculum-maker image, attention turns from written plans, authorized textbooks and government mandates (Clandinin & Connelly, 1992, Connelly & Clandinin, 1988), which typically privilege the subject matter commonplace and confine the teacher to a dispenser of knowledge role, to curriculum as it is lived within the context of people's lives (Downey & Clandinin, 2010), a mingling of Schwab's four curriculum commonplaces (teacher, learner, subject matter, milieu) mediated by the teacher. And, in stark contrast to lists of codified knowledge, stripped from context, disembodied from persons, and devoid of relationship, what emerges are the most important aspects of teacher knowledge, which are "ephemeral, passionate, shadowy and significant…for the most part…reflect[ive of] teachers' lives" (Connelly & Clandinin, 2004, p. 42).

TEACHER KNOWLEDGE | TEACHER PROFESSIONAL DEVELOPMENT | PUBLIC POLICY

When the image teachers are expected to live subjects them to policy makers who dictate and manipulate knowledge as if it could/should be possessed, measured, and reified as an indicator of teacher effectiveness, the idea of teacher professional development falls victim to the shifting whims of decision-makers and takes the form of one-shot training sessions. Such one-size-fits-all sessions typically do not build on what individual teachers already know and do. Instead, teacher professional development is approached generically—as if all teachers exhibit the same malady and are in need of the same antidote. Even more troubling is the underlying belief that teachers' knowledge is deficit and not simply in need of further cultivation, but requiring total replacement. This mindset recently surfaced in my longitudinal work with Daryl Wilson, a middle-school literacy teacher in the U.S., whose professional development experiences I have studied since 1998 (Craig, 2010). Despite Daryl's stellar teaching record and ongoing teacher leadership role in his school, he was expected to abandon units of study that held great personal meaning for him and had been well-received by his literacy students and their parents to teach what a consultant—unfamiliar with the students, school, and district—declared more appropriate.

This type of external manipulation of the teaching/learning act is troubling from a teacher knowledge point of view and problematic from a policy perspective. As Cohen and Garet (1975), among others (Cremin, 1990; Olson & Craig, 2009, Tyack & Cuban, 1995) have maintained, educational policy tends to be a "grand

story" of loosely connected ideas that are often based on "faulty logic" that "lack explanatory power" (Cohen & Garet, 1975, p. 17). Such policy stories have to do with "a large and loose set of ideas about how [things] work, [what] goes wrong, and how it can be set right" (p. 21). These grand stories take a system view; they see things from a distance and "small" (Greene, 2000) because a "big" view (Greene, 2000) of how things play out in particular teachers' classroom situations has neither been fully recognized nor appreciated as the critically important linchpin in successful policy enactment. Greene (2000) further elaborated what she meant by "small" and "big" this way:

> To see things or people small, one chooses to see from a detached point of view,…to be concerned with trends and tendencies…To see things or people big, one must resist viewing other human beings as mere objects…and view them in their integrity and particularity instead (p. 10).

When big and small perspectives are linked with policy makers' approaches and behaviors, we find that what policy makers create is not a flexible framework that supports teachers as they interface with live students and inert curriculum documents (all the while drawing on their personal narrative histories and individual propensities), but frequently something more akin to "a bad eclectic" (Schwab, 1983). Put differently, various pieces of the policy puzzle do not fit snugly together despite teachers' valiant attempts to make them cohere in their face-to-face work with youth. Ultimately, different aspects of educational policy trace to different philosophical and pedagogical traditions that have accumulated over time, some of which conflict with one another.

In my research program, teachers in professional development sessions have focused on arts integration (Craig, 2006) and readers' and writers' workshop (Craig, 2009a)—approaches seriously impeded by the U.S.'s No Child Left Behind Act (2002), despite arts integration and the workshop approach also receiving support from policy makers. The article, "The contested classroom space: A decade of lived educational policy in Texas" (Craig, 2009b), captures several such theory-practice-policy collisions. The work suggests that the less-than-productive mixing of educational imperatives at the policy level, each justified by different theories, creates intractable tensions in teachers' practices and student learning due to the incommensurable nature of the eclectic that has been amassed, largely devoid of teachers' participation. For Schwab, potentially good practices (i.e., arts integration? readers' and writers' workshop?) built on less-than-good policies (i.e., No Child Left Behind?) suffer from "poisoning at the source" (Schwab, 1959/1978, p. 151). This further complicates the impossible roles of teachers (Schwab, 1959/1978) and teacher educators (Ben-Peretz, 2001). Not only are the forces of continuity and change with which teachers contend never ending, the management of the tensions arising from them has become increasingly unwieldy and politically charged, given the penalties associated with not complying with accountability mandates.

EXPERT KNOWLEDGE | TEACHER PROFESSIONAL DEVELOPMENT

So far, conflicting images of teachers and problems arising from less-than-ideal educational policies and the consequences both have on teacher knowledge and teacher professional development have been discussed. Now, attention turns to a third major problem: expert knowledge and its relation to, and impact on, teacher professional development. Returning to Schwab's 'practical,' particularly his commonplaces of curriculum, one finds that in professional development pursuits (see Figure 2) teachers are positioned in the learner role (as opposed to their students) whereas staff developers and various other consultants, some of whom may be university professors, occupy the teacher commonplace typically reserved for classroom teachers. Milieu remains relatively the same as in other curriculum situations, but subject matter changes. It includes not only content knowledge from the disciplines, but also pedagogy and teaching dispositions as summarized, for example, in the National Council for Accreditation of Teacher Education (NCATE) standards in the U.S (2001).
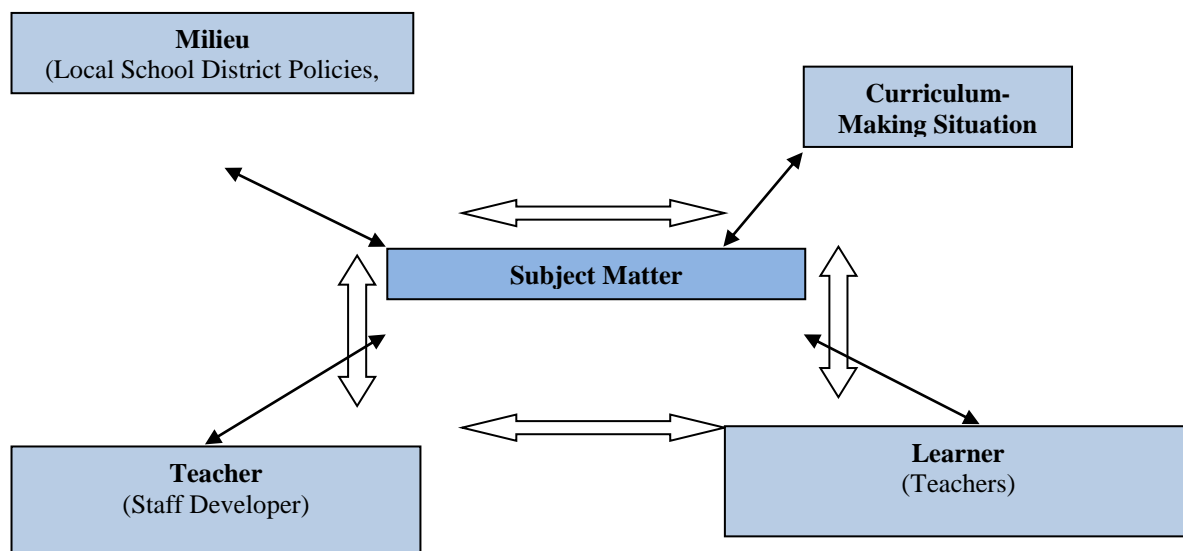
Figure 2: Changes in the commonplaces of curriculum configuration

The re-configuration of the curriculum commonplaces places the teacher in this particular curricular situation in the vulnerable role of (adult) learner and once again shines the spotlight on the teacher-learner relationship. However, just as uneven power distribution exists in student-teacher relationships, power differentials are also present in teacher-staff developer relationships, particularly when professional development takes the form of training sessions where the teacher is expected to uncritically accept the knowledge of the hired expert as emblematic of 'best practice' rather than 'trying on' changes within the context of one's own classroom teaching and publically reconstructing one's personal story of what it means to teach. In short, the training mindset reduces the teacher as a human being to the mundane, repetitive role of a human doer whose doings are directed by others. Fueled by the technical rationalist philosophy, this approach assumes homogeneity among the teacher population and among the student population and within the skills set deemed lacking (Darling-Hammond, 1993). Furthermore, training revolves around predetermined skills and competencies (Bullough & Gitlin, 1994) that are understood behaviorally, and operates from a worldview which narrowly defines teaching and learning (Goodlad, 1994). Finally, in the worst case scenario, "performance training sects" may emerge where trainers "trap 'underdeveloped' schools and their teachers within cycles of minimum competence" (Hargreaves, 2003, p. 191).

As can be seen, the issues and implications of teacher learners working with expert trainers who represent the teacher commonplace are significant. The core issues reflect the teacher-as-implementer image of teaching and echo Schwab's warning about the roots of particular policies undermining well-meaning practices. But two associated questions critical to this chapter's focus also need to be raised: What is the difference between a teacher trainer and a consultant engaged in promoting teacher growth? How does expertise figure into these different roles and relationships?

To address these queries, I return to my longitudinal work with Daryl Wilson. Earlier, I spoke of how Daryl's expert knowledge of himself as a teacher, his students as individual learners, his state's reading and writing curriculum as he interpreted them, and the particularities of his school context as it changed over time during his tenure at the campus were rendered not only inconsequential, but totally inadequate and needing to be discarded in the face of the expert trainer's outside knowledge of the workshop approach to reading and writing. The personal and public turmoil this caused for Daryl and his colleagues—one comparing her experience to being held defenseless "like a butterfly under a pin" (Craig, in press)—raised the question of whether expert consultants can ever work successfully with expert teachers such as Daryl and other members of his literacy department, due to the inequities in human relationships and clashes in expertise and despite the teacher-as-curriculum-maker image openly acknowledging that teachers are experts in their own right who hold and express knowledge vital to the curriculum situation.

The answer to this query came earlier than anticipated, arriving in the form of the stories of experience (Connelly & Clandinin, 1990) Daryl Wilson lived and told, re-lived and re-told. In the summer months following Daryl and his colleague's two-year stint with the literacy trainer who left "army boot footprints on their practices" (another colleague's expression), Daryl chose to fly to a different state to attend a professional development session led by another literacy workshop expert whose approach significantly

differed from that of the first trainer. This second literacy expert challenged the gathered teachers—"in a good way" (Daryl's words)—to develop tension and beauty in their writing products through reflectively drawing on their personal experiences and engaging in the writers' workshop method. As a learner, Daryl returned to his school with drafts of how he wove beauty and tension into his story of running away as a teenager. The workshop enabled him to inspire his students using examples from his own essay. His students subsequently produced quality writing samples, also involving tension and beauty, and emerging from their teen experiences. Daryl additionally combined what he and his students had authored and presented the work to his colleagues in a literacy department meeting. In response, Daryl's peers

> …made it clear to him that his teaching example resonated with them—and that it, along with his student work samples, were products to which they—and their students—would aspire. One colleague distinctly noted that his lesson was not a "zinger lesson"—a fail-proof lesson that would work anywhere, anytime—like the ones the initial staff developer used to teach their students or the lessons the teachers routinely carried back with them from their summer training sessions in [other states]. (Craig, 2010, p. 432-433)

In this narrative exemplar (Lyons & LaBoskey, 2002) presenting a viable alternative to lists of codified knowledge, we witness different kinds of experts (literacy teacher/literacy consultant; literacy teacher/literacy students; literacy teacher/literacy department peers) working fruitfully together. Here, the teacher as a learner is more than a receptacle to be filled with knowledge by an expert trainer over the long haul or in the short term by "flavor of the month" training (an expression used by a high school teacher in an Olson and Craig inquiry [2001]). Schwab argued that prime examples of teacher learning occur when acknowledged experts (the consultant/Daryl) work with learners (Daryl/his students/his peers) in ways that attend to, and are mindful of, their wholeness as human beings. For Schwab, learners must be approached "not only [as] minds or knowers but [as] bundles of affects, individual personalities, earners of livings…They are not only group interactors but possessors of private lives" (Schwab 1969a, p. 9). In short, teachers' emotions and identities unavoidably come into play in change initiatives (i.e., Craig, 2004; van Veen & Sleegers, 2009).

Because of the human particularity associated with teacher learning, along with the fundamental need for the learner (teacher) to willingly accept the instruction of another human being (trainer/consultant), Connelly and Clandinin (2004) suggest that less lofty goals be sought in formal teacher professional development. They explain their reasoning as follows:

> We do not mean to imply that …formal teacher education be downplayed. [It is], of course, important. But we do think that, on the whole, there is more for most teachers to learn by coming, self-consciously, to grips with their own teacher knowledge than with what may be learned from a knowledge or skills for teaching workshop provided by others…Formal professional developers, must, of course, continue their work. This work should, we believe, be done in the context of an understanding of the significance of informal teacher education and, therefore, with a humble spirit and with modest expectations (p. 42).

Having addressed the role of experts and potential clashes between teacher expertise and expert knowledge of different kinds held by consultants authorized to instruct teachers, I address an equally complex issue: teacher learning in small group settings and its relationship to teacher knowledge.

TEACHER KNOWLEDGE | TEACHER KNOWLEDGE COMMUNITIES | PROFESSIONAL LEARNING COMMUNITIES

Ineffective one-shot workshops with little or no impact on teachers' daily work, persistent calls for increasing student performance through standardized testing/accountability measures/punitive sanctions/negative press coverage, and the issues swirling around expert knowledge, have resulted in recasting teacher professional development in terms of learning in community. In this form of teacher learning, leadership is ideally thought to be equitably distributed among participants (teachers/faculty/consultants) such as the fruitful way Kooy (2006) has interacted in the various iterations of her book club project. Schwab historically favored teachers at all levels sharing their knowledge. For him, teachers deliberating in community represent "a pooling of diversities of experience and insights" (Schwab, 1969b, p. 30). This stands in direct opposition to others of his generation who declared teachers' communal learning a "pooling of ignorance" (Schwab, 1950/1978, p. 107-108). Even today, modern critics—even some

who theoretically align with the teacher-as-curriculum-image of teaching, view it as "a ruse for giving teachers permission to 'do their own thing.'" This, of course, is a gross misrepresentation of what the teacher-as-curriculum-maker approach intends (Grimmett & Chinnery, 2009, p. 134).

Also, some individuals/groups corrupt the intent of professional learning communities by forcing them to fit their personal, administrative, and system-level agendas. This became clear in my long-term study with Daryl Wilson as I studied the development of teachers' knowledge in knowledge communities (Craig, 1995b, 1995c) within the context of organized school reform (Craig, 2001). When my research with Daryl first began, the readers' and writers' workshop initiative discussed earlier was couched in the language of teacher learning within a professional learning community. At face value, this suggested a version of a knowledge community. However, as early as my literature review (Craig, 2009a), I discovered significant differences between teachers' knowledge communities developed around the teacher-as-curriculum-maker idea and organically lived by teachers, and professional learning communities externally imposed by school administrators/school district personnel aided by university professors engaged in consulting activities. Before I unpack these differences, I share my understanding of teachers' knowledge communities:

> …safe, storytelling places where educators narrate the rawness of their experiences, negotiate meaning, and authorize their own and others' interpretations of situations. They take shape around commonplaces of experience (Lane, 1988) as opposed to around bureaucratic and hierarchical relations that declare who knows, what should be known, and what constitutes 'good teaching' and 'good schools' (Clandinin & Connelly, 1996). Such knowledge communities can be both found and created (Craig & Olson, 2002, p. 116).

Meanwhile, other educational researchers (e.g., DuFour, 2001, 2004; DuFour & Eaker, 1998; Fullan, 2002, 2004; Hargreaves, 2002) have defined professional learning communities. For this chapter, I adopt DuFour's conceptualization because the administrators in my study, along with some teachers, had attended several of his workshops. This suggested that DuFour's understanding of professional learning communities was possibly foremost, though not exclusively, on their minds. To DuFour (2001), professional learning communities "focus on learning rather than teaching, work collaboratively, and [are] accountable for results." According to him (DuFour, 2004), "people use the term to describe every imaginable combination of individuals with an interest in education—a grade-level teaching team, a school committee, a high school department, an entire school district, a state department of education, a national professional organization, and so on" (p. 6). Hence, when I placed my knowledge community conceptualization alongside DuFour's understanding of professional learning communities for comparison purposes (see Figure 3), the following differences emerged:

Knowledge Communities	Professional Learning Communities
Organically lived	Administratively introduced
Can be found or made	Expected to be present
Commonplaces of experience	Focus on learning rather than teaching
Relational among individuals and across groups; collaborations emerge	Collaboration anticipated at the outset
May exist within member of various groups; also occur between teachers who interact for their own purposes	Any visible group within a school/organization
Accounts of practice	Accountable for results

<div align="center">▼   ▼

Practical View of Knowledge   Formal View of Knowledge</div>

Figure 3: Comparing the qualities of knowledge communities (Craig) and professional learning communities (DuFour)

Also, as my close research with Daryl and his colleagues unfurled, I found that the idea of teachers' knowledge communities fit neither with the theoretical concept of professional learning communities as bureaucratically enacted nor with the narrow No Child Left Behind definition of the high quality teacher as expert in a specific content area. At the same time, the theoretically rich, socially conscious workshop approach to reading and writing neither resonated with the dogmatic approach to professional development the teachers experienced nor with the No Child Left Behind Act's singular focus on teachers' subject matter expertise. In fact, the serious ways that theory, practice and policy were out-of-synch with one another

exemplified the theory-practice-policy divide I mentioned earlier, comprising a leading educational issue in the first quarter of the twenty-first century.

LINGERING ISSUES | LATENT POSSIBILITIES

In this chapter, I have argued that teacher-as-curriculum-maker image is foundational to high quality teacher professional development and a productive lens with which to approach teacher learning. I surveyed the work of Schwab (U.S.) and Connelly and Clandinin (Canada), my direct intellectual predecessors, and supported those findings with what has more recently emerged in my own research program as a Canadian studying teacher learning in American school contexts for more than a decade. I also wove in views of other researchers who helped set the context for why the teacher-as-curriculum-maker image is so vitally important. In conclusion, I tie together some major consequences having to do with (1) the boundaries between the two images of teaching, (2) the critics of the teacher-as-curriculum-maker image, and (3) the teacher-as-curriculum maker image and its relationship to teacher education along the continuum.

The prevailing image of the teacher-as-curriculum-implementer dominating the reform, administration, and some teaching research literature, significantly runs against the grain of the image of the teacher-as-curriculum-maker, diminishing its possibilities as a viable lived alternative. At the same time, the dualistic ways the two images are portrayed is not helpful. Boundaries do exist between the teacher-as-curriculum-implementer and the teacher-as-curriculum-maker. These boundaries, however, are not discreet. Ideally, they are porous, with opportunities for ideas and practices to flow freely and reflexively between them. Furthermore, teachers in the curriculum-making role are not totally oblivious to policy makers' mandates. They are, for the most part, working diligently to incorporate what makes sense for everyone within the given contingencies of their teaching situations. Hence, more fluid inquiries need to be conducted that focus on the ways prescribed formal knowledge and developing informal (practical) knowledge productively intersect. Here, I would include such perceived anomalies as the direct ways that reflective practice has been taught and the indirect ways that formal knowledge is successfully encountered in teacher development experiences. To me, there is a great deal more to be unpacked here and the international research community has not yet plumbed its depths.

The second residual point has to do with critics and their criticisms. At the 2009 American Educational Research Association Meeting, a Middle Eastern colleague shared his impression that work involving the teacher-as-curriculum-maker image/Schwab's 'practical' is currently considered "old-fashioned." In my view, the comment was prompted by (1) the historical dominance of the curriculum-implementer image, (2) the fact that, in the traditional paradigm, teacher/learner hierarchies trump concern for human experience, and (3) the idea that critical theory is not invoked as an *a priori* framework, but rather when storied teacher experience warrants its presence. My immediate response was: "How could classroom/field-based research ever be considered old-fashioned?" For me, the argument that practical teaching inquiries are outdated modes of inquiry suggests the possibility of ignoring the lived realities of curriculum making itself as well as the dynamic interactions of teacher, learner and milieu through which learning is daily negotiated, enacted and experienced. When I reflected on the exchange later, I realized I had had a vicarious brush with what Schwab (1969) termed a "flight from the field" to theory—or to what currently is the move to abstract empiricism. The systematic avoidance of the authentic, contextually aware and richly informed knowledge of practitioners in the field serves to further fuel the relentless appropriation of the 'learning community' model for top-down professional development, complete with predetermined outcomes for teacher knowledge and measurable indicators of student success. Such an approach ignores the complexities of learning itself, including the need to be attentive to learners and teachers alike.

This experience reminded me of an article authored by Cremin (1953) entitled "The curriculum maker and his [sic] critics" in which Cremin argued that those in higher education need to learn to deal with the "apathetic and lunatic fringe within our ranks as well as the attackers outside." It was startling to realize that then, as with now, the greatest risk to the teacher-as-curriculum-maker image probably lie within the academy. This insight brought to mind William Butler Yeats' poem, *Toward break of day*, which specifically discussed "things fall[ing] apart" in such a way that "the centre cannot hold…." Given what has been perilously happening on the world stage in politics, business, the environment, the economy, education, and research, I recognized that my inability to respond directly to the rhetoric of teacher experience as irrelevant contributed as much to "the centre not holding" as the critic's biting remark. Those conducting teaching and teacher education research need to consciously cultivate ways to co-exist so that some findings from academic inquiries make their way into policy deliberations, which most assuredly affect the lives of flesh-and-blood teachers and students. Otherwise, all of our research—through mutual canceling out—will continue to be rendered useless.

Finally, I focus attention on the teacher-as-curriculum-maker and teacher learning along the continuum. While at the International Study Association of Teachers and Teaching (ISATT) Conference in Australia in 2005, I attended a teacher education session hosted by Finnish researchers. I was amazed to discover that they were using a similar narrative assignment to what Connelly and Clandinin described as 'the curriculum of life' in their 1988 book, a narrative approach that I personally have adapted and used—with much student satisfaction—in the master's and doctoral degree level courses I teach. Not only were the Finns enacting the assignment, which they called 'rivers of life,' in their teacher education classes, but they were systematically developing and adapting the work throughout teachers' careers as they unfolded over time. While language initially prohibited me from reading what the Finnish preservice teachers had to say in the exemplars featured, I was still able to intuit how powerfully self-revealing and professionally useful it would be to experientially build on something so infinitely profound over teachers' life spans. For me, this represented a powerful example of the teacher-as-curriculum-image being intentionally lived over the continuum of teachers' careers.

Not only does this story capture my point, it directs attention toward future work required in the field. Pedagogies that assist in the cultivation of the teacher-as-curriculum-maker image must be shared like Connelly and Clandinin and the Finnish researchers have done. To their examples, I would add the book, *Narrative inquiries in curriculum-making in teacher education,* edited by Canadians, Kitchen, Ciuffetelli Parker, and Pushor (2011). I would also include the collaborative work of Li (U.S.), Conle (Canada), and Elbaz-Luwisch (Israel), which centers on shifting polarized positions (Li, Conle & Elbaz-Luwisch, 2009), a major challenge encountered not only in education classes, but increasingly around the world as meta-narratives that pigeon-hole human differences increasingly rule. There is no doubt that many leading international researchers (i.e., Ben-Peretz, 2009; Cochran-Smith & Zeichner, 2005; Cochran-Smith & Lytle, 2009; Grimmett & Chimmery, 2009; Kwo, 2010) point to the teacher-as-curriculum-maker image as the illuminative path through the current educational malaise and call for its elaboration in fine-grained detail. Marking that territory will continue to be a professional imperative and a personal honor

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251 - Developing Experience-Based Principles of Practice for Teaching Teachers

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Abstract: This paper constructs six principles of practice for teaching teachers, using a collaborative self-study methodology to analyze data collected over a period of 6 years. We use the concept of the authority of experience as a central perspective from which to construct principles of practice. Data are drawn from our shared and individual experiences as teachers of physics curriculum methods courses at our two universities. Our central focus is on the goal of teaching new teachers to think pedagogically in order to create contexts of productive learning for their students. Particularly informative were data gathered from individual and focus-group interviews with five teacher candidates conducted by one of us in a class taught by the other. We conclude by acknowledging several tensions that continue to challenge us as we work to focus our teaching on big-picture issues of teaching and learning.

Keywords: pre-service teacher education, experience-based principles, thinking pedagogically, self-study

INTRODUCTION

This paper constructs six principles of practice for teaching teachers from our shared experiences (2005-2011) engaged in collaborative self-study of our practice teaching physics curriculum methods to teacher candidates. These collaborative self-studies began with the commencement of Shawn's Ph.D. studies with Tom as his thesis supervisor. Conscious of Shawn's intention to pursue teacher education in both research and practice, Tom encouraged a collaborative self-study during the doctoral program to enable both of us to identify and explore our assumptions about teaching teachers. In 2005-2006, we shared a teaching arrangement where Tom was the teacher of record for the first half of the year and Shawn for the second half of the year, while Tom was on leave. In 2006-2007, we shared responsibility for teaching the physics methods course while Shawn developed his research questions for his thesis. In 2007-2008, Shawn was a participant-observer in Tom's class while also interviewing five teacher candidates from Tom's class about their course and practicum experiences. The final year of Shawn's Ph.D. studies (2008-2009) found us returning to team-teaching and enacting pedagogical approaches based on findings from the research conducted a year earlier.

We now teach in different universities and continue our conversations about teaching teachers in yet another variation on self-study. We find the concept of developing a principled approach (Ambrose et al., 2010; Kroll et al., 2005) to our practice of teaching future teachers to be a particularly productive way of looking back over our years of collaborative self-study. This paper analyses and interprets our 6 years of self-studies with a view to articulating principles of practice for teaching future teachers. In doing so, we take seriously the calls by Zeichner (2007) and Loughran (2008, 2010) to both "accumulate knowledge" across self-studies and to "go beyond stories" of personal practice to develop principles that have epistemic import. We use the concept of the authority of experience as a central perspective from which to construct principles of practice.

METHODOLOGY

Self-study is not a prescriptive methodology (LaBoskey, 2004; Loughran, 2005; Pinnegar & Hamilton, 2009), as self-study researchers draw on a variety of research methods. Self-study provides an important framework for the development of professional knowledge about teaching teachers (Bullock, 2009a). Although the term *self-study* might well bring to mind images of solitary researchers thinking deeply about their practice, an important feature of many self-studies is critical friendship with a trusted colleague (e.g., Schuck & Russell, 2005). Costa and Kallick (1993, p. 50) defined a critical friend as "a trusted person who asks provocative questions, provides data to be examined through another lens, and offers critique of another person's work." In our opinion, it is critical friendship that allows self-study methodology to move beyond good-news stories of practice toward a deliberate analysis of pedagogy. A recurring emphasis in self-study literature is the problematic and unexpected features of practice, as self-study methodology "looks for and

requires evidence of reframed thinking and transformed practice of the researcher" (LaBoskey, 2004, p. 859). We continue to find LaBoskey's (2004, pp. 859-860) four methodological considerations for conducting a self-study to be useful guideposts for our research:

    f.   Self-study is aimed at identifying and reframing problems of practice encountered by the researcher with a view toward improving his or her own pedagogy.

    g.   Self-study challenges the researcher's tacit understanding about teaching and learning by encouraging interaction with colleagues, students, and educational research.

    h.   Self-study generally employs multiple, usually qualitative, methods that are used in the broader education research community as well as qualitative methods that are unique to self-study research.

    i.   Self-study should be made available to the broader education research community for the purpose of consolidating understanding and suggesting new avenues for research.

Our paper synthesizes and interprets the results of collaborative self-studies that we have conducted since 2005. In response to the challenge issued by Zeichner (2007) to "accumulate knowledge across self-studies", we look critically at our work with a view to suggesting principles of practice for teaching teachers. We accept the view of Kroll et al. (2005) that principles offer a dynamic alternative to the more traditional idea of propositions, because principles are understood to suggest future directions and contextual understanding rather than objective truths. To that end, we offer six principles, supported by warrants developed from relevant literature and from 6 years of collaborative self-study.

SIX PRINCIPLES OF PRACTICE FOR TEACHING TEACHERS

Learning to think pedagogically is at the core of learning to teach.
As a teacher educator, it is easy to assume that a methods course should focus on ensuring that those learning to teach understand fully and accurately the content of the curriculum they will teach. It is also easy to assume that recommended practices will be adopted by new teachers once they have been made aware of those practices, typically by reading about them and being told. It took many years of listening to those learning to teach and reviewing our own practices as teacher educators to realise that the central focus of a pre-service teacher education program should be on developing the ability to *think pedagogically*. Teachers teach the content of various disciplines to their students; teacher educators must teach their students what it means to think like a teacher. While this always involves working with the subject matter of the curriculum and various disciplined perspectives on education itself, *analysing the relationship between teaching and learning in disciplined ways does not come naturally.* Developing the ability to think pedagogically must begin in pre-service teacher education, to initiate a perspective that will continue to develop over a career. Books such as Loughran's (2010) *What Expert Teachers Do* provide excellent support for helping new teachers to think pedagogically.

Learning to think pedagogically is neither obvious nor intuitive for teacher candidates; most have spent a lifetime observing teachers with little incentive to think carefully about why teachers behave as they do. As a result, most teacher candidates come to a Faculty of Education able to do reasonable impressions of how a teacher acts in a classroom. Nevertheless, they tend to be unable to see clear connections between particular teaching strategies they might use and the effects those strategies might have on a students' learning. In short, they are unable to think pedagogically.

Data from a collaborative self-study that we conducted in 2007-2008 uncovered many of the challenges candidates face in thinking pedagogically. That year we decided to enact a pedagogical approach grounded in lesson study (Stepanek, Appel, Leong, Mangan, & Mitchell, 2007) that provided an opportunity for every candidate to plan a lesson in a small group, and for representatives of each group to teach the lesson twice (with the second version of the lesson to be developed according to peers' feedback on the first version). Early in the process it became apparent that candidates were having difficulty providing feedback to peers in ways that were different from suggestions that might be made by associate teachers. Tom called attention to the difficulties they were experiencing shortly after the first lesson study, stating that "a lot of this [peer feedback] reads like 'do X instead of Y.' What I am struggling with is that we haven't named the learning effects. . . . Can we get better, individually and collectively, at naming the learning effects?" (Russell & Bullock, 2011, p. 26). Although Tom continued to encourage candidates to frame their comments in terms of teaching strategies and learning effects—to think pedagogically—many candidates actively resisted the process. We noted:

Several teacher candidates argued that there was merely a semantic difference between making a statement such as "do X instead of Y" and making a statement such as "the teaching strategy affected my learning in X ways." (Russell & Bullock, p. 26)

After continued prompting, we both noticed that the second round of lesson-study presentations prompted candidates to enact slightly riskier pedagogical approaches and to speak more openly about the effects that particular approaches were having on their learning. Overall, though, we concluded that the gains were marginal, largely because requiring a teacher candidate to teach a lesson to peers early in the year requires them to take considerable risk. In hindsight, we realized how much we were asking of teacher candidates. We were asking them to create a whole new language for talking about teaching when they were still struggling to make sense of their deeply-rooted default teaching moves.

Recognise the significance of the first class as a unique opportunity to challenge prior views of teaching and learning by making powerful and unexpected pedagogical moves that engage teacher candidates and stimulate conversation about pedagogy.

Shawn's first memory of Tom's physics class is the way it began by focusing on a shared classroom experience rather than reading through a course outline and discussing the required assignments. Tom engaged the class both in thinking about physics and in thinking about how to teach physics by using Predict-Observe-Explain (POE) pedagogy (Baird & Northfield, 1992). The procedure is familiar to many science teachers and science teacher educators: A situation is presented to a class and students are asked to make predictions about what will happen, record observations, and suggest explanations. At first the process may seem to be both a metaphor for the scientific method and a way of engaging students in learning to think scientifically.

We have come to believe, however, that POEs transcend an investigation of scientific concepts and go a long way to creating what Sarason (1996, p. 37) has called a "context of productive learning." A context of productive learning emphasizes shared intellectual control between teachers and students and an environment that is conducive to taking risks. Candidates in our physics methods courses typically come from undergraduate degrees such as physics, mathematics, and engineering and they tend to overestimate their conceptual understanding of basic Newtonian physics. POEs help call attention to some of the gaps in their undergraduate learning, with a view to emphasising the importance of exploratory, hypothetical talk rather than stating the correct explanation. POEs are often designed to highlight an unexpected result. We have found that the shared experience of building an incorrect prediction and finding ways to talk productively about how someone might be thinking if they made a particular prediction are early ways to signal our intention of creating a productive classroom environment.

In addition to challenging the cultural tradition of focusing on administration during the first class, beginning the physics methods course with a POE allows Tom to begin developing a relationship of mutual trust. Although candidates may believe initially that the point of a POE is to test their physics knowledge, the way Tom sets up POEs and the subsequent discussions helps to shift candidates' focus toward their learning during the POE process. Candidates are also encouraged to think about how a secondary school student might be thinking during a POE. The following excerpt from data collected at the beginning of our 2006–2007 methods class and first reported in Bullock and Russell (2009) reveals the typical way that Tom begins the year:

> Tom: If someone thought that the mirror would make the light brighter, how might that person explain that prediction?
> [Responses from teacher candidates]
> Tom: Notice that every answer you give is a right answer, because I can't argue with how someone might be thinking. Now, if someone thought that the mirror would make the light darker, how might that person explain that prediction?
> [Responses from teacher candidates]
> Tom: I am going to ask you to do something that will feel strange. Please close your eyes and raises one hand in a fist. When I say that prediction you wish to vote for, please open your hand so that I can count you. [Tom counts the votes for each prediction and then asks people to open their eyes]. That's the wonderful thing about POEs; everyone has taken university courses in physics, yet look at the range of responses.

[Tom moves the mirror in front of the light, revealing that that correct prediction depends on where the candidate's eyes are in relation to the angle of the mirror; for everyone, the area in question appears darker because the direct reflection is on the ceiling.]

Tom: How did that experience make you feel as a student? As you go through the year, remember that school is often a house of right answers. How long does it normally take you to conclude that you gave a wrong answer to a teacher? Most students know in an instant. One of the biggest challenges is how we tell students their answer is wrong. *Conducting a POE means that we don't have to tell students that they are wrong.*

The purpose of doing a POE in the opening minutes of the first class is to send a message: A physics methods classroom can be a safe learning environment in which individuals can offer opinions without fear of being judged as providing a wrong answer. As Holt (1964) observed, the fear of failure dominates many students' experiences of schooling. Post-secondary education is no different, for there is powerful and well-leaerned desire to give the right answer and please the teacher. Tom was careful to form his questions so that teacher candidates could hypothesize about how someone *might* support a prediction without stating how they personally would explain their own predictions. In this way, Tom indicated that he was interested in exploratory thinking and risk-taking rather than in passing judgement on the candidates' background knowledge in physics. Although we believe that Predict-Observe-Explain is both a powerful pedagogy to use in physics classrooms and a useful touchstone for candidates to begin thinking about the messages we are trying to get across, the broader purpose for beginning with a POE is to initiate a productive relationship with teacher candidates.

Teachers new and old are unlikely to adopt new teaching procedures unless they have experienced those procedures themselves and analysed the effects on their own learning.

Most teacher educators are aware of Lortie's (1975) concept of the *apprenticeship of observation*. The phrase has a certain initial plausibility, as we have all observed our own teachers through countless hours of schooling. Because pre-service teachers have little or no experience of teaching, it is easy to assume that they are empty vessels waiting to be filled with the wisdom of teacher educators' own teaching experiences. Thanks to the growing attention to the importance of working with what children already know, we began to understand how and why telling people new ways to teach has minimal impact on how they teach. Only by experiencing new pedagogical approaches personally and then analysing those experiences systematically can we begin to overcome the tendencies of all teachers and teacher educators to teach as they were taught.

The familiar language of *theory into practice* makes it easy for every teacher educator to assume that words will be sufficient to change practices, yet teaching is one of the most difficult practices to change. What we consider to be normal or appropriate is shaped in powerful ways by our own teachers' practices. Anything different makes us uncomfortable and is also likely to make our students uncomfortable. As Macdonald (1973, as cited in Stenhouse, 1975, p. 170) put it, "Genuine innovation begets incompetence. It de-skills teacher and pupil alike, suppressing acquired competencies and demanding the development of new ones."

Reflective practice involves much more than everyday meanings of the word *reflection*. Teacher educators need to teach people how to reflect and to model explicitly their own reflective practices.

Tom's interest in and understanding of the concept of reflective practice (Schön, 1983) was enriched by opportunities to hear Schön lecture at Queen's in 1984 and 1987. Those lectures inspired Tom to build a research agenda on the concept of reflective practice and to focus his research on teacher education generally rather than on teacher education in science. Reflective practice goes well beyond everyday meanings of reflection and focuses on learning from professional experience. Before we can teach others the meaning of reflective practice, it is essential to understand reflection from the perspective of our own professional learning from experience as teacher educators. Analysis of Tom's interviews of his physics methods students in 1992-1993 inspired the concept of the authority of experience (Munby & Russell, 1994), which calls attention to the fact that experience can have authority that may compete with and override the authority of reasoned arguments or the authority of position associated with an experienced teacher's advice to a novice.

The professional relationship between teacher candidate and teacher educator is crucial to the teacher educator's influence on how a teacher candidate will teach.

In one of the first sociological studies of teaching, Waller (1932/1961) argued that schools play a significant role in the transmission of cultural norms, particularly because school culture is characterized by "complex

rituals of personal relationships" (p. 103) between people who engage in a variety of rituals and ceremonies. One of the most familiar ceremonies requires students to sit and listen attentively as a teacher stands at the front of the room and talks about curricular content. Tom disrupts this familiar teacher-student relationship on the first day of the methods course by challenging teacher candidates to take an active role in their learning during predict-observe-explain pedagogy. Bain's (2004) discussion of how the best university teachers treat their students led Tom to renew his attention to the importance of my professional relationship with each person he teaches. This principle is at the core of our professional relationship with each other, a relationship that began in 1997-98 when Shawn was a student in Tom's class and we subsequently published an analysis of that early relationship (Russell & Bullock, 1999).

Our continuing interest in the power of Predict-Observe-Explain pedagogy led us to connect the importance of creating a safe classroom environment with an early and explicit focus on developing a productive relationship with teacher candidates. Another significant way that we build a relationship with teacher candidates is through anonymous feedback that we collect using both index cards and the affordances of course management software. Making "Tickets out of Class" a regular feature of the last few minutes of every class reveals the main messages and questions that candidates are grappling with. As Tom noted, "I have always thought that my teaching required listening to my students and asking them to play back to me the effects of my teaching on their learning" (Russell, 2007, p. 184). Asking candidates to quickly write down a few thoughts about the class has proven to be a simple yet effective way to think about how candidates perceive our teaching. Candidates have also spoken about the efficacy of tickets; one person from our 2008–2009 class offered the comment that "tickets leave us thinking after class." We continue to be fascinated by the diverse range of ideas that candidates take from a given lesson. This reminds us of the significant gap between what the teacher wants from a lesson plan and what the students get out of a lesson. The challenge, for us, is to try to keep that gap as small as possible.

In September, 2009, Tom did something he had never done before, inviting each student (in a class of 16) to meet with him for 20 minutes between the first and second class. His insight into the power of this principle was immediate when he arrived at that second class and realised how different it felt from the first, because he knew each person's name and something about her or him. That early one-on-one meeting paid rich dividends throughout the year. The inspiration for this practice came directly from Shawn's analysis of data he collected for his thesis research. The price in time is high, and the rewards are equally high. Tom has continued and extended the practice by meeting individually with each student (23 in 2010-2011) after the first and second practice teaching experiences. He is struck by the number of students who thank him for the opportunity to meet individually for the purpose of reviewing their professional progress.

Every teacher candidate takes a uniquely personal set of messages from the shared experiences of an education course. The single most important influence on what candidates take away is the tacit knowledge of teaching and learning that they bring from many years watching their own teachers.
Shawn's study (Bullock, 2009b, 2011) of the learning experiences of five candidates in the physics methods course in 2007-2008 forced us to abandon the easy assumption that, if all students experienced the same classes, then they all left with roughly the same messages and understandings. Data from 4 focus groups and 20 individual interviews, conducted at intervals during an 8-month preservice program, illustrated how each individual arrives with a unique set of assumptions about teaching and learning; the data forced us to conclude that each individual leaves with a similarly unique set of understandings in response to the learning experiences that are created in the class. In hindsight, we realized that at least part of the difference between the messages that teacher candidates take from their methods courses arises from the different experiences they have had observing teachers over many years as students.

Renewed attention to the many dimensions of the apprenticeship of observation linked with the evidence from Shawn's research focussed our thinking on the uniqueness of what each candidate takes from shared class and program experiences. Data gathered during the 2007-2008 academic year indicated that teaching and learning experiences in the physics methods course stood in sharp contrast to candidates' school experiences prior to the pre-service program and also in sharp contrast to what they observed during their practicum placements. The candidates were affected in different ways by the teaching strategies used in their physics course, but they agreed overall that the course was a non-traditional educational experience that differed significantly from their initial expectations. One candidate called attention to the importance of starting off a course by building a strong relationship:

> I found that teachers who establish an environment of trust, they're given a break compared to individuals who haven't. . . . [If] you start down the wrong path you're never going to get off it. It's

important to start things the right way, or start out the way that you want the class to go . . . establish the class environment that you want for the semester and model it. (Bullock, 2009b, p. 136)

Another candidate highlighted the foundational importance of relationships in teaching:

> Working towards the relationship is pretty integral. It's not just sort of like a helpful thing, like "This will go better if you like me" or "You'll listen to my lectures more if you think I'm a fun person." But more that that relationship is actually a specific part of the teaching, and that if that relationship's not working, then there's some kind of failure there on someone's part. (Bullock, 2009b, p. 136)

These two candidates viewed the relationship that Tom cultivated with his students as more than a nicety that made coming to class pleasant; it was a specific, foundational part of his teaching. Significantly, when asked what they learned from the physics methods course that was unique compared to the rest of their teacher education program, these same two teacher candidates bluntly replied: "How to teach" (Bullock, 2009b, p. 219). Although he did not want to come across as a "Tom cheerleader," one of the candidates explained: "What I mostly learned from physics class was just the way Tom taught" (Bullock, p. 224). The other four candidates echoed his statement, albeit in different ways. Some candidates were impressed by the range of active-learning pedagogies, such as POEs, used in the methods course, particularly when those pedagogies caused them to rethink how they learned. Other candidates took an early interest in how Tom cultivated his relationship with the class. By the end of the course, each of the five candidates agreed that *how* Tom taught was in fact the content of the methods course, and that the way he taught was predicated on a strong relationship with the class founded on mutual trust.

The 2008–2009 methods course was markedly different from the previous 4 years due to a cluster of candidates whose initial school experiences were in countries from which they later moved to Canada. These candidates compelled us to recognize yet another layer of significance in the apprenticeship of observation, namely, that our own apprenticeships of observation made it easier to predict the assumptions that candidates would have about teaching and learning from their apprenticeships, *provided that they also went to school in Canada.* This extra layer of complexity seems particularly relevant to future research into the effects of the apprenticeship of observation on teacher candidates' prior assumptions about teaching.

CONCLUSION

As we work to help teacher candidates learn to study their own development as learners and as teachers, studying our own practices has become an increasingly important part of giving genuine meaning to reflective practice and constructivist teaching approaches. We believe that characteristics of self-study such as critical friendship and reflection-in-action make sustained collaborative self-studies an important tool to help teacher educators to examine the assumptions underlying their practices and critical features of their pedagogy. Studying our own practice is not an end in itself but a driving force for reframing how we think about our practice in order to develop new, more engaging and productive practices.

By creating a context of productive learning with teacher candidates in their preservice year, we conclude that we can also create a strong potential for meaningful dialogue as the candidates enter the teaching profession. One of the inevitable challenges is that each new group of candidates has not shared with us the events that led to the new practices we develop. This reminds us of the importance of being explicit with candidates about why we believe that specific practices with which they may be unfamiliar or uncomfortable are relevant to their professional learning as they experience the transition from student to teacher.

In closing, we repeat the six principles of practice, this time without discussion so that they may be viewed as a set of principles rather than as individual ones.

1. Learning to think pedagogically is at the core of learning to teach.
2. Recognise the significance of the first class as a unique opportunity to challenge prior views of teaching and learning by making powerful and unexpected pedagogical moves that engage teacher candidates and stimulate conversation about pedagogy.
3. Teachers new and old are unlikely to adopt new teaching procedures unless they have experienced those procedures themselves and analysed the effects on their own learning.
4. Reflective practice involves much more than everyday meanings of the word *reflection*. Teacher educators need to teach people how to reflect and to model explicitly their own reflective practices.

5. The professional relationship between teacher candidate and teacher educator is crucial to the teacher educator's influence on how a teacher candidate will teach.
6. Every teacher candidate takes a uniquely personal set of messages from the shared experiences of an education course. The single most important influence on what candidates take away is the tacit knowledge of teaching and learning that they bring from many years watching their own teachers.

We see these as a set of principles grounded in our practice and subject to rigorous, ongoing, critical analysis through collaborative self-study. To further highlight the fact that these principles are dynamic works-in-progress, we offer some of the tensions that continue to challenge us as we develop, critique, and reframe our pedagogies of teacher education:

1. Each year we work with new groups of teacher candidates who are unique both as individuals and as a group. How do we adapt what we have learned from working with groups of candidates over a number of years while acknowledging that new classes only experience the methods course once?
2. How do we continue to find ways to help candidates quickly and continuously identify their prior views about teaching and learning acquired in their apprenticeships of observation?
3. How can we improve our ability to listen actively to our teacher candidates' individual concerns and work with them to track their progress through the year?
4. Teacher educators and teacher candidates often find it difficult to enact new and unfamiliar pedagogies that are consistent with their vision of the kind of teacher they want to become. How do we turn this challenge to our advantage in a methods course?

Both the culture of school and the related culture of a Faculty of Education can easily mask the big-picture issues of teaching and learning. How can we call attention to these big-picture issues when the pragmatic needs and concerns of teacher candidates often feel so visceral and immediate?

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258 - The Impact of Organizational Climate in Schools on the Transfer of Post-initial Master Studies

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Abstract: In the ambitions to upgrade the teaching profession, much attention is given to Master's courses for teachers. As such Master's courses asks for considerable investment in time and money, the question can be raised to what extent the upgrading of teachers to the Master's level will lead to improvement in teaching and learning at schools.

This paper presents the outcomes of a small scale study in which 7 teachers who recently graduated at a Master's program in the Netherlands were interviewed on the climate and conditions they experienced at the workplace in their schools to apply their newly acquired knowledge, skills and professional attitude in their daily work.

This explorative study shows that teachers engaged in a Master's program can meet considerable obstacles within the organizational culture of the school. If they want to earn recognition outside the formal hierarchy of the school, they need to fight these barriers.

Keywords: teacher development, Master's programs, training transfer, organizational culture

INTRODUCTION

In European policies that aim to increase the quality of teachers, much attention is given to the upgrading of qualifications. The Bologna process has stimulated the development of a higher education area with qualifications at Bachelor's and Master's level. In response to the European Council's conclusions on 'Increasing the Quality of Teacher Education' (European Council 2007), many member states have started policies to raise the overall qualification level of teachers. However, the strategies that are used by member states vary. Some member states have decided to raise the minimum qualification level for teachers to Master's level. In other countries the initial qualification level for (part of the) teachers remains at Bachelor's level, while new post-initial courses are developed to create in-service opportunities for teachers to raise their qualification to Master's level. Although this second strategy, focusing on in-service Master's qualification programs, seems less ambitious than the first strategy aiming at ensuring a Master's qualification for all new teachers, the second strategy is important as it focuses on the vast amount of teachers that already work in schools.

The ambition to increase the number of Master qualified teachers requires a considerable effort in time and money. In the Netherlands, the government has initiated a bursary system in which teachers can apply for financial support to follow an in-service Master's qualification course. This support both covers (part of) the annual study costs to a maximum of 3500 Euro and replacement costs for 160 hours per year with a maximum duration of three years (figures of 2010). Until 2010 20.000 teachers applied for these study vouchers which involves an annual budget varying between 23 and 37 million Euro (Ministry of Education, Culture and Sciences, 2011).

This raises the question whether this large sum of money is well spent: to what extent will the increase of Master teachers in schools lead to improvement in teaching and learning at schools.

The impact of training on change at the workplace has been an area of extensive research (Blume et al., 2010; Burke & Hutchins, 2007; Baldwin & Ford, 1988). However, this research on 'transfer of training' mainly focuses on training designs related to daily work procedures and with short duration and low intensity (Blume et al., 2010). Master qualification courses for teachers in school generally have a much longer duration and higher intensity (typically one day a week during two or three years part-time). Therefore the application of the outcomes of research on training transfer to the context of master qualification courses for teachers can be questioned and an explicit study on transfer of master studies to the workplace is justified.

THE CONTEXT OF IN-SERVICE MASTER'S PROGRAMS IN THE NETHERLANDS

In the Netherlands, initial teacher education for teachers in primary and secondary education is provided by the universities for applied sciences ('hogescholen') at Bachelor's level (BEd). Teachers who wanted to upgrade their qualification could follow a postgraduate program at the universities for applied sciences. From 2006, these post graduate courses have been converted into in-service Master of Education (MEd)programs. In 2007 a new master's program was introduced: the MEd program *Learning and Innovation*, which prepares teachers to become an expert in teaching and learning and an innovator and change agent in school (Snoek & Teune, 2006). This MEd program started at several institutions between 2007 - 2010. A second initiative to raise the qualification level of teachers was provided by the Dutch Institute for Masters in Education (NIME), in which the boards of a number of secondary schools are represented. In 2008 they initiated a tender for universities to offer a MSc/MA or MEd Master's program focusing on teaching, innovation, practice oriented research and collegial support (Snoek 2011). Both of these Master's programmes focus on the one hand on the primary role of the teacher with respect to the learning of his/her pupils and on the other hand on the secondary role of the teacher that is connected to Hoyle's concept of extended professionalism (Hoyle & John, 1995; Scheerens, 2010; Snoek, 2011). As the concept of such Master teachers in schools for primary and lower secondary education is still very new in the Netherlands, there is little connection to explicit expectations towards the daily work procedures of master teachers.

EVALUATION OF TRAINING TRANSFER

As these master's programs require substantial investments, it is essential to evaluate their effectiveness. Kirkpatrick (1998) offers a training evaluation model with four levels: participant satisfaction, assessment of acquired knowledge and skills, application at the workplace and impact on the results and outcomes of the organization/company. Kirkpatrick's model emphasizes the actual aim of the training: to have an impact on the outcomes of a company or organization. However, most evaluation instruments focus on participant satisfaction (level 1) as the higher levels in Kirkpatrick's model are more complex to measure. Although Kirkpatrick's model might help to change the focus from participants' satisfaction to actual impact, the model has also been criticized for being too simple as the causal relations between the levels can be questioned and intervening variables that affect outcomes are not taken explicitly into account (Holton III 1996). In the literature on training transfer a wider perspective is used, based on Baldwin and Ford's model for training transfer (Baldwin & Ford, 1988). In their model, transfer of training is defined as the extent to which the learning that results from a training experience transfers to the job and leads to meaningful change in work performance (Blume et al., 2010). Baldwin & Ford's model focuses on the third level of Kirkpatrick's model and provides more detail. In their model, three negotiating elements are identified that have impact on the transfer of training and therefore on the impact of the training on the outcomes of a company or organization. Not only training design factors (e.g. objectives, methods and opportunities for practice) will have an impact on the actual application of learned competences or skills at the workplace, but also trainee characteristics and work environment factors play an essential role in the application at the workplace. Trainee characteristics deal with ability, skills and personality of the trainee, but also with their motivation to apply the learned competences and skills in their daily work. Work environment factors deal with characteristics of the work place and the extend in which the organizational culture invites trainees to apply the learned competences and skills. According to Bunch (2007), much of the effectiveness literature focuses on training design, content and evaluation, but there is 'little recognition of the entrenched values, beliefs, assumptions [at the workplace] that prevent effective training' (Bunch, 2007, p. 145). Bunch emphasizes that positive change will require organizational support. Arthur et al. (2003) emphasize 'environmental favourability' as 'the extent to which the transfer or work environment is supportive of the application of new skills and behaviours learned or acquired in training' (Arthur et al., 2003, p. 242).

INDICATORS OF ORGANIZATIONAL CLIMATES THAT STIMULATE TRANSFER OF LEARNING

Indicators that are identified as predictive factors for positive transfer include strategic alignment between the training program and the strategic direction of the organization, cues that prompt trainees to use the learned knowledge or skills, opportunities (or constraints) to use the learned knowledge or skills, social support and feedback from supervisors and peers, accountability for using the newly acquired knowledge, skills and attitudes and cultural cues that have to do with the (implicit or explicit) importance that is given to training and professional development (Rouiller & Goldstein, 1993; Burke & Hutchins, 2007; Baldwin & Ford, 1988; Clarke, 2002; Tracey & Tews, 2005; Holton III, Bates & Ruona, 2000). An elaboration of these indicators for an organizational climate that supports training transfer is given in table 1.

Table 1: Indicators for an organizational climate that supports training transfer

Main indicators	Sub-indicators	Source
Strategic alignment between the training program and the strategic direction of the organization		(Burke and Hutchins 2007)
Situational cues that prompt trainees to use the learned knowledge, skills and attitudes	Work routines that emphasize the need to apply new knowledge and skills recognition and reward systems and career paths Accountability for using the newly acquired knowledge, skills and attitudes	(Baldwin and Ford 1988; Rouiller and Goldstein 1993)
Opportunities (or constraints) to use the learned knowledge, attitude and skills	A reduced workload to practice new skills The time interval between training and opportunity to perform Match between training content and trainee's work role Available equipment Autonomy to adapt work procedures to newly acquired competences	(Blume et al. 2010; Baldwin and Ford 1988; Clarke 2002; Lim and Morris 2006; Mikkelsen and Grønhaug 1999; Bartram et al. 1993)
Support and feedback by peers and supervisors	Social support and expectations from supervisors Feedback of supervisors Involvement and participation of supervisors in training Discussions with supervisors on the outcomes of training Support from peers	(Baldwin and Ford 1988; Clarke 2002; Tracey and Tews 2005)
Cultural cues with respect to the importance of training and continuous learning as supported by behavioural norms	Voluntariness of training Training seen as an expense or an investment The position and focus of HRM within the organization	(Bunch 2007, Tracey and Tews 2005; Clarke 2002)

FOCUS AND METHODOLOGY OF THIS STUDY
Context and relevance

Given the fact that transfer of training outcome to the workplace is not a self-evident process and the fact that in-service master courses require a considerable investment in time and money, it would be '*unwise to implement new training programs if the work environment does not adequately prepare trainees for the learning process or support the use of newly acquired knowledge and skills on the job when trainees return to their jobs'* (Tracey & Tews, 2005, p. 354).

In this study we look deeper into the transfer conditions that participants at an in-service master's qualification program experience during and after their study. The context of this study is a master's program offered by the Hogeschool van Amsterdam and supported by the Dutch Institute for Masters in Education NIME. This master's program started in February 2009 and in January 2011 the first group of 7 participants graduated. This master's program differs from other master's programs as it has been initiated by school boards in secondary education. At the request of the school boards, the master course is not government funded. This creates a fundamental difference with other master programs. In the government-funded master programs the study is based on a contract between the participant and the teacher education institute, while the NIME-master is the result of a tri-partite contract between the participant, school board and the teacher education institute, guaranteeing the influence of the school on the content and quality of the program. As a consequence, the school boards have to cover the full fee and the costs for study leave (typically one day a week). Through this construction, active involvement and engagement of the school board and the supervisor of the participant is built into the model. Given this construction one might expect that the transfer of learned competences to the workplace is facilitated and supported by the school. On the other hand, the construction requires new roles and relations between participants, schools, and tutors at the master programs to adapt to this new context. As a consequence, transfer of training might not be as self evident as the design seems to suggest.

To evaluate whether the design supports successful transfer of learned competences to the working place, a small scale research study was conducted focusing on the first graduates of the program, on their experiences with applying the learning competences to their daily work and on the factors that hindered or stimulated this.

Although the research population is small, the study has a wider relevance as it can not only provide insight into the effectiveness of the design, but it can also show to what extent the indicators for an organizational climate that supports trainings transfer are also relevant for the context of a prolonged and extensive course like a two years master's course and how these indicators work out in the context of a school organization with a high number of autonomous (semi-) professionals. Moreover, it can provide teacher education institutes and schools with guidelines that can support in creating conditions that stimulate transfer of the competences acquired during the master course.

Research design

The main research question for this study was: To what extent do the Master participants experience a supportive organizational climate that supports them to apply the learned competences within their school?

To answer this question, we need to take into account the three factors that influence transfer of training: the willingness and motivation of the participant to apply the learned competences to the working place (Egan, Yang, and Bartlett 2004; Noe 1986), the design of the course with respect to the way in which it actively stimulates transfer, and the organizational climate of the school. This last factor was broken down in separate subcategories, using the indicators for an organizational climate that supports training transfer as presented in table 1. Although the focus of our study is on the organizational climate, we need to take the other two factors into account, as they might influence the extent in which active transfer takes place. Indicators for the success of transfer of the learned competences are new roles or positions that the participants take up in the school, their job satisfaction and their intention to leave their jobs (turnover intention) (Egan, Yang, & Bartlett, 2004; Tett & Meyer, 1993; Noe, 1986). The resulting research model is summarized in figure 1.
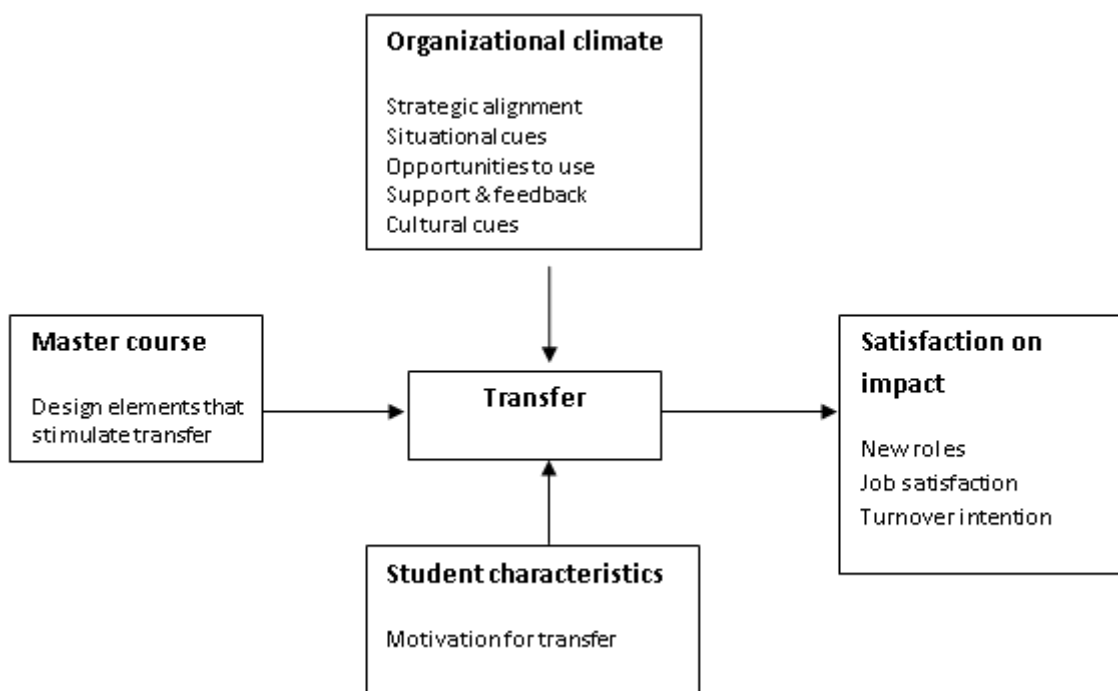
Figure 1:Research model

Research methodology

As the aim of the study is to identify crucial elements in the organizational climate in schools that can help to improve the transfer of training outcome, we chose a qualitative design. This fitted also with the small

number of respondents. As the context for our study differs from the contexts in which the indicators have been validated (mostly for short training designs (Blume et al., 2010) and in commercial sector organizations (Clarke, 2002), it was necessary to be open to new elements that might influence training transfer of Master's programs in schools. Therefore we used semi-structured interviews. In the first phase that is reported in this paper, we interviewed the graduated participants two months after graduation, so the participant could reflect on the full program and on transfer aspects both during the Master's course and after graduation. In the second phase we will interview their supervisors.

The interviews were structured in such a way that the different elements of the research design were covered in the interview guideline. Each of the interviews was recorded, typed out and analyzed by the interviewer, using the elements of the research design (figure 1). The seven interviews were compared to draw general conclusions with respect to the extent in which the Master participants experience a supportive organizational climate that stimulates them to apply the learned competences within their school. In the second phase of this study, the participant interviews will be compared to the supervisor interviews to find similarities and differences in the perceptions of participants and supervisors.

Information on the program design was derived from the course documentation that was used in the accreditation process (Centrum voor Nascholing Amsterdam, 2010).

FINDINGS
In this paragraph we will present the outcomes of the data collection, following the elements of the conceptual model.

Design of the curriculum and planned transfer activities
The curriculum focuses on three key competences: *innovation and entrepreneurship*, where the participants develop a deeper understanding in processes of teaching and learning, that can be used to innovate the teaching and learning process; *research*, where participants develop their research skills through practice oriented design research on a topic that is of relevance to the school; and *inspiration*, where participants are stimulated to develop their role and attitude as change agent within the school and to support colleagues in processes of innovation.

Candidates for the Master's courses needed to provide a letter of support from their school leader, indicating that the school leader considered the candidate as a talented teacher in the area of innovation and entrepreneurship, research and inspiration and that they would support the candidate in their study.

To stimulate transfer, their supervisors are invited once during the course, to join a lecture, to be informed about the design of the curriculum and invited to sign a symbolic tripartite contract, explicating the role of each partner in the contract. One of the conditions for the acceptation of the research theme of the participant is support from their supervisor, who has to confirm that the research theme is relevant to the school. The assignments connected to the lectures are designed in such a way that the participants are stimulated to elaborate on the topic from the perspective of their schools resulting in an essay or other type of product that can be shared with their supervisor and colleagues. Every semester ends with an integrative presentation on the main themes of the semester and participants are stimulated to use this presentation in their own school to inspire colleagues.

Participant motivation for transfer of learned competences
In the interviews, all of the participants reported that their initial motivation was at a personal level: to reach a deeper understanding of their teaching and of the learning of their students. At the end of the course all participants were motivated to use the newly acquired competences within their teaching. All of them explicitly indicate their eagerness to share their knowledge with colleagues and to come to a more coherent teaching approach within their team or the school.

> *I realised that the things I heard during the master would be very interesting also for my colleagues. It opened up a whole new world which I was eager to discover. I wanted to share this: my colleagues had to know this*

Participant perceptions of the way in which the organizational climate supports transfer
For most participants signing up for the Master's program was their own initiative. Only two participants were explicitly invited by their school leaders to subscribe to this master. Six of the participants received a

more or less positive response. One participant did not receive a positive response as the program was not part of the formal portfolio of professional development activities that were supported by the school.

According to the participants, explicit policies concerning professional development hardly exist within their schools. In most cases participation in CPD programs is the individual initiative of teachers and a negotiation about costs is necessary.

No explicit expectations were expressed by their supervisors beforehand. Several participants mentioned that the lack of explicit expectation could be explained by the fact that the initial announcement of the program was rather vague. As a result both participants and school leaders had no clear image of what they could expect from teachers who had done this master's program.

The opportunities for participants at the master's program to use the newly developed competencies have largely been created by the participants themselves. All participants see ample opportunities to use their new competencies in the micro-context of their classroom and their work with pupils. They indicate that they have developed a stronger awareness towards individual needs of pupils and that they are motivated to use the outcomes of their research to improve their teaching or to develop their curriculum. Three participants have been engaged in projects or new roles where they are challenged to use their new abilities. They indicate that through these new roles their school leaders have created opportunities where they are challenged to apply their new knowledge.

All participants indicate that they try to use their new knowledge to inspire and challenge colleagues, but four indicate that this is not always welcomed within school cultures which are suspicious towards excellence.

> But there are also colleagues who were negative from the start. "Ridiculous, it costs lots of money, lessons are skipped, what does it have …?". One colleagues remarked "What can I learn from you?". Some people just don't want to learn. And I can understand why: They are just afraid. They have got their position now and are afraid to loose it.

Six indicate that they lack the formal position that gives them the recognition they feel that they deserve. Four participants indicate that they feel that they have to fight for recognition by school leaders by sending their essays, publications etc. One participants expresses the fear that after graduation it is 'back to normal' again.

> I have the feeling that I have to fight not to sink back into oblivion. After graduation I have the feeling "damn I'm all on my own."Everything goes back to normal, like nothing has happened. We've had our party, finished! But that may not happen, that can't be allowed. That is a waste of money, energy, time and expertise!

Two participants indicate that the lack of recognition is partly due to the fact that the master's program does not fit in the regular structure of teacher profiles within the school.

> My supervisor doesn't know the content of the study that I do. It isn't connected to a concrete task or role within the school, like a school counselor or special needs teacher. That is clear. But this course has a completely different content. I think that also the management is struggling with it: what kind of position do they have to give someone who has done a program like this.

Although all participants acknowledge that recognition within the school, either by colleagues or school leaders, is slowly growing, they do not have the feeling that they are held accountable for using their newly acquired competences. Only two of the participants that have new roles within their school feel that school leader and colleagues have new expectations towards their performance.

All participants were facilitated to follow the course: the school paid the course fee and gave them study time. The study leave was used to reduce the number of teaching hours, providing the opportunity to join course activities and to work on course assignments, but hardly left time for deliberate practice within the school.

All participants indicate that they have a large amount of autonomy when it comes to their lessons. In other areas, their autonomy is much more limited.

> *In and around my classes I have a large autonomy. But in areas outside this, I have very little autonomy. I really want that to be bigger. I still get every year an overview: "This is what you have to do". I'm done with that. I want more professional freedom.*

They can take initiatives concerning school or team wide activities, but it is not part of their job description. As a result three participants indicate that they hardly have the time to initiate initiatives that fit to their newly developed competences. One participant indicates that there is no time and opportunity for her to sit and discuss issues with colleagues.

> *What I actually need is more time with colleagues. When you know that we don't even have a weekly meeting moment, you can understand that most has to be done in the corridors and time in between classes.*

The three participants that have indicated that they have gained new roles within the school, indicate that they have autonomy to initiate things that go beyond their teaching role. One participant indicated that she searched for new roles outside the school context as she didn't get the recognition within her school.

> *I prefer to put my energy in things where I can get that recognition and where I am valued. Like the professional association for vocational teachers. And next week I will contribute to a national management conference for vocational education. That is nice to do.*

A large part of the interview focused on the discussions, expectations, support feedback and active involvement from the school leader. Although most participants tried to inform their supervisors on the themes they worked on in essays and research, the number of discussions that resulted from these input was limited. Little initiative came from school leaders and mostly discussions did not get a follow-up.

> *I had asked whether they wanted to read it, but I got a evasive answer all the time: "if it is not too long… Is it useful for me …". These kind of remarks doesn't give you the feeling "Wohh, this is what they have been waiting for!"*

Only one participant indicated that she had several discussions and that her input was used by the school leader.
According to the participants, none of their school leaders had expressed any explicit expectations towards their performance. Six participants indicated that they received no feedback. Only one received explicit feedback.

> *I did get recognition. When I gave a presentation to parents, he said "well done". In personal meetings and performance evaluations he gives me detailed feedback on positive things and on what I can improve. And that is useful for me. He could see my growth, that I could look at the organization with more distance. […] I don't see myself as a leader in the frontlights, but he tells me "You should do that more often".*

Only three school leaders showed their active interest by attending a course sessions where all school leaders were invited and only two school leaders attended the graduation ceremony.
With respect to contact and support from colleagues, involvement often depends on personal relations and on the culture in school. Five participants indicate that they have had frequent discussions with colleagues on elements of their study, on essays they wrote or on the research they did within the school.
Two indicate a lack of opportunities to discuss and share theories and research. Participants on a Master's program can also encounter hostile reactions from colleagues. Two participants give examples of such hostile reactions.

> *I once had the opportunity for 4 – 5 minutes to tell something about my research. And to ask whether they wanted to co-operate. That gave an immediate negative response. They said: "No, I don't want that, you are not allowed to come into my classes". They considered it as very threatening. One colleague said that I had not to interfere with her lessons, The result was that she started a kind of offensive towards me.*

Three participants indicate that they received no support from colleagues. Other were more positive with respect to the support they received from colleagues, in terms of support in editing final texts, willingness to take over lessons, to use questionnaires and collect data in their lessons or in being a sounding boards. One participant mentioned that support was hindered through a lack of formal position.

> *The organizational structure is such that you are either a teacher or you are part of the management. Management is not something that I want to do. If they would organize it in a different way, I could have a different, better role. What I do now, is giving advice on my own initiative, unasked for. And then you often get a response "who are you as a teacher to tell us ..."*

All participant experience renewed expectations from their colleagues, as they expect new theory based contributions and ideas.

> *They expect a kind of educational opinion from me grounded in academic theory and research. When I make a point during a meeting, they accept it. When I say it, they think that it will probably be valid.*

Some participants do not feel confident yet with this role.

> *It is just like your colleagues see you differently. Like you have become some kind of authority. But at the same time it feels uncomfortable that they give you a role, of which I am not always sure that I am able play that role.*

Most participants do not receive feedback from colleagues and indicate that this is a sensitive issue within their schools. Some have received feedback on essays or on their role within the school.

> *During the experiment, we had reflection moments every two weeks. During those sessions I sometimes was corrected by my colleagues: No ..., we had agreed that we would do it together." Then I already had figured out how we should do it, what the plan should be, without consulting and involving them. I had to adjust things in this way, a couple of times. By listening to colleagues. I have learned from that.*

Participant satisfaction of their role and position in schools
Although all participants indicate that they are happy in their jobs, six of them identify elements that they miss within their school, ranging from opportunities to further develop and implement the outcomes of their research, a culture in which they are challenged by their colleagues, a more professional school organization, a stronger position as a teacher in processes of school development, involvement in school based teacher education, to a formal position and acknowledgement through a higher salary scale.
This dissatisfaction can be recognized in the intention to change jobs. Three indicate that they might change jobs where there is an interesting opportunity and four are actively keeping their eyes open for other jobs. Six of them indicate that next to a task as a regular teacher, a new job needs to include a stronger involvement in coaching colleagues, supporting teams or education of new or beginning teachers. Most participants fear that their development stops after ending the Master's course and that they will fall back in old routines. For four participants, the lack of recognition within the school is a strong motivator to look for another position.

DISCUSSION
The findings show that in the design of the course attention was paid to activities and assignments that stimulated the transfer of newly acquired competences to the workplace. However, the contact of the course leaders with supervisors at the workplace was limited and the participants were used as the linking pin. The underlying assumption was that supervisors at the workplace were active partners in the decision for join joining the course. In this first run of the course, the responses from the participants proved this assumption to be wrong.
The initial motivation of the participants was on a personal level, to deepen their understanding of teaching and learning and to be challenged at an intellectual level again. Their motivation for transfer was mainly focused on applying newly acquired competences at the level of their own teaching and their own classes. Only during the course they developed a strong motivation to a wider application of their knowledge towards

their colleagues and towards the school as a whole. This was based on a stronger understanding of organizational issues and a desire to share their knowledge with colleagues.

With respect to the organizational climate, all participants indicate that there was no strategic alignment between the aims of the participants, the aims of the school and the aims of the course. Partly this was caused by the lack of a clear profile of the course and partly by the lack of professional development policy within the school. Situational cues were mostly restricted to the challenges that participants experience in teaching pupils. Only in three cases new cues were introduced through the involvement in new tasks within school that challenged them to use new competences. The participants experienced the formal recognition of their new competences and qualities as very limited. The participants were only given time for study leave. This limited amount of time does not recognize that participants do not only need time to join the course activities, but also need time to try and practice the new competences at the workplace.

Most participants report a lack of recognition, involvement, expectations, support and feedback from their supervisors. Few supervisors were interested in their work, and in most cases participants indicated that they had to fight for attention and recognition. Only three participants got during the course new roles which extended their teaching role and which asked for applying the newly acquired competences.

The participants indicate several cultural factors that limit their opportunities to apply the new competences within their school. The vision and policies with respect to professional development seems weakly developed within six of the seven schools. Within the schools there doesn't seem to be a culture where critical feedback between colleagues is appreciated. As the schools are characterized by a strong culture of equality, influence in school seems to be dominated by formal positions, hindering informal leadership based on personal qualities.

As a result, all participants feel that the qualities that they have developed are not recognized within their school. They indicate that they wish to enrich their daily work with activities that enables them to share their knowledge with colleagues and to contribute to school development. Therefore, more than half of the participants is looking for other job opportunities.

Overall, the participants experience a lack of supportive organizational climate within their schools and they feel not supported in their attempts to transfer their new competences within their school. This lack of support has partly to do with a lack of explicit school policies on professional development, a lack of commitment of supervisors towards the professional development of their teachers and a school culture that does not support informal leadership based on professional excellence. This acknowledges the factors that influence transfer of training that are known from transfer studies in other areas.

This explorative study shows that within its limited design, focusing on the first cohort of a new Master's program, teachers engaged in this Master's program meet considerable obstacles within the organizational culture of the school. If they want to earn recognition outside the formal hierarchy of the school, they need to fight these barriers. If these barriers prove too strong, they might decide to change jobs and apply for a position at another school. On the one hand, this implies a waste of money for their school, while on the other hand it creates opportunities for schools who have a more open climate that recognizes teacher excellence and that can attract these teachers.

CONCLUSION

As indicated above, the design of this study was limited, focusing on the first cohort of a new Master's program. This partly explains the problems that were encountered by the participants. Several participants indicate that the preparation before the start of the course was insufficient. As the Master's program was new, initial alignment between program aims and the strategic agenda of the school could not be made beforehand. This could be remedied in the course of the program as the focus and competences connected to this Master's program become much clearer. We can conclude that the course co-ordinators were too optimistic in their expectations with respect to the commitment of school leaders towards the aims of the course and only limited attention was given to involving school leaders in the design and aims of the Master's program.

Another problematic aspect of the course was that the course did not prepare for an existing teacher profile within the school. Participants indicated that other Master's programs have much clearer profiles: Master's courses that give a qualification for teaching in upper secondary school or master's programs focusing on special educational needs or remedial teaching. School leaders and colleagues have clear and explicit ideas what competences are connected to these Master's programs and what role teachers can have after graduation. The master's program in this research study had a much less explicit profile as it did not prepare teachers for a specific job profile, but focused on 'teacher excellence' without specific relation to the system of job profiles that are used in many schools. This hindered participants to clarify their position and

competences. This is closely connected to the organizational structure and culture in many schools. On the one hand, school organizations in the Netherlands are egalitarian in nature as there is no formal hierarchy between teachers. Hierarchy is connected to formal organizational structures and responsibilities of team leaders and school leaders. This leaves little room for informal leadership for teachers, based on their professional quality and competences.

This study contributed in revealing these obstacles and provides the course co-ordinators with input to strengthen their relations with the supervisors of the participants, contributing to a more supportive organizational climate within the school, and to support the participants in handling the obstacles they meet within their schools. At the same time, the study provides school leaders with insight in obstacles that the organizational structure and culture within their schools create and that hinder the effective use of the competences that teachers acquire in Master's courses. This awareness might help them in supporting their teachers in the transfer of newly acquired competences to the schools, thus contributing to the development of the school as a whole.

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263 - Nursing Teacher Formation: Experience-Based Learning

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Abstract: Ribeirão Preto Nursing School - University of São Paulo, forms nurses and nursing teachers providing undergraduate students with tasks within different contexts in health and education throughout the graduation course. This article analyses those students' experience outside university through the discipline: "Health Promotion in Basic Education", adopting the learning cycle: Immersion in scenarios of professional practice, provisional synthesis, search of theoretical support, new synthesis and assessment. Twenty-one portfolios written by students during this discipline formed the sample investigated. The data were studied following Bardin's theories in the subject of thematic analysis. These portfolios were personal and individual productions, as well as referring to the groups and their experiences. They show students' construction of knowledge and competencies. The importance of such experiences appear during the course, supporting the formation of professionals who are better prepared, critical, responsible and active in the development of programs in health promotion in schools.

Keywords: Professional formation, nursing teachers, experience-based learning, portfolio.

INTRODUCTION

In Brazil, the recent curricular changes in the graduation course of the health area have its sources in two specific moments: the first, with the promulgation of Federal Constitution of 1988. It establishes that "health is a right of all" (art 196), it institutes the Brazilian Unified Health System (SUS), as well as its guidelines: "*decentralization*, with unique direction in each government area; *integral attendance*, with priority to the preventive activities, with no loss to the care services; *community participation*" (art. 198). Moreover, the Federal Constitution assigns to SUS: "to order the formation of human resources in the health area" (art. 200). Since then, it is noted the effort of compromising the university with the construction and consolidation of SUS e with the configuration of new Professional roles, more adequate to the social demands of quality of attention in health, with emphasis in the social integration teaching-service-control (Ceccim, Armani, & Rocha, 2002).

The second moment happens with the promulgation, on December 20 1996, of the National Education Guidelines and Framework Law (Law 9394/1996 – LDB) – when it declares that the school education must be linked to the work world and to the social practice, aiming at the formation at the same time of the worker and the citizen (art. 1º). As an objective for the higher education, LDB highlights: "to form graduates in the different areas of knowledge, able for the insertion in professional sectors and for the participation in the development of the Brazilian society, and to collaborate in its continuous formation" (art. 43). With this purpose, the curricular question gains centrality. It is like this that, in the year of 1997, the Education Ministry calls the higher teaching institutions to present proposals of reformulation of their curriculums for the consolidation of curricular guidelines.

It is in this sense that the main national instance of manifestation of social interests in the health area, which is the National Conference of Health, in its 12th meeting (2004), understands as necessary:

> To modify the model of formation of health professionals, today centred on the disease, reformulating the curriculum of the courses of health professionals, considering theoretical and practical themes related to the promotion, the monitoring and full attention to health, the social control and the multi professional and interdisciplinary character of the health practices (p. 127).

In the specific case of nursing, these concerns with the curricular change, with the new professional profile and the need of a major involvement in the SUS consolidation, resulted in the constitution of discussion forums in the field of National Seminars for Directives of Nursing Education (Senadens), coordinated by the Brazilian Nursing Association (ABEn), since the year of 1994. These discussion resulted with the approval, on November 7 2001, of the National Curricular Directives of the Graduation Course in Nursing (Parecer

CNE/CES 3, 2001), which define the principles, foundations, conditions and procedures of the nurses formation. Therefore the new graduate profile is established: "Nurse, with general, human, critical and reflexive formation." (art. 3º).

From this profile, didactical-pedagogical strategies which enable its implementation are searched – that is, it is searched the overcoming of a traditional pedagogical practice which has shown to be ineffective in provoking a change of behaviours and of practices, demanded by the new modalities of organization of the world of work in health, as well as the challenges of transdisciplinarity in the production of knowledge (Ceccim,& Feuerwerker, 2004; Gazzinelli, 2005; Morin, 2002).

It is in this historical context that Ribeirão Preto Nursing School of the University of São Paulo (EERP/USP) begins, in 2002, discussions for the adequacy of its pedagogical practices to its demands placed by LDB and by the directives of SUS. The new curriculum starts to be implanted in years of 2005, for the course of Bachelor in Nursing (morning/afternoon), and of 2006, for the course of Bachelor and Degree in Nursing (afternoon/evening). Its pedagogical proposal is based in the references of dialogical competence, in the integrated curriculum, in the articulation of the formation to the world of work and problematizing methodology.

It is emphasized that, in the dialogical approach of competence, the construction of meaning presupposes a change of the learning based on the contents for a meaningful learning based on the theoretical-practical integration. It is in the reflection and in the theorization from the professional practice, made in situations of the world of work, that students and professors build and develop their abilities/competences. From this perspective, it is possible to work the contents considering the meanings assigned to them, for the acting in real situations. (Lima, 2005).

Therefore, the EERP/USP, that forms nurses and nurse professors, allows to its student, since the beginning of the graduation course, contact and development of activities in different contexts of heath and education. The student is motivated to learn the knowledge and cause ruptures from reflections, questionings and relationships that he/she establishes in his/her practical experience.

This proposal can be exemplified through the discipline programme Promotion of Health in the Basic Education, taught to students of the second year of the course of Bachelor and Degree in Nursing. The educational practice developed in the discipline is given through pedagogical cycles. Each cycle is composed of five distinct moments, in which learning is constituted:

1) Immersion in reality – moment in which the student, from his/her experiences and knowledge previously acquired, accomplishes activities in the professional practice scenario;

2) Provisional Synthesis – in group, it is accomplished the reading and discussion of the report of each student about the immersion, identifying problems related to the accomplishment of the activities, coming to the formulation of a matter of learning;

3) Search of information/knowledges – individually, survey in varied sources is made, that support the answer to the matter of learning;

4) New Synthesis – in group, reflection about the information/knowledges brought by the students, aiming at understanding the identified problems and reconstructing the professional practice;

5) Evaluation – at the end of each activity, self-evaluation, evaluation of the group and evaluation of the teacher/facilitator are made. (Silva, & Sá-Chaves, 2008).

Each of these moments of the cycle is registered through reports in individual reflexive portfolio. This allows a bigger approximation of the student to the experienced process, while he/she narrates, he/she organizes and reflects about his/her experiences.

As teachers of the course of Bachelor and Degree in Nursing of EERP/USP, responsible for the discipline above, we are directly involved in this process of curricular change, which involves not only its implementation, but, equally, its constant evaluation. One of the strategies for this is the analysis of the students' experiences reported/related in the reflexive portfolios. For containing individual routes, at the same time that they refer to the group, these portfolios bring to light elements so far not observed: the logic, language figures and styles used in each text, which end up pointing the paths of construction of knowledge and competences of the students.

METHOD

It is about a qualitative study, of exploratory-descriptive character. The qualitative researches in education and in the social areas are adequate due to the object nature to be researched: an object that configurates in the social relationships and that are interchangeable. The students are unique subjects, who have a history and critical conscience. Their actions have intention and meaning able to reveal their vision of world and their perceptions.

Therefore, we will search in the qualitative approach, a methodological alternative that will help us understand the reality expressed by these students' opinions.

The qualitative research, according to Minayo (2010), is the one able to incorporate the question of meaning and the intentionality as inherent to the acts, to the relationships and to the social structures. It is supported in the foundation that there is a close and indissoluble between the object and the subject, allowing the emerging not only of the meanings of the question in study, but also the reasons, opinions, beliefs and values of the reality in focus.

In the qualitative research it is searched for a criterion of representativity that allows the generalization of theorical concepts that one wants to test, although worrying less about the generalization and more about the deepening and comprising of the comprehension of the researched group. The qualitative researches have as characteristic the obtaining of descriptive data, collected in the direct contact of the researcher with the studied situation, and it emphasizes more the process than the product, worrying about unveiling the participants' perspective (Ludke, & André, 1986).

The present research is an indenture of the investigation entitled: "The Process of learning in the Degree in Nursing: a study from the students' porfolios". The study followed the recommended ethic norms and it was approved by the ethic committee in research of EERP/USP, with protocol number 0994/2009.

Considering that this research searches to analyze the academics' experiences in the direct contact with the reality, - thus understanding the aspects of the teaching-learning process – and that the portfolios bring, on their said and not said, great contributions for it, it is that this study proposes an analysis of the portfolios for the acquiring of the teaching-learning process in construction and/or transformation, from the lived experienced in the practice scenario.

The portfolio contains registers of the individual course of the learning process and it is also about the other integrants of the group (teachers and students) and still refers to the workers involved in the learning scenario, in this case a State School of Basic Education.

The students' portfolios were analyzed – the names presented here are fictitious – accomplished in the annual discipline: *Promotion of Health in the Basic Education*, taught in the second year of Bachelor and Degree of Ribeirão Preto Nursing School of the University of São Paulo.

The data analysis was made having as reference the thematic analysis technique – a modality of content analysis – proposed by Bardin (2004). Such analysis is situated among different possibilities of categorization, being the *theme* considered a unity of meaning, relevant to study in question.

RESULTS AND DISCUSSION

From the data analysis – portfolios accomplished in the discipline "Promotion of Health in the Basic Education" – it was possible to identify, in the reports referent to the experience in the learning cycles, three greater themes: school approach, appropriation of knowledges referent to the teaching-learning; and the teachers' exercise.

School Approach

The school approach, common space for the students in the students' role, now presents a new possibility. The discipline foresees this meeting with the scenario of the practice in the school of basic education, and this approach becomes something new, almost unknown, generating anxiety and expectatives, like something that mobilizes their experience and history be it personal or academic, like Adélia states, in the report about the activity in class, of discipline presentation.

> *I talked about my experience in teaching biology for the preparation course for university entry exam, and that my greatest expectative is precisely working with a different public, possibly younger. One by one the string was passing and many expectative of the class were mentioned, among them to understand a bit more of the basic education and mainly how the nurse can act in the promotion of health in education. So I realized that these expectatives were mine as well* (Adélia – discipline presentation.)

According to Vigotski (2003) "The personal experience of the student becomes the main basis of the pedagogical work" (p.75). The author already alerted, in work originally published in 1926:

> [...] the passivity of the student, as well as the contempt for his/her personal experience, are, from the scientific point of view, the crassest mistake, such a false rule that the teacher is everything, and the student, nothing. On the contrary, the psychological criteria demands to be recognized that, in the

education process, the personal experience of the student is everything. […] On the basis of the educational process must be the personal activity of the student, and all the art of the educator must be restricted to orient and regulate this activity [...] (Vigotski, 2003, p.75)

Likewise, the dialogical approach of meaningful competence and learning recognize and consider the previous experiences of the student and allow him/her to relate them to the new knowledges in his/her process of construction, rupture and reproduction of knowledges and values which will direct, according to excellent standards socially built, the expected attributes for a determined professional area (Lima, 2005; Araújo, 2007).

The fact that the student arrives with his/her expectatives, added to the previous knowledges about such scenario, seems to prepare them for what they will find, showing them as active in this process. They will be approaching the new scenario as subjects who search for elements for the construction they will make, and not only like passive beings, expecting that something new will be merely absorbed by them. At the same time, they find themselves open to what is new to them, without losing a critical view about what is viewed, like it is observed in Cecília's account, result from the first immersion in the school:

> *During the recognition of the school we realized that there is the need of repairs for the own safety of the children, because some spaces of earth were on a slope and the children played in this space, while the court was closed. These areas could be treated by having small kitchen garden works, and their products could be used in some meals* (Cecília, Immersion 1).

It is also noted in Cecília's statement, the suggestion of possibilities about what was seen. Not only observation or description with someone unaware to the space, but somebody imbued of reflection and pro-activity in the mobilization of resources for the transformation of reality, from what was experienced.

This reflection and mobilization are inserted in the perspective of a teaching process and critical-reflexive learning, from what is possible, in real or simulated situations of the professional practice to guarantee an approximation of the learning to the world of work, what potentiates the construction of knew knowledges.

In the dynamic articulation among work and teaching, practice and theory, teaching and community, students and professors construct knowledges potentially meaningful that qualify better the professional formation (Araújo, 2007).

During this same immersion, all were surprised with the burst of a bomb, which did not let to be one of the subjects in the meeting named Provisional Synthesis, about the experience of immersion, and not in the reports, not only of the immersion but in other stages of the cycle. The following piece relates the occurred in the discussion of the Provisional Synthesis:

> *We started as it was expected talking about the bomb. From this, we discussed about what is normal and what it is not for an adolescent. We talked a lot about the behaviour of the adolescent, which is very specific. And, surely, something which I would like to understand better. There is a certain need among them, like one day there was in me, of breaking rules. Then we talked about the matter of thinking that all of them are slum people and delinquents. I realized that I had seen them like this, elucidating a certain prejudice.* (Adélia – Provisional synthesis, Cycle 1)

The school approach seemed to allow, also, especially by the elaboration of the portfolio, an approach to itself, about the concepts and prejudices brought in, in an experience that was triggered by the situation experienced in the scenario of practice. Cunha (1997) highlights, about the narrative:

> At the same time that the subject organizes his/her ideas about the report – that is written, or oral – he/she rebuilds his/her experience of reflexive form and, however, ends making an auto-analysis which creates him/herself new basis of comprehension of his/her own practice (p. 2).

This is what is observed in Adelia's portfolio: from the student's experience in the school, enriched by the discussion with colleagues and teacher, and favoured by the need of organizing her ideas for the written report, comes an analysis about everything which was experienced, but also about her own view and about herself, resulting in what the student called of "certain prejudice".

According to Ferreira and Bueno (2005) the portfolio is an instrument that improves the reflection about the practice, allowing the construction of knowledge, personal and professional development not only of the teachers but also of the students. They still point that it is about a means which supports the student's growth,

once the objective of the portfolio construction is not centred only in what it is written, but, above reading and elaboration of reflexive and dialogical narratives, from what the student must position him/herself, expanding the search of answers.

For Sá-Chaves (2000), the portfolio highlights at the same time, for the graduate and the educator, self-reflection processes. In it the student can talk about him/herself, contextualize the learnings in his/her history of life, to attribute meanings to his/her experiences and interpret in his/her own way. It is a strategy of formation in which the students build meanings from their own accumulated experience.

From these statements, we can reiterate that in the narratives presented here the reflection, the self-critic and the search for meanings directed and show the potentiality that the elaboration of critical-reflexive portfolio, while a revealing instrument of meanings and senses, which allows the student to build and rebuild, not only his/her knowledge, but also his/her values, contributing for an autonomous and emancipatory formation, from the freedom for the development of reflexive ability, of the expansion of theorical-conceptual basis, of the reformulation of the learning and the continuous evaluation (Silva, & Tanji, 2008).

Appropriation of knowledges concerning the teaching-learning

The experience in the school raises questions that ask for greater foundation, which are being propitiated in the course of pedagogical cycles. They are the learnings about the educational processes which are in focus, as it is observed in the report below:

> *We also discussed the difference between inform and educate, to transmit knowledge and raise awareness. We noted that to educate we will need some methods, which are within the methodology which are three: classical, technicist and progressive* (Adélia - New Synthesis, cycle 1).

We highlight the importance of the discussion about the many ways of teaching and learning and the reflection that this is not a personal choice, neutral of values, principles and directionality because it can answer the proposals of maintenance of the *status quo* and also mobilize for social changes. This can contribute for a integral formation of this future professor and nurse.

> *After the reading of this book (Paulo Freire, Pedagogia da Autonomia) I could note that our nursing school has a curricular structure that is very similar with the autonomy pedagogy, aiming at forming critical-reflexive subjects and this way, as a degree student, when learning this way it is also easier to teach this way, stimulating the subject's autonomy* (Lygia, Lab of Pedagogical Professional Practice, Cycle 5)

In this process, the own experience in the graduation course, in different disciplines and in previous years, allows a significant learning because the student re-visits his/her experience and history. For Lima (2005):

> [...] the meaningful learning requires from the learner a pro-active position which favours the establishment of relationships between the new and already present elements in his/her cognitive structure. This structure represents a set of knowledge schemes constituted of data, concepts, situations, facts, sequence of events, actions and sequence of actions, that can be more or less organized and coherent and that allow the establishment of nets and relationships of different hues of extension and complexity (p. 374).

The search for understanding of the political-pedagogical project (PPP) was made present and we highlight that the approach to this theme from the going to school allowed learnings and reflections, like it is observed in Adélia's account:

> *We then knew the political pedagogical project of the school [...] The project brought as justification to prepare the student for the working market. It presented that the school had low performance in evaluations like SARESP. The objective is to promote education with equity, that is, respecting the individuality [...] The project appeared interesting to me nevertheless idealized. I believe that what is proposed not always come to happen.* (Adélia – Immersion 2)

The student Adélia confronts what she experiences in the school with the directives of the official document that is PPP. And from this experience the group constructed, during the provisional synthesis, a question related to this thematic.

The teacher […] joined us in this New Synthesis, her presence helped us to understand better some aspects of the political-pedagogical project that we did not find. The reports were more focused in the political-pedagogical project, because it was the subject that we tried to deepen ourselves for having had contact in the immersion and it will make part in our professional construction. With the discussion about the political-pedagogical project were put the indispensable aspects in the project, like being a product of democratic collectivity, integration with the community and continuously evaluated. The political-pedagogical project is a search of transforming the recent reality for a better reality. Hence the project does not have an end, it is continuous its process of construction of objectives in the pedagogical work. (Cecília, New Synthesis, Cycle 2)

During the new synthesis we highlight the work of the professor of supporting the students in the systematization of the elements of individual search. For Freire (2007) one of the primary tasks of the professor is "to work with the students the methodic rigor with which they must 'approach' the cognitive abjects" (p. 14). He makes the attentive monitoring through the listening to the experiences, supporting in the confrontation between the most empirical conceptions brought by the group and the theorical elements. It can be noted from Cecília's account that there was an appropriation of the important elements about the political pedagogical project.

It is noted that observed situations in field, end taking to the reflection, to the articulation with discussed themes in other contexts/moments of the course of graduation, allowing the construction of knowledge from critics.

While he presented the lesson he asks the students to MEMORIZE it for the test of the term […] Some students complained that it is not possible to memorize, that it is too much, the teacher says that they have a month to MEMORIZE it. Open parenthesis: Is memorizing a synonym of learning? Learning, knowledge takes place through a process and not of a simple attitude which is the act of memorizing, which passes the false impression of knowledge!
According to Piaget knowledge happens through the imbalance that there is between the subject and the object, in which the subject acts on the object and he/she is attracted, obtaining motivation […].
Mentioning Freire, the students are not bowls to be filled with contents that are put in them, not making any sense to them. From what I observed, the students have no conscience about this fact, it is necessary that they learn to learn, learn to think. It is necessary that the teacher becomes an educator…Close parenthesis. (Rachel, Immersion 4)

We highlight the presence of theorical elements that support the observations of the student indicating an option for a teaching practice that considers the learning as something different from the "memorized" accumulation of theoretical elements. The learning is considered as a reflexive process that needs to make sense and it also requires learning to think and learning to learn.

The exercise of being a teacher

It is part of the proposal of immersion in the school of Basic Education, the development of educational activities that provide the experience of placing yourself as educator. In this situation, new challenges appear about the day-to-day of such tasks, like it is observed in Cecília's account:

The activity I participated, Healthy Eating, was meant to be made at the sports court. […] After we had prepared the posters and the material to be used we called the students informing about the theme and that the classes that will be used as workshops. While we waited for the students in the court, nervousness appeared and disappointment started when the students came close but they quit to enter. But there more people in the workshop we expected, with about fifteen students, when we started the workshop the students accepted well what we proposed, however during the workshop they got easily distracted, we tried another approach but in the end it was very difficult to deal with the students' attitudes without disrespecting them. In the end of this workshop the teachers […] and […] told us that we could use the room of the HTPC, because they had observed our difficult, because the court was an environment of too much freedom. In the second workshop we had between 10 and 13 students, in which the course of it was calmer comparing to the first one, we could explain and discuss better the content we had prepared. In the last workshop I thought we would not have any student, but after we called all the groups we found three students waiting for the workshop to

begin, we started talking to them and to introduce ourselves, then three more students arrived. In this workshop the students seemed to be more involved in the thematic and in this group we could integrate better and we had a more satisfactory feedback. [...] even going through some difficulties I think we could achieve most of our objectives proposed for the activity. (Cecília, immersion 7).

For Vigotski (1984), all learning occurs having as base the concrete social relationships. It can be foreseen thus, the importance of immersion in the scenario of practice for the teacher formation, while the activity, in the context of historical-cultural approach, makes the mediation between the man and the objective reality. According to Libâneo and Freitas (2006), such assumptions

[...] help to understand better the professor's work and his/her professional formation, once the nature and the structure of human activity is approached, the relationship between teaching activity, learning activity and human development. Especially, they make it possible to understand the professional formation from real work, of current practices in the context of work and not from the prescribed work, like it appears in the sight of the technical rationality and like also appears in the common sense conception about formation, which still strongly rules in the schools and in the forming institutions (p. 7).

Therefore, Cecília's experiences allow the comprehension of the activity beyond the prescribed work, challenging her against unforeseen situations or to the initial disappointment for the situation met.
Being in the role of the educator, still in his/her formation process, allows that the new situations can be triggering for the learning he/she accomplish. Zélia's report shows a little about her process:

We realized during the workshop the need of explaining the difference between induced abortion and spontaneous abortion, the girls seemed shocked with the possibility of a possible physiological abortion, one of them said: "if my body wants to expel my baby, I kill my body". I see that making this difference clear was necessary so that there was no false impression that all interrupted pregnancy was caused by the pregnant person's intention, such topic was not recorded in the lesson plan (Zélia, immersion 7).

In this case, the challenging situation to Zélia provoked the reflection about the activity proposed and her own planning, making her think about the possibilities of changes or flexibility of the lesson plan, from concrete experiences in the educational activity.
Vigotski (2003) values and highlights the importance of the student's activity for his/her learning, but not for this reason he despises the fundamental participation of the teacher in this process:

When we grant such an exceptional importance to the student's personal experience are we cancelling the teacher's role? Can we substitute the previous formula "the teacher is all, the student, nothing" for the inverse one: "The student is all, the teacher, nothing?" No way. If, from the scientific point of view, we deny that the teacher has the ability to exert a direct educational influence, that has the mystical ability of "modeling others soul", it is precisely why we recognize that his/her importance is immeasurably greater (Vigotski, 2003, p.76).

The teacher's role that follows the students in formation, as it is the focus of this work, it appears in the sayings already presented: "*The teacher [...] joined us in this New Synthesis, her presence helped us to understand better some aspects of the political-pedagogical project that we did not find.*" or still "*the teachers [...] and [...] told us that we could use the HTPC room, because the had noticed our difficulty.*" Vigotski (2003) points the teacher as the one who creates the condition so that the learning occurs. For the experiences to make sense, the reflection about them is fundamental, and the teacher has an important role in this sense. "The aim of the education is not the adaptation to the environment already existing, that can be done by life itself, but the creation of a human being that sees beyond his/her own environment" (Vigotski, 2003, p.77).
But in addition to thinking about the teachers that follow these students who are in process of teaching formation, it is necessary to highlight that these ones will be future teachers, and their living and experiences, provided by the course, are fundamental in this process. It is learned to be professor by experiences and discussions in this field, and also by the models and relationships that are established with their own professors.

FINAL CONSIDERATIONS

Considering that the main base of the pedagogical work is in the personal experience of the student, which, when shared, creates processes of significance that allow the emergence of knew knowledges, practices, means of acting and participating, the use of pedagogical proposals based in the references of dialogical competence and of the meaningful learning presents itself as a fundamental factor for the achievement of the new professional profile of the nurse: generalist, humanist, reflexive and critical. The analysis of the stories presented here indicates the possibilities of this formative process, form the implementation of strategies as the ones of the pedagogical cycle and the reflexive portfolio. The pedagogical cycle allows a greater articulation of the formation to the work world, while the portfolio improves the reflection about the challenges of putting yourself in the scenario of professional practice. It was from this reflection that emerged the three themes presented here: school approach; appropriation of knowledges concerning the teaching-learning; the exercise of being a teacher.

The stories of the porfolios point the students' reactions against realities little known so far and it indicates the importance of such experiences during the graduation course. The not mere observation or description, but the indicating of possibilities of transforming the experienced, the work with one's own prejudices, are revealing of the reflexive process developed. Moreover, the confrontation of one's own previous experience with the experience of professional practice contributes for the appropriation of knew knowledges about the teaching-learning process. The presence of reflections about this theme in the stories points to the dynamism of this process, explicating some theorical bridges accomplished by the students in the construction of such knowledges. Finally, the demands of the exercise of being a teacher appear with highlights. In this moment of practice, the so called "incidentals", that escape from the idealized situation when planning a lesson, but that make part of the day-to-day of a professor, provide the mobilization of knowledges and ability, through the search of solutions together, colleagues and professors, promoting the construction of competences.

With the experience reported here, we hope to contribute for the formation of a better prepared professional, critical and responsible in the proposition and development of programmes of promotion of health in the basic education schools.

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266 - Understanding Teachers' Work and Cultures: An Organizational Analysis of the Changes Occurred in a "Cluster of Schools" in the Context of the Recent Portuguese Educational Reforms

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Abstract: This paper presents a research developed in the ambit of a Master in Education, in the area of School Administration and Organization. This research was completed in 2009 and it was carried out in a Portuguese "Agrupamento de Escolas" (a "cluster of schools which includes students from 3 to 15 years of age) aiming at analyzing the political and socio-organizational processes of its creation and development in order to understand the main changes occurred in teachers' work and professional cultures, especially in the ambit of the pre and primary schools which belong to the referred to "cluster of schools".

The theoretical approach focused on the cultural perspectives of organizational analysis, exploring the concepts of school organizational cultures and teacher professional cultures.

The empirical research was supported in a qualitative methodology and developed trough a case study. It was developed both in a synchronic and diachronic perspective, allowing unveil a set of multiple forms of work and teacher cultures that were metamorphosing over more than a decade. Findings show that these processes were traversed by conflicts and negotiations.

Keywords: Teachers' work, organizational and professional cultures; educational reforms

INTRODUCTION

This paper presents some results of an empirical research carried out in a Portuguese "Agrupamento de Escolas" (a cluster of schools which includes students from 3 to 15 years of age), which show deep changes both in organizational structures and in teachers' work and professional cultures. The theoretical component discuss the tendencies of the contemporary educational policies, especially those that led to the creation of the "clusters of schools" as well as the concepts of organizational and professional school cultures, considering the importance of the relationships and the interactions between the members of the organization, not only in which concerns to a single school but to the whole cluster of schools. In methodological terms the research consisted in a case study linked to an interpretive paradigm and carried out through a qualitative perspective.

In Portugal, the "Agrupamentos de Escolas" (clusters of schools) were created under a national legislation, in a generalized and compulsory way, in 1998. Until then pre and primary schools (pupils from 3 to 10 years of age) were separated from the low secondary school (pupils from 10 to 15 years of age). The Decree-Law no. 115-A/98 initiated the generalized process of grouping schools, based on the obligation of each "cluster of schools" prepare a common educational project. As a consequence, a greater influence of the traditional low secondary schools culture occurred, based on a subject/discipline-orientation, as well as a strong tendency towards bureaucratic and standardized processes. These phenomena provoked some turbulence in which concerns several aspects, mainly in the relationships between teachers and their work. For instance, pre and primary teachers' work became more uniform and compartmented, in contrast to their previous cultures and practices which were more flexible and integrated, in curricular and pedagogical terms.

The main changes show the differences of conceptions concerning teachers' work and their professional cultures, either in terms of organizational and pedagogical work or in the administration and management of the "cluster of schools". These changes happened in two phases. The first phase corresponded to the creation of a "horizontal cluster of schools", comprised only of pre and primary schools, which resulted in profound organizational administrative or pedagogical changes, but in a more local-based perspective. Before the formation of this "cluster of schools", pre and primary school teachers worked alone and isolated because schools were small and dispersed, particularly in rural areas like the region where this research was

developed. The creation of the "horizontal cluster of schools" evolves into a situation of a more collaborative work between pre and primary school teachers. The second phase led to the creation of a "vertical cluster of schools", covering schools and teachers from pre-school to the 9th grade, but it was imposed by legal norms and did not correspond to a "desired marriage" between pre and primary school teachers and the low secondary school teachers.

The empirical research was based on ten teachers' semi-structured interviews with two different formats of interview protocols: one specifically aimed at pre and primary school teachers, who accompanied the entire process of forming the "horizontal cluster of schools" and their subsequent transition to "vertical cluster of schools". Another one was oriented towards low secondary school teachers who participated only in the "vertical cluster of schools" formation. The interview protocol addressed to pre and primary school teachers was temporality structured in three parts relating to professional and organizational dynamics: before and during the "horizontal cluster of schools" formation, and later the "vertical cluster of schools" creation. The interview protocol for low secondary school teachers was organized only in two phases: the organizational and professional dynamics before the formation of the "vertical cluster of schools" and the period when it was formed.

In order to protect the respondents' anonymity, fictitious names were invented under the inspiration of the local fauna: These names were used on the vignettes that reproduced the extracts drawn from the interviews. Thus, Butterfly, Dragonfly and Ephemeral were used to identify the three pre-school teachers; Ladybug, Damselfly and Kingfisher were the names used for primary teachers (the last one was the school principal); Barbo, Jay, Hydra and Hoopoe were the names used for the low secondary school teachers who participate in the "vertical cluster of schools" formation.

Findings reveal the specific local context idiosyncrasies and show changes in teachers' work and more deeply in their professional cultures and in the school organizational culture based on the new reality of the "cluster of schools" organization. It should be noted, however, that the process of the construction of vertical cluster school has been also providing relationships and learning situations between teachers of different levels: pre, primary and low secondary school.

These research findings have encouraged the continuation of the research, now through a doctorate dissertation, in order to develop a deeper understanding of the changes in teachers´ work and professional cultures taking into consideration the period of the three decades of successive educational reforms.

THE ORIGIN AND EVOLUTION OF THE "CLUSTER OF SCHOOLS" ORGANIZATION

As a way of promoting the schools' autonomy policies and implementing better coordination and continuity in the nine years of the compulsory education (organized in three cycles) envisaged in the Portuguese Education Act, the creation "cluster of schools" was legally imposed constituting a new organizational matrix. However, previous initiatives had already formed part of these political and organizational perspectives.

To address specific and contextualized problems in certain geographical areas, different political programmes and initiatives had already been developed trough diverse forms of schools' association, some of them with a local-based orientation and other on a centralized way, based on national wide measures.

In a case study conducted by Flores (2005) about the creation of a "vertical cluster of schools", the author asks to what extent the compulsory way of creating the "vertical cluster of schools", considered as "management units", doesn't contradicts the Decree Law no. 115 -A/98, May 4 recommendations, which allows the creation of "cluster of schools" both in an "horizontal" and "vertical" way, it means, clusters of schools attending students from 3 to 10 years of age and cluster of schools attending students from 3 to 15 years of age. According to this author, the political priorities demonstrate an orientation to centralization and uniformity rather than effective school autonomy and diversity. As Flores states, "Although the rhetoric autonomy in the clusters' formation process, it stands the more centralist government logic, seeking to regulate the socio-educational school practice, which is overlaid with features to enhance their influence and authority over the schools" (Flores, 2004, p. 125).

Concerning this type of contradictions between a centralized process of control and the discourse of "school autonomy", the Order no. 13313/2003, June 8 sets out the planning of the education network in 2003-2004, stating in its preamble, which is fundamental to the achievement of the "cluster of schools" process, "a process that is envisaged, follows from Decree-Law no. 115-A/98, May 4, certain key objectives, such as favoring a sequential students' course [...] the rational utilization of resources, ensure the implementation of autonomy, administration and management scheme."

Simões (2005) argues that the "cluster of schools" constitution reveals an "aggressive re-centralization" plan with compulsory and authoritarian indications to form "vertical clusters", against the procedures and wishes of local actors connected implicitly with the structurally different clusters formation.

In brief, apparently, educational policies are moving forward on decentralization and autonomy, however, the educational system has remained quite centralized and bureaucratic. As Afonso (1994) states, "continuing the long country tradition, the key issues as the curricula design, course content, human resources, equipment and budget management remain in the central government hands" (p. 118). This centralized and bureaucratic education governance continues with a strong mark in the "cluster of schools" organizational processes, including school and professional cultures.

THE SCHOOL ORGANIZATIONAL CULTURE AS A SOCIAL CONSTRUCTION BASED ON INTERACTIONS BETWEEN ITS MEMBERS

Organizational culture is a multidimensional and multi focused concept. As regards Duarte Gomes (2000), addressing the culture as a univocal concept would present as like misleading formulation because "they are multiple and controversial concepts of culture" (Smircich, quoted by Gomes, 2000, p. 65). Sharing the view that "the organization shall be understood as a social construct, that is symbolically constituted and interactively reproduced, whose maintenance is dependent on the activity of the organizational actors' communication" (Gomes, 2000, p.165), the concept of organizational culture takes up a heuristic function for presenting the complex reality of the interpersonal relationships of the organization members, including the formal and informal structure.

In the ambit of the companies and business areas, the concept or organizational culture have been uses in an instrumental way, focusing the relations between the members of the organization for being a benchmark for belonging and identification with the values commonly accepted by the group within the organization. However, transposing uncritically this perspectives to the specific school context, adding a modeled image, is not adequate because "not only the organizations are different, not only the school is different from other organizations, but every school is different from any other school" (Costa, 2003, p. 109). The school as an organization has its own peculiarities in its political, ideological, social, cultural and organizational action. Although the "normative and cultural walling", by the national centralized legislation, the schools present themselves as straight-organizations assuming approaches with a "multiple facets"(Lima, 2006, p. 7), revealing a great complexity, which "allow us to identify distinct logical directions, goals and rationalities" (Torres, 1997, p. 55).

This multifaceted view of the school as an organization has become more appropriate for the development of the empirical study which are presented in this paper, given the singular "cluster of schools" context, both in its physical, distinct and diverse location as the fact that they provide for different levels and stages of education, with teachers who have diverse professional identities and cultures. Thus, the concept of organizational culture in the school context can be understood through several different perspectives and approaches. In this research, a conception based on the idea of organization culture as a social construction based on the interactions between members of the organization was adopted, because neither the culture of the school organization results of the social structure, nor the organizational structure, but the actions, interactions and negotiations between various actors in a school organizational context. Therefore, it seems pertinent to note that in terms of epistemological orientation, the privilege does not focus on an analysis of the culture of the school organization but on an analysis of culture in school organizations, where the groups comprising the school organization begin to play an essential role. Summing up, the school organizational culture is conceived as a social and cultural construction of the actors that "live" in its degree of consensus and the actors' intention to change, both internal and externally. Actions, relationships, interactions, conceptions and practices are fundamental for the construction and reconstruction of organizational cultures. Following this train of thought "the genesis and construction of a school organizational culture seem to be, once again, confined within the school physical boundaries developed by interactions and negotiations between actors, who are now analyzed as the protagonists of the cultural creation and recreation." (Torres, 1997, p. 83)

TEACHERS' PROFESSIONAL CULTURES

The "clusters of schools" comprise different levels and stages of education, just different professional groups: pre, primary and low secondary school teachers. These groups belong to very different realities, with singular cultures and identities, not only derived from structural factors that contributed to their separation, but also due to the other factors connected with different worlds of socialization and identity (Ferreira, 1994, 2003). Similarities between pre and primary school teachers' are a consequence of their own cultures,

influenced by the physical conditions, such as the smaller school buildings and fewer number of students; the kind of pre and in-service teacher training; the more integrated or compartmented curricular and pedagogical organization, and also as a result of historical factors which have originated structural and cultural differences between teachers of different school levels. In other terms, differences concerning organizational and professional cultures are linked to: different views about the profession; belonging senses to schools; individual and collective autonomy conceptions; diverse strategies for the recognition of teachers; different orientations towards students' learning, in a more global or more subject-compartmented way, among other factors. It means that teachers do not have a professional identity but diverse professional identities connected to different diachronic and synchronic aspects.

According to Ferreira (1994), teachers of different school levels have several representations of their profession, not necessarily in the sense of a "divided identity", but rather as a "multiplied identity." As Ferreira contends (2003), "the teaching profession can't be seen in a unifying and homogenizing` perspective" (p. 44), whereas there isn`t a professional identity in a general sense, but in the plural sense, i.e., teachers identify themselves primarily with their peers in the same level of education and even more narrowly within their own discipline/subject group. This form of identity is very visible at the post-primary education level, where teachers identify themselves more with the discipline/subject they teach, which is reflected in mechanisms of a mono-disciplinary socialization. The level of school teaching, the discipline/subject they teach, the academic and professional qualifications, the situation of stability or mobility, among others, are several factors that, according Ferreira, contend and compete for that heterogeneity of identity. The concepts of cultures and subcultures have been associated and "often used to account for exactly this diversity and heterogeneity that characterizes the teaching profession" (Ferreira, 2003, p. 44), providing an open and plural approach to the investigation of diversity and different "ways of being professional" (Gomes, 1993, p. 98). Therefore perspective brings into the confrontation, one vision of "unifying professional identity" and a vision "inextricably fragmented"(Ferreira, 2003, p. 46).

On the base of Claude Dubar, Ferreira (1994) argues that the professional identity is a biographical and contextual construction, which is born, grows and matures from the moments that starts and "cultivates" the working relationships between pairs, in their actors' games, with the participation in collective activities and projects developed at the workplace. The greater or lesser degree of the deepening of the above mentioned processes, at different levels and stages of education, prospects for a non-homogeneity image in the social group constituted by the teachers. Remember the "absolutist and centralist" historical way that pre and primary school organization had a trend of teachers' conformity and passivity (Formosinho, 1997), which are related to the Portuguese dictatorship; the traditional centralized and bureaucratic educational system; the small schools with a great percentage with only a teacher which led to the teachers' isolation and hence the tendency towards an individualistic culture.

With the creation of the "cluster of schools", significant changes in teachers' professional cultures were operated. For a better understanding of these traditions and changes, in the next section the typology of professional cultures produced by Andy Hargreaves (1998) will be presented. According to this author, "the culture passed down to his inexperienced new members the solutions historically generated and collectively shared of one community" (p. 185).

Teachers' professional cultures, according the Andy Hargreaves typology

Andy Hargreaves (1998) identifies four broad types of teachers' professional cultures: individualism, collaboration, collegiality and artificial balkanization.

For this author, individualism, isolation and "exclusive" are the peculiar components of teaching culture. Although a variety of aspects can influence teachers' work and culture, individualism continues prevailing. The author reported that the classroom isolation promotes privacy and protection from outside interference, thus, individualism is associated with the defensive of behaviors, mistrust and the possible and "natural" teachers' flaws and failures, as a result of teacher' "uncertainty of work". The individualism as a workplace condition is not perceived as a "personal weakness", but as a result of an "economy of effort and a rational organization of priorities carried out on a desktop hard pressed and embarrassing" (Hargreaves, 1998, p. 191), as a result of the adaptation of a strategy to the desktop.

In brief, in this perspective, not all individualism is "perverse" and constitutes limited professional behavior, because the individuality can support and enhance a creative talent, that otherwise has not got any possibility to manifest itself.

Collaboration and collegiality have been targeted at the rhetoric educational level, as new fundamental paradigms to promote the change of schools, a teachers' professional growth and schools' development from internal initiatives. According to Hargreaves (1998), collaboration and collegiality promote improvement "in

addition to personal reflection and idiosyncratic, or dependence on outside experts, so that teachers learn from each other" (p. 209). They contribute also to the better development and implementation of educational changes externally initiated and introduced. In addition, collaboration and collegiality develop power relationships which, according to Blaise (quoted in Hargreaves, 1998, pp. 213-214), may fall within the micro politics perspectives. This perspective focuses on issues related to power and control and "the use of power to achieve preferred outcomes" emphasizes more the issues with the "differences between groups within an organization than with their similarities" (Hargreaves, 1998, p. 214).

Reflecting on these developments, Fullan and Hargreaves (2000) argue that collaboration at schools presents a fairly limited. The planning of teaching units and lesson preparation can be held together, but after then, there is not, among peers, a mutual involvement in the work accomplished observation in the classroom.

In the "artificial collegiality", as argued by Hargreaves (1998), "collaborative professional relationships between teachers aren't spontaneous, voluntary, to development oriented, and extended in time and space unpredictable" (p. 219); arise, instead, from the administrative rules. According this train of thought the degree of predictability has sometimes perverse and not guaranteed outcomes. The artificial collegiality is a secure administrative simulation to boast the cooperation of teachers. This type of collaboration is "compulsory, not voluntary, limited and fixed in time and space; oriented to the implementation, rather than for development, and designed to be predictable - rather than the unpredictable - in their results" (Hargreaves, 1998, p. 234), i.e., everything is administratively controlled and imposed. Teacher's creativity and initiative are disregarded and, at the contingency moments, the situations that unexpectedly arise tend to be ignored. These authors believe that the main results of artificial collegiality are the "inflexibility" and "inefficiency": teachers are obliged to meet, there is no reason to do so, they do not meet when they need and the partnership work not always joins the colleagues adequately.

Finally, regarding the "balkanization" as a type of teachers' work and culture, the work and organizational relationships established between teachers, namely, cooperation and collegiality, shape cultural typologies of the teacher' profession, both can unite or divide the teachers, within the educational establishment, in isolated groups or subgroups, presenting sometimes adversaries of each other (Hargreaves, 1998). He called this specific type of teachers' work interaction as a *balkanized culture*. Hargreaves notes the following factors to describe this type: teachers do either not work alone, nor with most of their school colleagues, they share smaller subgroups (the subject departments, the pre or primary departments, special education), they behave sometimes as adversaries. In the same sense, Lima (2002: 29) refers that "departments intensified the competition among teachers in schools, leading to loss of an interdisciplinary perspective". Siskin (quoted by Lima, 2002, p. 31) states that "the school's social world has expanded so much that finally ended up, or splintered, to the point of the department, more than the school, which effectively marks the most teachers' main interactions ties." The department "creates borders within the schools and present barriers to possible interaction patterns at the educational establishment level" (Lima, 2002, p. 31).

Although the Andy Hargreaves typology has been performed in the secondary school context, it seems pertinent to use it in the "cluster of school" context. The underlying policies which support this new organizational and administrative unit (a cluster of schools), which comprise different school buildings belonging to a specific geographical area, intends to improve the continuity between different school levels and link the teachers articulation, concerning their organizational and curricular work, based on the assumption that the development of joint planning work fosters a more collaborative actions and collegiality among teachers, questioning the isolation and individualism. Thus, some issues arose, such as exploratory research hypotheses.

- Has the "cluster of Schools" formation involved the local dynamics of teacher's work?
- Have the interactions between teachers of different educational levels promoted the isolation and decrease the individualism?
- Have collaboration and collegiality begun with the "clusters of schools" formation developed spontaneously and voluntarily or were administratively imposed?

Answering to these main questions was the objective of the empirical research carried out in the ambit of a master dissertation which is currently in progress in the ambit of a doctorate at the University of Minho.

THE DYNAMICS OF THE CREATION OF THE "HORIZONTAL CLUSTER OF SCHOOLS": A LOCAL INITIATIVE

This section analyzes the origins of the process, which consisted on the creation of a "horizontal" cluster of schools. The presentation of data includes the quotations of the interviewees.

For a long time a school principal "dreamed" of a new organization for the pre and primary schools of his county. "There arose the possibility, of their own volition and own nomination, constitute the cluster", refers Kingfisher (the fictional name given to the school principal, as above mentioned). He states as well that "it also exists on the Regional Administration, including the Director, some willingness to experiment, to get this experience." As reported Kingfisher, "the teachers were then consulted. We had a general meeting, where pre and primary teachers were stakeholders." Kingfisher recalled with smile, what happened on that day.

> "At this meeting I am reminded of a phrase that a teacher stood up (pause), there has been a stalemate there ... When you go for something new there's always some reluctance, not completely at ease, it seems to me that it's human. I remember one teacher stood up and said – to worse it will not go, certainly, so let's try it." (Interview, Kingfisher)

The first stone was laid for the "cluster of schools" formation, encompassing the pre and primary schools. It has long been known, that lived almost back to back, but with the possibility of understanding, a gentle nudge was enough to "trigger the process."

> "We launched this challenge to ourselves. We made the writing proposal to the Regional Director. He approved. It triggered the process: the selection of the Executive Group to launch after the whole organization. "(Interview, Kingfisher)

Then also some other occurred questions, as reported by the Ladybug teacher: "I was one of those who came with a bit expecting and put some doubt if it would work, because possibly it could be a project with a political feature, of local policy ...." This doubt was related to the Mayor's interest and presence meetings. Ladybug's fears were linked to the fact that the Cluster "was not in the real school, students and community interests." Such fears have dissipated later with the teachers' work developed in the terrain.

> "After, this show us who we're completely wrong, because greater responsibilities have been given to us. Monthly meetings, on the teachers' councils, we specifically talk about pedagogical issues. At the time we didn't make much lesson plans, but carried out projects, we analyzed documents, at the time we were outside, entirely out from the legislative part, because this paper was made by the Delegation School. Now we're building our project and we have been given new responsibilities."(Interview, Ladybug)

The "horizontal cluster of school" formation was not a simple task, despite the motivation, however, revealed. There was no legislative backing to provide the organizational structures array for the pre and primary "cluster of schools". It was a bit difficult because it was something new, similar cases not abound in the country where they could seek suggestions. But among teachers, there was awareness that was necessary change, work and organizes themselves in different way.

> "We ended up going into the wave, because it was something new and we also had some curiosity in change, because all that innovation is also interested in [...] everyone was aware we needed to change ... in our view it would be for the better. (Interview, Dragonfly)

Kingfisher notes that they departed "even from scratch. But it was a funny experience because deep down we had a better effort, but I think it paid off. Roll up our sleeves and started working differently. "Despite initial uncertainties, the teachers were involved in "cluster of school" organizing, created new structures. They were hopeful in finding other work forms that would lead to a better situation. They created the Poles / Councils of Teachers, the teaching group, by nature, where the joint work between the pre and primary schools were started to develop.

> "In the beginning [...] it began to print a dynamic work [...] already thinking in the teaching and how much work had to do [...] the meetings of the School Council [...] were Poles now." (Interview, Ladybug)

This change from the old structure - the School Council - for the new set up structure - Polo / Council of Teachers - wasn't easy to achieve. It was recommended a geographical restructuring, embracing schools of

two or more parishes. Likewise, shaped in the same Pole / Council of Teachers the pre and primary schools of the same parish, whether they worked in the building attached or separately.

> *"We thought it was a funny experience, the pedagogical link, essentially pedagogical, between pre-school and primary. There're two different realities, back to back, and so there was a culture of some isolation from, each do for him. So we have proposed ..., and were accepted. "(Interview, Kingfisher)*
> *"It began to exist some experience exchange, [...] more extensive between the two levels. They're programmed some joint activities at the teachers' council, instead of being in separate form. It began to be a greater sharing and interaction among teachers. "(Interview, Dragonfly)*

The Teachers Councils have been trained according to the geographical identification zone, consisting of the pre-school and primary. Gathered together and monthly.

> *"At first, it was funny. Some colleagues at the preschool said: "this is difficult because at primary school talk too much of legislation...." At the time we commented "well that's great. They are two completely different realities. We must find some balance here because the two things are necessary" and began to work better and successfully. We could end up with the barrier between the preschool and primary school. "(Interview, Kingfisher)*

The creation of this educational structure has emerged to greater coordination, collaboration and participation in the pedagogical activity. For teachers was important the "horizontal cluster of schools" constitution, especially in the pedagogical work organization, in the whole cluster.

> *"There was a greater sharing of professional knowledge and greater disclosure of what each level of education did. Some establishments more isolates have to be more in touch with others. The new ideas and projects were valued that were presented and developed. They made up more joint projects, involving more primary schools and kindergartens. (Interview, Butterfly)*

If before the "horizontal cluster of schools" formation the work way in preschool, resulting from the achievement of an annual work project created and participated by the all county kindergarten teachers, not 'contagious' the primary school teachers. The "horizontal cluster of schools" formation changed the teachers' behaviors. The kindergarten teachers "influenced and motivated" the primary school teachers to change their practices and to develop council projects with the participation of all schools.

> *"Ephemeral said that the primary teachers have enough gained with the formation of Teachers Councils because they went to witness the way they prepared the preschool activities and what was taught there. Then, they also began to develop their teaching supported in the work project. It began to see a greater coordination and sharing between them. "(Note from the field, 21 November 2007)*
> *"The Teachers Councils staged a union of teachers and educators. There were changes from the moment they have got Poles. But, it was not easy in the beginning because we did not have the same interests and work with children was different. We adapted a lot of things and we adjusted the work form to create a certain joint. "(Interview, Dragonfly)*

This view is shared by Butterfly:

> *"The changes that occurred more frequently were linked with a substantially improved interaction and coordination between the two levels of education. The educational part was fairly valued because the teachers could share their experiences, their beliefs and anxieties. There was a greater sharing of professional knowledge and greater disclosure of what each level of education made. "(Interview, Butterfly)*

In the first two years of the horizontal cluster, the executive director empowered to appoint the representatives of the main organs of senior and middle management that would create from scratch, such as: the Executive Council, the School Assembly, the Pedagogical Council and the various Poles / Teachers Councils.

"We had lots of training abroad, [...] we worked a lot with decrees and laws, [...] now we have a broader vision, [...] later became necessary to form the School Assembly, I were responsible [...] I contacted some colleagues, who I knew and I saw that they were dynamic people and could contribute better, [...] on one side was an invitation, but willing of all to participate."(Interview, Ladybug)

The Teachers Councils emerged from the need for joint and collaborative work between the kindergarten and primary teachers. Kingfisher opted to create a structure where teachers and educators were included, and this was quite innovative. He recalls that, at first meetings, the minutes reflect the teachers' attitude of passivity, postulated by the proposals absence made by them, which indicated also a no participation culture; they were accustomed to mere compliance with the guidelines set by superiors. Gradually they have developed greater involvement culture in the organizational structures of the cluster, which contributed to give visibility to some autonomy built.

This section ends with Ladybug teacher statement, reflecting the teachers' professional evolution and "growth".

"Many teachers seemed passive people (...) they proved to be great professionals, in terms of dynamics and the suggestions that appeared, projects which we started to develop together (...). Later, the people recognized that teachers were more open with each other, we had not so many fears, we exchanged many ideas and work dynamics. "(Interview, Ladybug)

In brief, the "horizontal cluster schools" formation supported a great transformation of the organizational and professional culture. With the creation of the new structure emerged a greater coordination, collaboration and participation in educational activities of the "cluster of schools" management by educators and primary school teachers. While in the initial training of Poles / Teachers Councils could encourage a collegial artificial, driven by the Executive Director, the teachers quickly found favor in working collaboratively, following the methodology previously developed by the educators.

THE "VERTICAL CLUSTER OF SCHOOLS" FORMATION: AN UNDESIRABLE MARRIAGE
The formation of the "Vertical Cluster of Schools" resulted by a national normative regulation, i.e., it has not made from any desired local stakeholders.

"The Regional Direction (DR) imposed compulsorily the formation of the "vertical cluster of schools". At this time we did not understand the goal purpose of its creation, because was not very logical itself. People in both sides did not identify very much with it. However, as it was mandatory, it had to be built. "(Interview, Kingfisher)

The passage to the "vertical cluster of schools" took on a forced marriage character, for convenience of Education Ministry (ME), without the main stakeholders' agreement.

"It was wrought by DR, with guidance issued by the ME, in a time that nationwide intended to create clusters of schools. As our county is small [...] the decision did not become from the bases, but top down, enjoying the ME toward DR created "vertical cluster of schools" immediate." (Interview, Jay)

Indeed, organizational change, with the passage to the Vertical Cluster, did not reveal either a substantive change nor modified the *modus operandi* of the two progenitor organizations. The separation between the teachers was obvious.

"Have you checked *how the teachers organized themselves in Pedagogical Council? You enter and see on the left side the pre and primary schools representatives, on the right side the low secondary school teachers and to separate both the President of the Pedagogical Council. "(Field Notes, November 21, 2007)*
"Apart from aspects of collaboration informal gathering is almost nonexistent."(Interview, Barbo)
"The collaboration was rarely before, very rarely, but there are not many now." (Interview, Hydra)

Given this reality, and in order to dilute this "unwanted marriage" there were aimed some actions that stimulated a broader integration of all teachers.

> *"I think this school is privileged over other in this respect. I hear comment from my colleagues of other schools where I also worked. It is not easy to find a school where people give as well as this ... It notes by the participation in lunches and dinners, especially the pre and primary school teachers. They are a very assiduous presence. "(Interview, Hoopoe)*

Informal means of integration, including lunches and other recreation, formation of joint working teams, seemed to please the teachers and facilitated among all a better interaction and integration.

CONCLUSION

Before the formation of the "horizontal cluster of schools", the pre and primary school teachers were separated by an 'imaginary boundary' supported in the educational level difference. There was an isolation culture, "keeping to himself" the good teaching practices, sharing no experiences. The work was only carried out within the closed-classroom, without the educational community involvement.

With the construction of the "cluster of schools", in order to increase a participative and collaborative culture, sharing, joint work and promotion of the Teachers' Councils activities, Kingfisher made a point of be present at meetings where aid and abet this culture, among teachers. If the Teachers' Councils adding educators and primary school teachers, promoted greater joint planning and greater pedagogical link, the existence of several and different Teachers' Councils, also consubstantiates a balkanized culture, contributing to micro political development, small conflict manifestation and "struggles" for better conditions of participation and financial support to submitted projects. The collaborative work in the Teachers' Councils, because administratively imposed, by the need of joint planning and pedagogical link, can configure also an artificial collegiality, co-opted with guidelines and superiors hierarchical.

With the "vertical cluster of schools" formation, the Curriculum Departments / Teachers' Councils continued working separately with the same organization which they had already before.

In summary, the imposed creation of the "vertical cluster of schools", despite the attempts of successive Vertical Group executive bodies, to encourage greater interaction and network among the different levels of education teachers, they did not yet see themselves, in this organizational form. There is, in practice, a balkanized culture, with each education cycle working alone, disjointed, did not quite knowing what projects are developed by each one. In general, teachers' contacts and relationships come informally, occurring during the gatherings that are implemented usually throughout the year.

Some questions left open in this research concern to the pre and primary students and teachers' concentration in "Schools' Centers", i. e., new larger school building were recently created for pre and primary levels and the more rural and small schools were closed. Therefore, new research questions emerged, such as: does the teaching in the same school bulging and environment, educators and primary school teachers, foster greater interaction and collaborative work, opening their traditional closed classrooms? Does the teachers' work balkanization, in which concerns to the different teachers' school levels, will dilute and lead to a more coordinated and collaborative work and culture? Will these new organizational changes promote sequential work between the three cycles of "basic education" (until the 9th grade)? What kind of collaborative work will be developed in the new circumstances, if the administrative organization maintains a departmental-based perspective instead of a more flexible curricular and pedagogical organization in order to overcome the centralized and bureaucratic organizational and professional cultures?

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270 - The (in)Visible Body in the Nation-Wide Syllabi Parameters – Elementary School

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Abstract: This thesis stems from reflections on the manner in which the body is represented in the Nation-wide Syllabi Parameters [Parâmetros Curriculares Nacionais] – PCN's, for Elementary School, in light, for the most part, of Foucaultian references. As a health and education professional, I sought to develop this survey as a result of my musings about how I think about the body as a concept and the ways in which I would like to see it represented in school. PCN reviews showed noticeable differences between the guidelines on the body, in the subjects that were objects of research. The truths about the body have been pieced together by way of a discourse produced on the borderline between several pedagogic avenues. They exert the effects of power and knowledge on each one of us: students, teachers, parents, other family members and professionals of several areas. Being able to become familiar, in greater depth, with Foucault's writings on the body, power, knowledge, discipline and self, has triggered, in me, other possibilities, of resistance, struggles, reflections, with regard to what lies before us. It has also enabled me to devise other ways of thinking and working through education of and in the body.

Keywords: Body; Nation-wide Syllabi Parameters; Elementary School

INTRODUCTION

In the mid-1990's I had the opportunity of going through a number of professional experiences that caught my attention and piqued my sensitivity. Back then, the work was being conducted, for the most part, within institutions and service entities whose purpose was to serve Rio de Janeiro city – RJ - public-school children and teenagers. As a nurse and a teacher, my job title was coordinator of the "The Child, The School and Myself"course – offered in the first semester of the undergraduate program at the Ana Nery Nursing School [Escola de Enfermagem Anna Nery] of the Rio de Janeiro Federal University [Universidade Federal do Rio de Janeiro] /UFRJ – whose practical content was based on the students' health condition diagnosis, proposing solutions and, performing research on situations found within the internship scenario.

This was what triggered, back then, my approach to public education at the elementary and secondary school level. By the same token, the reflections on those activities were, in fact, the seeds of my ideas for doctoral research work.

Based on a few assumptions, I outlined, as the **scope of my study:** "Contents on the human body proposed in the Nation-wide Syllabi Parameters – PCN's – for Elementary School".

The Nation-wide Syllabi Parameters were written in the mid-1990's by a group of Brazilian researchers/educators in order to provide more breadth and depth to the education-related discussions and to kick start a change for the better within the Brazilian educational system (BRASIL, 1997).

This study's track record was organized in two instances: explicitation of subjects which are part and parcel of the Nation-wide Syllabi Parameters; Elementary School, which contemplate body-related contents, a review of the contents listed in step (1), in light of the concepts studied by Foucault: body, power, knowledge, discipline and self.

- **Natural Science in the PCN's – The absent body**:

The workbook associated with Natural Science recommends that the body not be compared to a machine. Nevertheless it uses comparisons between man and other living beings, as will be ascertained in several excerpts of the PCN's.

An analogy between the human **body** and a machine is commonplace. It is common but inappropriate. As is the case with all living systems, the **body** can reproduce, perform exchanges with the

environment and self-regulate. These features, for the most part, set it apart from a machine (Brasil, 1997, p. 62).

Nevertheless I notice that under certain circumstances in day-to-day life at school, some body parts are explained by using some machinery and gears, and this does not adversely affect the understanding and the specificity one wishes to convey, for instance about the organ ("the heart works like a pump which makes the blood flow"; "the venous system is like a complex plumbing network"; the brain is a complex central computer).

The document indicates contents on the transformations that take place during growth and development, focussing on the main features — relevant to the body, behavior and attitudes — throughout the various phases of life: "Special attention is given to the study of the essential requirements to ensure the child's health, measurements for the prevention of contagious infectious diseases, especially **AIDS.** These issues are also dealt with in documents on Sexual and Health Counseling" (Brasil, 1997, p. 50).

In the record above, AIDS is highlighted. Thus I notice, in addition to the strong impact that the outbreak had in the 1990's, that is, when the PCN's were prepared, the control and the focus on the sexual themes, and the connection, in many instances, between the "sexuality" theme with the possibility of becoming ill.

> AIDS has carved itself a special place in the body's history throughout the XX Century, even though it only left its mark in the last two decades of the century. Just like syphilis, which is associated to the New World exploration, and cholera, associated to the acceleration of transportation and colonial expansion, it brutally denied the century the bragging rights for eliminating infectious diseases (Corbin, Courtine, & Vigarello, 2008, p. 33).

The PCN's – Science, on several occasions, propose the study of the human body based on comparison with the bodies of other animals, both from a physical and from a behavioral standpoint.

> In addition to establishing **comparisons** between various human beings, it is interesting to **compare them** to a number of animals. The general structure, the **body's** surface, the upright stance, limit and reach of the means of environmental perception (issues inherent to the sense organs) may be exploited (Brasil, 1997, p. 51).

I see such comparison with reservations, since I believe the study of man's body should be more specific and seen under certain perspectives that are not comparable in other living beings (cultural, ethic, social, economic, historic, among others).

In this cycle, teachers are also confronted with the need for studies on male and female reproductive systems, throughout puberty[74]:

> In this cycle, the studies about male and female reproductive systems and the changes that boys' and girls' **bodies** he go through during puberty. The observation of one's own **body** (what it is like, what it was like, what changes are going on now) and the comparison of these data with the development Standards – which may be obtained from **health workers** [...] (Brasil, 1997, p. 65 - 66).

In more than one opportunity, the PCN's suggest that the school seek further health-related information in other environments and with other professionals, the health workers[75]. Such a proposal, in addition to undermining the teacher's position, bestows on the health worker, whose professional qualifications are quite modest, great responsibility, and, to make matters worse, is based on the assumption that the health center

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[74] The study indicates the poor training of Science teachers in sexual education lectures. This was ascertained by educator Cláudia Ramos de Souza BONFIM, who presented her doctoral theses on this issue at School of Eduction [Faculdade de Educação] (FE) of Campinas State University [Unicamp] (Thesis: Sexual Education and Biology Teachers' Training: contradictions, limits and possibilities) [*A Educação sexual e a Formação de Professores de Ciências Biológicas: contradições, limites e possibilidades*]), advisor: Prof: Sílvio GAMBOA. Fonte: Jornal da UNICAMP, Campinas, 25 a 31 de maio de 2009, p. 04.

[75] Law # 10.507, sanctioned in July 2002, regulates the profession of Community Health Worker. The requirements are: one has to live in the area of the community one will serve and one must have completed elementary school.

has the availability to play host to groups of children and teenagers, when, in fact, it is overburdened with work and has to deal with a number of difficulties.

- **Art in the PCN's – The sublime body:**

With the preparation of the PCN's, the task of teaching Art was broken down into four modes for elementary and secondary school: visual arts, dance, music and drama. The school has to choose which of these modes will be a part of its syllabus, and on which moment of these phases of the school experience they will be present.

Dance is highlighted in the PCN's for the 1st through 4th grades, as part of several cultures and integrated in work, religion and leisure. Likewise, dance is part of a child's life since an early age, having a role in play and as a development stimulus.

> [...] The dance activity at school may develop, in the child, an understanding of one's movement capability, since the child will grasp a better understanding of how his/her **body** works. Thus, the child will be able to use his/her body in a more intelligent, self-assured, responsible and sensible manner (Brasil, 1997, p. 49).

That is, in agreement with Lelis (2004), Art, today, encompasses more roles:

> These days, art at school contributes not only to the development of subjectivity, but also to professional development. Large numbers of school graduates seek professional positions in the sales environment (advertising, marketing, design). This is only made possible due to the analytic capacity to appreciate art in its historic context, These issues are inherent to the teaching of art. (LELIS, 2004, p. 43).

Communication and expression through music are suggested in the PCN's through the perception and identification of the musical language elements in production activities, translated by employing the voice, the body, and sound-making materials and instruments available (p.55). Body language is also explored in the PCN's through drama-related activities:

> Experiments and articulation among **body,** material and sound expressions. Exploration of **body** capabilities and drama creation. [...] Understanding of the theatric creation's **body,** text, visual, sound expression contents (Brasil, 1997, p. 59).

The possibility of art being explored in closer proximity with cross-functional themes –cultural plurality – can be seen in several excerpts of the document, such as:

> Artistic expression comprises vivid examples of peoples' cultural diversity and shows the artists' all-time creative wealth from everywhere. While in contact with such productions, the elementary school student can make use of his/her cognitive, sensitive, affective and imaginative capabilities, brought together around the artistic and aesthetic learning. At the same time, his/her **body** moves, his/her hands and eyes acquire skills, hearing and speech are enhanced, while the individual develops activities in which the interpersonal relationships are constantly intertwined with the social experience (Brasil, 1997, p. 74).

The excerpt above suggests that the teaching of art must establish the concept of contribution to the educational process, respecting the school community's and the family's cultural and aesthetic standards, and at the same time, work to expand the concept of art in the sense of cultural plurality.

> In order to help students think and act in a responsible manner with regard to the **body** and to sexuality, there are artistic and aesthetic processes that can be worked on in the art class. On this issue, one can review critically the concepts and prejudices that stand out on: similarities and differences in preference and rejection with regard to taste and personal choices, for example, on wardrobe, beauty enhancements, men's and women's **body** expressions at various ages, within various ethnic groups and at various times, as they present themselves in art and in day-to-day life (Brasil, 1997, p. 40).

Through art, the PCN's may redeem themselves of the sexuality issue, since in science, the approach to the theme almost always occurs from the standpoint of disease. Here, the proposal is that sexuality is seen through an integrating notion, respecting the differences between men and women.

There is no question that art is not the only way to reflect on the body with the students. Rather, it is but one of the avenues. Art does not depend on specific knowledge only. It also depends on the experience one has with the senses, perception and sensitivity, that is, with the body.

- **Physical Education on PCN – The articulate body:**

Physical Education, according to the MEC's [Education Ministry's] indication, should be taught at all grades, from 1st to 8th, and not only from the 5th to the 8th grades, as was the case previously.

> The Physical Education work throughout the initial grades of elementary school is important, since it enables the students to have, since an early age, the opportunity to develop **body** capabilities and to take part in cultural activities, such as games, sports, wrestling, gymnastics and dance, for leisure and to express their feelings, affect and emotions (Brasil, 1997, p. 15).

The body, in the context of the Physical Education document, gradually takes shape, as other contents and reflections are introduced in the teaching process. As a matter of fact, the knowledge of the body makes it possible to understand the associated subject matter.

> The knowledge on the **body,** its growth and development processes, is pieced together along with the development of **body** practices. These processes and practices provide the subsidies for the acquisition of good nourishment, hygiene and physical activity habits, and also for the development of the individual's body potentialities. They enable the individual to understand such potentialities as fundamental human rights (Brasil, 1997, p. 25).

According to the PCN's, the contents must be approached from experience, that is, the student must, by means of a variety of exercises, analyze and understand the changes that take place within his/her body, such as, for instance, during and after physical activity.

> Analyses can be performed on short-, medium-, and long-term changes. In addition, from the standpoint of perception of one's own **body**, the students will be able to review their movements in time and space: what their displacement is like, what is the speed of their movements, etc. (Brasil, 1997, p. 36).

In spite of the fact that the body phenomena (anatomical, physiologic, bio-chemical) have to be approached in the context of Physical Education, the document does it so as to incorporate these aspects to the perception of one's own body (by analyzing movements and reactions, observing development and changes, etc.)

Such care is necessary and corroborated by means of Nóbrega's statement:

> In order to know the body, breaking it down into parts or functions is not enough, even when one recognizes the contribution that various specialties, such as anatomy and physiology, have added to such understanding. The body is not a thing, or an idea. Body means gesture, sensitivity, creative expression (2007, p. 88).

Isto significa pensar na Educação Física com o apoio das contribuições de Almeida, quando afirma que: "O que se pretende afirmar é que o corpo tem uma grande capacidade de criação; logo, é possível pensar as práticas corporais criadoras, produzindo assim uma existência intensa" (Almeida, 2006, p. 11).

The body in the PCN's – Physical Education – is seen in an articulate manner, balancing biological contents with other instances that are also so necessary – emotional, aesthetic, ethical, and creative. This means thinking of Physical Education with the support the contributions by Almeida, who states: "What one intends to state is that the body has great capability for creation; thus it is possible to think about the creative body practices, thus producing an intense existence" (Almeida, 2006, p. 11).

- **Cross-Functinal Themes – Ethics in the PCN 's – The controllable body:**

Reflecting on this theme with Foucault's theoretical foundation, I noticed that, for the author, ethics ceases to be the study of the moral judgements associated to human conduct based on a code to be the manner in

which the individual puts her/his own self together as the subject of his/her own actions. In addition, he states that ethics of care is a life exercise, pervading the whole process of our existence, personal and social development principles, which start with the care with ourselves and progresses alongside with our duties in society.

> The individual, for a long time, was authenticated through others' reference and through the statement of his/her attachment to others (family, loyalty, protection); at some point (the individual) started being authenticated by the discourse of truth that he/she was able to (or was obliged to) have about him/herself (Foucault, 2007, p. 67).

The exercise of sexuality was dealt with in the official document with the use of examples according to which, according to the PCN's ethical behaviors would or would not expressed.

> [...] The expression "**sexual abuse**", for instance, means to take advantage of another person, seeking pleasure in a selfish manner. In this sense, it does not encompass only the violent acts, such as rape, but can also be present in more ordinary ways, such as, for instance, disregarding the partner's wish for caresses and pleasure. The serious sexually transmitted disease, **AIDS,** also brings about very clearly the moral value of mutual respect. To protect oneself from the disease is not only a commitment to one's own health, but also to that of the sexual partner, since contamination is possible (Brasil, 1997, p. 82).

Even though sexuality is mentioned, the approach is quite superficial and sexual abuse, which is such a complex issue, is mentioned in a purely technical manner, limited to the meaning of the term.
Sexual abuse has a very significant impact on the child's and on the teenager's physical and mental health. It leaves marks on the person's development, with damage that may be lifelong in character. It should be seriously discussed in all segments of society, including at school and in the family.
Thus, the PCN's opportunity to deal with something so complex, and unfortunately, present in our child population, is lost. Something similar occurs with AIDS, which, even though it also appears in the PCN's of other areas, pegs sexuality to the idea of risk, without taking care to show possibilities of discussion of the various questions involved in the context of the syndrome.

- **Cross-Functional Themes – Health and the Environment – The untouchable body:**

Among the great current challenges in the health sector is the one related to the transformation of the concept, which is still thought of and taught from the disease point of view and with a vision that is totally biomedical and mechanical, into a perception that would encompass, for instance, cultural aspects.
The challenges are no smaller with regard to health in the school environment which, historically, was built according to a doctrine that only seeks to reduce the dropout and fail rates, and provide medical care for the "deviants". It is believed that thus, proper conditions for learning are assured.
The official document provides some recommendations on health, for the students and for the teachers themselves, with a note to the effect that the indications should not be an imposition: "One important guideline is that one should avoid a prescriptive approach, as if the institution's goal were to normalize the student's private life and standardized behaviors" (Brasil, 1997, p. 18).
With regard to the teacher's capability to deal with the concepts of health and sickness, a number of studies make it clear that the education sector has failed to provide this support.
For all practical purposes, what one normally sees are contents on the theme offered based on the teacher's own perceptions, that is, common sense concepts.

> [...] in the absence of proper training, these programs are developed, for the most part, based on the teacher's "common sense". Such "common sense" is, in fact, a composite of common sense concepts bundled up with the middle class ideology about the living conditions and the knowledge of the social groups which occupy a lower position in the economic totem pole (Collares, 1985, p. 14).

Education in health, as I see it, is always associated to the idea of change, that is, prescriptive contents that are meant to change something, working on the assumption that previous knowledge is necessarily wrong. This appears in contrast with other bodies of knowledge which are pieced together based on incorporating, enhancing, adding, acquiring.

The body appears in the Cross-Functional Theme – Environment, only due to the possibility of integration into the Physical Education course, in which the relationship with the environment is highlighted: "[...] Physical Education, which helps so much towards an understanding of the body's expression and self-knowledge, of the relationship between the **body** and the environment and the development of sensations" (Brasil, 1997, p. 194).

Thus, one notices that several possibilities of discussions about the body and the environment were ignored (the relationship with nature, with the outcome of the climate change, sustainability, among others).

- **Cross-Functional Themes – Cultural Plurality and Sexual Orientation – The helpless body:**

According to Macedo (2006), the PCN's highlight cultural plurality. Nevertheless, contemplating the theme at several instances within the document does not mean, necessarily, as the author cautions, that the required underpinnings are there for the construction of a difference policy.

> One cannot deny the importance given by the PCN's to cultural plurality. In addition to a cross-functional theme dedicated to this issue, there is, throughout the document, from the minister's initial speech and onto the scope of elementary school and of most courses, a concern to highlight the cultures make up the country's foundations (Macedo, 2006, p. 164-165).

It is clear that Brazilian society is not made up only by different ethnic groups, which is facilitated by the country's continental dimensions, but also by immigrants of a variety of countries, who bring the cultural diversity of their origins. By the same token, one knows that the regions within Brazil have considerably diverse cultural characteristics and that the relationship between groups in the various cultural environments is often marked by prejudice and segregation.

> The theme of Cultural Plurality is about knowing and valuing the ethnic and cultural characteristics of the various social groups that share the country's territory, the socioeconomic inequalities and the criticism to the **discriminatory** and **exclusive** social relationships that pervade Brazilian society, offering the student the possibility of knowing Brazil as a complex, multifaceted and sometimes paradoxical country (Brasil, 1997, p. 19).

For the body, the text provides possibilities through the various cultural expressions:

> Going on to the study of world visions, relationships with nature and with the **body,** within different cultures, introduced in different manners at different times, it will be possible to explore the creative and innovative potential that is a characteristic of the human being (Brasil, 1997, p. 55).

With regard to sexuality, it is present in several spaces in our day-to-day life. It is present at school, at work, during informal conversations, and pervades, at an increasingly early age, the life of children, thus becoming a subject to be dealt with in the classroom; it is a theme of chapters of the schoolbooks, as well as of music, dance and play at the schoolyard during recess.

> There is also the clear presence of the **sexuality** of the adults who work at the school. One can see, for instance, the students' great disquiet and curiosity brought about by a pregnant teacher. [...] The **school,** whether it wants it or not, faces situations in which it **intervenes.** Be it in the classroom's day-to-day activities, when it forbids or permits some behaviors instead of others, be it when it elects to let the parents know about their children's behavior, the **school** is always conveying certain values, more or less inflexible, depending on the professionals involved at that particular moment (Brasil, 1997, p. 77).

For some researchers, the fact that sexuality corresponds to one of the Cross-Functional Themes, means the possibility of advancement. Nevertheless, for Altmann (2001) it is possible to criticize the PCN's text in a number of ways. For the author, sexual orientation in the PCN's is perceived as being, basically, something for information purposes, and sexuality is seen as a mere "piece of information on nature". Sometimes the expression "basic requirement" is mentioned, as opposed to a historic and cultural perspective on the issue:

It is seen from the biologic standpoint, pegged to the hormonal functions. With regard to the erotic experimentation, curiosity and desire, these are considered common when dealt with alongside with a partner. The erotic potentiality from puberty onwards is seen as being centered around the genital area, while, only a pre-genital exploratory character is accepted during childhood (Altmann, 2001, p. 581).

Even though sexuality is dealt with in other subjects and Cross-Functional Themes – Natural Science, Physical Education, Arts, Ethics and Health, the contents that deal with conception, gestation and childbirth as normal body processes, are approached only in Natural Science and in the Cross-Functional Theme Sexual Orientation (for the 4 cycles) and in the Cross-Functional Theme Health (only for the last cycles).

> With the same degree of care, the **body** transformations that occur during puberty, the **conception, pregnancy and childbirth** mechanisms, as well as the existence of **different contraceptive methods,** and their action in the male and in the female **body,** must necessarily be dealt with. All these items are worked on so that, while they refer to a person's individual **body** processes, one can also think of them in the relationship with other persons, emphasizing the aspect of the ties established throughout one's life (Brasil, 1997, p. 97).

In the same manner associated with the explicitation of contraceptive methods, that comes up only twice in the PCN's: in the document related to Natural Science from the 1st to the 4th grade (which mentions contraception without specifying any method), and here, in the Sexual Orientation Cross-Functional Theme (for the 1st to the 4th grade, the term "condom" appears, and from the 5th to the 8th grades the de terms "condom" and "rubber" appear). This is an indication of something quite astonishing and contradictory, since the document refers, countless times to contagium in the context of sexually transmittable diseases and to the occurrence of unwanted pregnancies during the teen years.

Nevertheless, in spite of the fact that AIDS, STD's and unwanted pregnancies are mentioned in most documents herein reviewed, the contraceptive methods, and specifically the condom, are not mentioned in most PCN's, and curiously even the Cross-Functional Theme associated to Health goes unmentioned.

As I see it, it looks like there is clearly a denial of children and teenager's sexual activity, and, instead of coming up with contents on what could be effective prevention, there has been a choice for silence in the PCN's.

The PCN's, in addition, highlight something that indicates the school's as well as the teachers' difficulty in dealing with the issue:

> **Sexuality** within the school's environment is not only written all over the toilet cubicles' doors, internal and external walls. It **"invades"** the **school** by way of the students' attitudes in the classroom and the social interaction among them. Sometimes the **school** issues a request, impossible to be complied with, that the students leave their **sexuality out of the school's premises.** (Brasil, 1997, p. 292).

The document presents the teacher with yet another significant challenge: it proposes that the Sexual Counseling work also help prevent serious problems such as sexual abuse.

> In order to prevent **sexual abuse** among children and young people, one must favor the appropriation of the **body,** promoting the awareness that one's **body** is his/her own, and should only be touched by another person with one's consent or for reasons of health or hygiene. This helps strengthen self-esteem, and, as a result, the inhibition of submissiveness to others (Brasil, 1997, p. 293).

Upon suggesting such objectives, as I see it, the PCN's minimize the problem of violence against children and hold them responsible for something that, as a number of researchers indicate, is happening with increasing frequency, within the home environment, involving people that are close to the children, and people who the children trust.

With regard to the image that the child pieces together of his/her own body, the PCN's show some influence of the standards imposed through several means, highlighting, especially, the power of the media.

> The educator may use a number of materials to this end (didactic, scientific, artistic, etc.), reviewing and comparing the approach to the **body** from the standpoint of science and advertising, for instance; discussing and questioning the use of a certain **aesthetic standard** promoted by the media. The

educator may also encourage the production (both individual and as a group) of the representations that children have of the **body,** by means of drawings, assemblies, models, etc. (Brasil, 1997, p. 98).

In more than one opportunity herein, I was able to discuss the issue of appearance, of the standards promoted by the advertising industry and pursued, but not necessarily achieved, by people. By the same token, this is about what being a far cry from the model sought may mean to people.

> The human body, the last territory to be conquered, understood and controlled, thus presents itself as a preferred field for the trials of biotechnology and the market economy investments, exactly as it is strengthened by a paradox that characterizes industrial societies: on the one hand, there is the cult, the infatuation, the high value assigned to appearances and health; on the other hand, the fragmentation of the organism and the expanding therapies, the dispersion of cells, genes and organs, in addition to the large-scale marketing of these materials (Sant'Anna, 2001, p. 76).

It is of utmost importance that the syllabus promote an education that leads the student think, in a critical manner, about everything that is offered to him/her, passing judgement, assigning value to whatever brings growth and personal development. Thus, education may lead the individual to achieve better knowledge of his/her own body, making him/her sensitive to the singularity of his//her sensations and enabling him/her to have a higher degree of body identity.

- **Cross-Function Thenes – Work and Consumption – The shaped body:**

The existing relationships among men in society may be analyzed in several ways. Such diverse relationships define, as time goes by, what will be essential, turning into na object of desire. The PCN's deal with these issues as a Cross-Functional Theme to be thought from the 5th to the 8th grade.

> The discussion over work and consumption at school seeks to define the social relationships in which the needs and desires arise, and the services that will meet such needs. Knowing and discussing ways to achieve and organize work and consumption, understanding their relationships, dependencies, interactions, the associated rights, the contradictions and the values associated to them, will help the individual reach an understanding of his/her own reality, and put together a favorable image of him/herself, as well as a critical attitude, to enhance the value of forms of action that facilitate better distribution of socially produced wealth (Brasil, 1997, p. 344).

It is important that young people discuss their expectations with regard to work. Many of them have already taken part in the job market, in one way or another, and are going through the expectation of the beginning of the definition of a professional avenue or the quest for the first job.

The relationship between the body and the work was dealt with in a paragraph of the official proposal, as a warning on the possibility of accidents:

> It is important to know, for instance, that a workplace accident is the one that happens while performing the work in the employ of a company, or while special policyholders are working, resulting in **physical injury** or **functional disturbance** that leads to death, loss or reduction of the ability to perform work, either temporarily or permanently. (Brasil, 1997, p. 399).

The official document proposes that the Work and Consumption Theme be, once again, developed by the Physical Education area, while mentioning aspects on the body's appearance.

> In Physical Education, the Work and Consumption Theme appears to be contemplated starting with its scope: one of the capabilities to be achieved by the students is the recognition of **working conditions** which undermine the growth and development processes, not accepting such conditions for him/herself or for others and claiming decent living conditions; another capability is related to the knowledge of the diversity of **health, beauty and body aesthetics standards,** which are present in different social groups, reviewing the standards promoted **by the media,** avoiding consumerism and prejudice. (Brasil, 1997, p. 370).

This body model recognized and legitimized by the media values, for the most part, physical characteristics, adding no value, for the construction, alongside with youth, of the need and the quest for reflective, critical references, sensitive to other features.

On this issue, Fischer (1996) contributes, clarifying that:

> [...] the need for an analysis that may place us in this present juncture in which the image, the fact that something "has been seen on TV" or has been awarded any space in the newspapers and magazines printed media", empowers, causes an effect on people, pieces together a special kind of truth (Fischer, 1996, p. 126).

Thus the various media provide a ready-made idea of what we should be, what we should consume, how we should behave, and maybe, what is really important for us to know.

Given the fact that the students' and even the teachers' references are pieced together based on the images and data shown by the various media, pedagogical practice shows that an education that does not have a face-to-face dialog with these elements may become innocuous.

Nevertheless, the biggest problem appears when, instead of promoting dialog, of approaching the student's day-to-day life, education only begins to duplicate the media's discourse, strengthening stereotypes, discourse, lifestyles, failing to encourage a critical reflection about whatever comes in through our eyes and ears, and, in fact, about whatever comes into our body.

CONCLUSION

Public policies entered into the Nation-wide Syllabi Parameters embody the commitment to produce certain types of individuals. This is a complex process, pieced together from diverse interests and having, as its foundation, a massive production of truths, powers and bodies of knowledge originating from a variety of fields.

If, within the school, the biomedical discourse is still given priority and assigned to body issues (anatomy, physiology, organs and systems) at the present juncture, one must think of the syllabus while showing commitment with social changes and discuss the body as one's own space, considering age, race, gender, creed identities....

PCN reviews showed significant differences among the body-related guidelines contained in the subjects studied.

The truths about the body have been pieced together by way of a discourse produced on the borderline between several pedagogic avenues. They exert the effects of power and knowledge on each one of us: students, teachers, parents, other family members and professionals of several areas.

Being able to become familiar, in greater depth, with Foucault's writings on the body, power, knowledge, discipline and self triggered, in me, other possibilities, of resistance, struggles, reflections, with regard to what lies before us. It also enabled me to devise other ways of thinking and working through education of and in the body.

In the hybrid entity that make up the PCN's the body becomes an issue of option among the various possibilities presented to the students.

Natural Science, Physical Education, Art, Health, Environment, Ethics, Sexual Orientation, Work and Consumption, Cultural Pluralism – in this subdivided space, the body is inserted, presented whole, master of its own self. At other times is appears to be shy, hesitant, uncertain of its own existence.

Ethics sets out to control the uncontrollable. In the same discourse, it attacks and defends standards and rules, without, nevertheless, giving away any space so that the students may develop attitudes that are more solid and in keeping with day-to-day reality.

The PCN's for Sexual Orientation show, between the lines, and in what is left unsaid, the strangeness that this issue generates within the school environment. The discourse's intent becomes evident – to control sexuality through fear and the concept of fear, thus exposing a helpless body. In the Cultural Plurality, a relationship among the differences is proposed but they do not dovetail.

Health and Environment refer to an untouchable body. That is a body pulled away from reality, from daily life and from the school's challenges. Health, which constantly warns about AIDS and unwanted pregnancy, falls silent when it comes to recommend the use of condoms. In Environment, there is little emphasis on the body's actions in nature; by the same token, the consequences of the environment's actions on the body are precariously discussed.

The shaped body found in the Work and Consumption Theme warns the school to the effect that it must not reproduce the media's discourse, which prescribes a way of life. On the other hand it fails to show how the

institution will be able to encourage critical reflections on the theme, among the students. Furthermore, many discussions that have already taken place on the workforce, capitalism, the exploitation of man, challenges for the youth in the job market, among so many other struggles of our time, are ignored.

The Cross-Functional Themes also made me think about the manifold responsibilities of the teacher, who, being provided with qualifications that are often restricted due to several issues, will also have to deal with the contents of others areas.

In the body's sweetness-utility, multiple selves are imbedded; they adjust themselves to the invisible alignment; producing truths and questioning – as much as possible – power and knowledge; make headway while having their underpinnings and quirks reviewed, by the examining device known as the school and remain under the watchful eye of the panopticon which the PCN's often become.

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273 - REFORMULATION OF UNDERGRADUATE COURSES IN BRAZIL: NEW DIRECTIONS?

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Abstract: This paper contains the investigations results related to the research project, The disciplines in teaching undergraduate courses: Tensions and priorities initiated in 2007 linked to the research line: Theory and Pedagogical Practice in Teacher Education of Graduate Program in Education of the Pontifical Catholic University of Parana - Research Group: Educational Praxis - Dimensions and Processes. The research focuses on the reformulation of under-graduate courses in universities in the state of Parana, Brazil. The research problem arises in the context of reformulations in the under-graduate courses encouraged by the demands of current educational policies for these courses, with the following questions: What changes to current policies of teacher education were produced in the organization of under-graduate courses? What features characterize the proposed articulation of pedagogical training with training in specific disciplinary perspective of professional development? The overall objective was to analyze the reformulations of the under-graduate courses in relation to established priorities and the implications to the professional development of teachers indicating the tensions caused in this process and to indicate alternatives that contribute to the improvement of basic teacher education. The methodology of the study considers the assumptions of the theory as practice of expression (Martins, 1996; Santos, 2001), performs the analysis of educational legislation, organization of curriculum matrices of under-graduate courses at universities in the State of Parana and includes interviews with coordinators and teachers from the course. Preliminary results show that the courses differ in the composition of the curriculum matrices in each of the institutions examined. This means that the tensions and priorities generated at each university in the constitution of the identity of the under-graduates courses are disparate from the proceedings in which these courses are instituted because of the institutional clashes priorities. It is noteworthy that the reformulations in private institutions meet the recommendations of the legislation, while in most public reformulations occur with less intensity, however, changes are restricted to enhance technical training, also found in studies of Terrazan (2004); Diniz Pereira (2010), Dias-da-Silva (2005). The performed reformulations extend the amount of teaching time for teaching practice, starting from the first year of the course, in the form of professional practice and in the final years the completion of supervised practice. However, the university remains far removed from the elementary school, the academic disciplines do not articulate these practices. It is noteworthy that the under-graduate courses in Brazil have been the subject of debates and proposals, since the 1980s (Candau,1988; Ludke,1994; Pimenta,1993) related to the conjuncture of teacher devaluation, offer of lighter courses, disjointed from basic school and agravated with the little institutional interest in these courses.

INTRODUCTION

THE CONTEXT

The courses and policies for teacher education in Brazil since the establishment of teacher training courses (normal schools) to train teachers for primary education in the mid-nineteenth century, and undergraduate programs in 1934, have the institutional organization and defined curriculum by government agencies, as well as control and evaluation of its operation. Research, studies and analyses performed in recent decades, investigate and analyze these policies and training practices conducted by these courses regarding the institutional conditions, the formative processes, the curriculum organization. The research identifies problems in supply conditions, practice tendencies.

Research conducted in the 1990s[76] confirm the criticisms and complaints made since the 1980s[77] about the degree courses, indicating the permanence of the departmentalized university structure preventing collective

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[76] The state of the art on theses and dissertations on Romanowski (2002) course degrees presents a set of analyses carried out on theses courses.

[77] The studies of Balzan and Paoli (1988) on the disintegration between the areas of content and of pedagogical training, the study of Candau (1983) published under the title of New Directions of the Degree Courses, examined the views of teachers and under-graduates, the experiences developed in the courses, aiming subsidies for the overhaul of the course.

discussions to overcome the existing dichotomies. Not even the institutional restructuring has allowed an organic articulation of the degree courses, in some cases they have reduced and restricted the inclusion of teachers in the pedagogical area in the definition of the degree courses, augmented by an expansion with lower costs, as Taffarel (1993) points, by the power struggles within the institutions Diniz-Pereira (2000).

The curricula are linear, giving value to the pragmatic and immediate training, priorizing training for "training". Summary of the issues prepared by Pimenta (1993, p. 129) points that:

a) training in specific areas has not been considered as part of teacher training process. Consequently, the Institutes have, in their curricula, separate teacher preparation and professional preparation in the specific area, concerned more with the latter and delegating the first to other bodies, not assuming it as their responsibility;

b) consequently, teacher training has been under the sole responsibility of the Colleges of Education. This view, brings with it a split between pedagogical training and the specific training in the area, when the desirable would be the articulation between the two;

c) within the pedagogical part, it is also found the various dimensions, be among the very foundations of education, be between them and didactic-methodological foundation, and still between those and the practice of teaching;

d) often, the undergraduate courses have ignored the reality of the professional practice, losing sight of the social demands for the same.

The consolidation of this structure has turned these hybrid and desintagrated courses (Gatti, 1997), resulting from the division into two training areas (the specific content and pedagogical content), organized in two stages (theoretical foundation and professional initiation done during internship), two training areas, the training institutions and professional work. All of this is aggravated by the historical devaluation of the teacher's profession.

In many institutions the bachelor degree courses are the first created, that is, they are the ones which allow the origin of the institutions, ensuring their sustainability and institutionalization, however as they are expanded they are being bequeathed to the background, and other courses of higher social prestige become more valued, both in the distribution of resources in the institutional budget as well as in the demand of students.

In addition, the learning of specific content by students do not get satisfactory results. This situation occurs mainly in the exact sciences area handicapping future professional activities of the undergraduate. The mastery of the specific content by the students, does not happen during the training course, either by the approach directed to the training of the BA, or by the own learning condition. Research have shown discouragement, disbelief in the expanding profession evasion. Teacher education programs are among the least disputed as shown by the indexes candidate / vacancy for college entrance exam (vestibular[78]), the ones with the least institutional prestige as pointed out by Pereira (2000). Adding up, there is also the socio-economic condition of the students who need to work during their studies, but which is not always related to education. Census data confirm that the expansion of enrollment in the new training courses for teachers is more pronounced in isolated institutions, of a private administration, offering courses at night (Romanowski, 2003).

In the 1990s, a new Law of Directives and Bases of National Education – LDBEN was approved and promulgated, LAW 9394/96. The changes defined by this law, related to teacher education, include the requirement for graduation in college courses, degree courses, for teacher practice in elementary and middle schools[79].

Once the new law was approved, a long debate was established. involving the Ministry of Education - MEC and the National Education Council - CNE, associations of researchers and institutions to establish new guidelines for teacher training courses. These guidelines were defined in accordance with Resolutions 1 and 2 of the CNE in 2002, and higher education institutions were responsible to reshape their courses.

In the historical evolution of the degree course the author shows the conflicts of the passage of the Philosophy Colleges to the Education College, done in the education reform of the 1960s, emphasizes Valmir Chagas' technical view package.

[78] *Vestibular* refers to the generic name of the selection process exam for the access to higher education, to which students with high school education are submitted.

[79] Pre-school includes childhood education from 0 to 5 years old, elementary and middle school lasts 9 years and high-school lasts three years.

Among the major changes in undergraduate courses, Resolution CNE/CP No. 1 indicates in its article 3 as guiding principles of teachers preparation for professional practice:

    I – competence as nuclear conception in course orientation;

    II – coherence between the offered training and the expected practice of the future teacher;

    III – research, as focus in the teaching and learning process, since teaching requires, both to have the knowledge and to mobilize it for action, like to understand the process of knowledge construction.

These principles refer to a training process in close relation with the context in which the professional practice is effected. This became evident with the approval of Resolution CNE/CP No. 2 which deals with the minimum credit hours of the undergraduate teaching courses, as well as their distribution in theoretical lectures, practices, internships, and complementary activities which were defined as follows: Courses credit hours will be effected by the completion of at least 2800 (two thousand and eight hundred) hours, as follows: 400 hours of practice as a curricular component, experienced along the course; 400 hours of supervised curricular internship starting at the beginning of the second half of the course; 1800 hours of classes of the curriculum contents of a scientific and cultural nature and 200 hours for other forms of academic-scientific-cultural activities.

THE RESEARCH

The research done focuses on the reformulation of teaching courses held in public and private universities located in southern Brazil. The purpose of this investigation was to analyse the reformulation of the undergraduate courses in relation to established priorities and the implications with the professional development of teachers indicating the tensions originated in this process as well as to indicate alternatives which contribute to the improvement of teacher training.

The methodology performs the analysis of the educational legislation, organization of curriculum matrices of the undergraduate courses, includes interviews with coordinators and teachers of undergraduate courses. For the analysis, it considers the theory premises as an expression of practice, theory is the expression of a specific practice and not of any practice (Martins, 1996; Santos, 2001). In this paradigm, the practice is not driven by theory, but theory is going to express the practical action of the subjects. They are the modes of acting which will determine the thinking ways of men. "The theory thinks and understands the practice about things, not the thing. Hence, its only function is to indicate possible ways, never to govern the practice" (Bruno, 1989:18). The base of knowledge is the practical action that men carry through social relations, by the institutions. The basic assumption is that "man does not reflect about the world, but he reflects his practice about the world. (Bernardo, 1977, v. 1, p. 86). Thus "... knowledge is always knowledge of a practice, never the natural or social reality. "(Santos, 1992:29). The data were collected during 2008 and 2009, and they were taken as reference to the instruments used in the research "Dilemmas and Perspective for the Educational Innovation in Basic Education and Teacher Training (DIPIED)", coordinated by Professor Eduardo A. Terrazan

We investigated five universities, thirty seven undergraduate courses. The courses examined are indicated as follow: (i) Portuguese-English Languages and Literature; Portuguese-Spanish Languages and Literature; Pedagogy[80]; Biology; Philosophy; Physical Education and Mathematics from ALFA[81] (ii) Biology; Physical Education; History; Portuguese-Spanish Languages and Literature; Portuguese-English Languages and Literature and Mathematics of BETA; DELTA Visual Arts, Pedagogy, History, Portuguese/Spanish Languages and Literature, Portuguese/French Languages and Literature, Portuguese/English Languages and Literature, Music, Physics, Geography, Mathematics, Chemistry, Biological Sciences, Physical Education, Long-Distance Geography, Long-Distance History, Long Distance Portuguese/Spanish Languages and Literature; in EPSILON the Pedagogy courses, History, Portuguese/French Languages and Literature, Portuguese/English Languages and Literature, Music, Physics, Geography, Mathematics, Chemistry, Physical Education, Philosophy. The interviews involved seventeen course coordinators and ten teachers.

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5 The Pedagogy course is aimed at teacher training for early childhood education and for the five initial years of the elementary education. The remaining undergraduate courses are for the last four years of the elementary education and for the three years of high school, but these teachers can also teach in early childhood education and in the first four years of the elementary school.

[81] For this work the investigated institutions are shown by Greek letters, since the group opted in not identifying the institutions in order to preserve the anonymity and secrecy of the information. For this, Greek letters were used. Care was also taken not to present the information in the same order in that the research is contextualized.

In the analyses it was considered the curriculum composition around subjects and their workload, as well as the testimony of coordinators and teacher from undergraduate courses through interviews. The interviews involved seventeen course coordinators and ten teachers. In the sequence, the text expresses the synthesis of the results and the analyses performed on an interim basis.

THE ANALYSIS: Which changes signal the reformulations of the undergraduate courses?
The aspects which were considered in the analysis were directed to indicate: the constitution of the identity of the undergraduate courses in the institutions researched; the priorities in teacher education introduced in the composition of the curriculum matrix; and the appointment of new areas of teacher education as training for the inclusion. The examination of proposals for undergraduate courses divulged in the researched universities disclosed the following: the distribution of the specific disciplines and of the pedagogical disciplines; the workload for each field of training; the distribution of practices and supervised internships; and the offer of academic and cultural activities.

The preliminary results of the investigation undertaken up to now, indicate that the courses differ in the composition of the curriculum matrices in each of the institutions examined. This means that the tensions and priorities generated at each university in the constitution of the identity of the undergraduate programs are mixed: three universities established a general coordination to monitor and promote the redesign of undergraduate courses and three left the redrafting in charge of the collegiate course.

The curriculum organization of the undergraduate courses from one of the universities (ALFA) has a higher workload of about 3200 hours, 400 hours more than in the workload defined in Resolution No. 2, CNE/CP, 2002. In this resolution the workload is of 2800 hours. This larger number of class hours is due to the inclusion of institutional disciplines which are compulsory in all courses of this university. These disciplines aim to provide a humanistic and social welfare education.

In another private university the courses strictly adhere to the guidelines recommended of 2800 hours. In the other public institutions, the load is varied: some courses have a workload of 2800 hours, some other courses have a higher load of up to 3700 hours in the Pedagogy courses.

The emphasis of the curricular proposals in this institution has the same logic of distribution in the fields of training in specific disciplines, around 60% of the workload; the pedagogical disciplines revolve around 12%, covering the disciplines of Foundations of Education, Organization and Management of School, Learning Fundamentals, Curriculum and Teaching Building Action and specific Teaching Methodology. The disciplines of professional practice add up to 400 hours, around 14% of the total course load. The internship also sums 400 hours. Thus, the practical disciplines make up almost 30% of the course load. This accentuated practice load may emphasize a training directed to practical rationality, focusing on know-how, an economistic perspective devoid of political, critical and analytic training (Moraes, 2003).

The Pedagogy course – at ALFA University presents a different workload considered the nature of the training disciplines. There are 126 hours of professional practice disciplines, 360 of internship, 100 hours of cultural-academic activities and the institutional disciplines. The pedagogical disciplines total 2000 hours emphasizing the teaching methodological disciplines which total 1134 hours.

Beta University, a private institution, has a distribution with the following discipline characterization: the ones for research training, the ones specific for research, the ones for teacher training for working with students' special needs, the pedagogical ones, the cultural-academic activities, the ones for internship and the ones for interdisciplinary studies. It is pointed out that the curricular organization is not the same for the set of courses, even though the majority presents a workload of 2800 hours.

The Biology course at BETA University, has a total of 3100 hours which are divided in 108h of training for research, 270h of pedagogical disciplines, 108h for the academic-cultural activities, 1836h of specific ones, 414h of supervised internships, 166h of specific ones for research, 18h of disciplines for special needs and 180h of interdisciplinary studies.

The Physical Education course has a total of 2800h among them there are 630h of pedagogical disciplines, 108h for the academic-cultural activities, 1332h of specific ones, 414h of supervised internships, 106h of specific ones for research, 18h of disciplines for special needs and 180h of interdisciplinary studies.

For History at BETA University there are 536h of pedagogical disciplines, 216h for the academic-cultural activities, 1386h of specific ones, 414h of supervised internships, 72h of specific ones for research and 90h of interdisciplinary studies.

For the courses of Portuguese-English Languages and Literature and Portuguese-Spanish Languages and Literature there are 2800h, distributed in 432h of pedagogical disciplines, 216h for the academic-cultural activities, 432h of supervised internships, 54h of specific ones for research and 90h for interdisciplinary

studies, which is different from one to the other, as there are the specific disciplines where in Portuguese-Spanish there are 1512h and in Portuguese-English there are 1548h.

And finally, the Mathematics Course has a total workload of 2800h, of which 1206h are for specific disciplines, 486h of pedagogical ones, 216 for the academic-cultural activities, 432h of internships, 72h of specific ones for research, 18h for interdisciplinary studies and for specific ones.

BETA institution complies with what is determined in the resolutions about the undergraduate courses and maintains an offer of a minimal workload of 2800 hours. It is highlighted the offer of a discipline directed to inclusive education with a restricted workload, but it allows to the undergraduates to have contact with the question. It is also highlighted that in this institution the curriculum contemplates the offer of interdisciplinary disciplines, which configures a curricular innovation.

DELTA University has a composition of the curricula of the undergraduate courses indicating Visual Arts, Pedagogy, History, Languages and Literature, Music, Biology, Physical Education with a workload of approximately 3,300 hours, that is, it is superior to the indicated in the Resolutions of CNE/CP n° 1 e 2, 2002. For these courses the workload is of approximately 3,300 hours. Geography, Chemistry and Physics courses are the ones which have the lowest workload, of about 2900h.

At DELTA University the workload distribution in the disciplinary areas present a significant variation. In the Visual Arts, Music, Mathematics courses there are approximately 900 hours of disciplines destined to the pedagogical training and 1450 hours of specific disciplines. In the History and Language and Literature courses the pedagogical disciplines are about from 200 to 270 h.

In regard to the professional practice disciplines there is also a variation among the courses, since History, Mathematics, Physics and Chemistry do not have those; the Pedagogy one includes 102h, Languages and Geography have 272 hours of practice. In these courses the amount of hours is lower to the one determined in the resolution about undergraduate courses. Other courses exceed the recommended amount, like, Visual Arts with 680 hours, Biology with 748 hours, Physical Education with 816 hours, and Music with 1020h. It is necessary to verify if these professional practices are specifically directed to teacher training. For example, in the case of Biology the laboratory practices expand the knowledge in the specific area. This knowledge do not oppose to teacher training, since they are necessary knowledge to the teacher, however, they reinforce the bachelor's performance where the practices are destined to the development of research and are not articulated to the necessary practices of teaching Biology.

Regarding the internship of all courses at DELTA institution they are adequate within the number of hours, with a workload of 408 hours, the same occurring with the academic-cultural activities with 200 hours.

It is emphasized at DELTA, that the majority of courses has training hours research, being that the Pedagogy course is the one which presents the highest number of hours for this activity: 306 hours. Still, it is worth noting that this institution offers undergraduate courses in the long-distance mode in the areas of Geography, History and Languages and Literature.

This way, the majority of undergraduate courses at DELTA meets with what is recommended by Resolution n° 2/2002 from CNE, even though some courses have not been adapted since hours have not been destined in the curriculum for the development of the professional practices activities.

The exam of the curriculum composition of the undergraduate courses of the EPSILON institution presents the following configuration: all courses have a higher workload than 2800 hours, being that the lowest number hours of 2852 hours in the courses of Philosophy, Geography and Physics. The other courses add up over 3200 hours and Pedagogy is highlighted by the sum of 3702 hours.

The distribution in the areas of training at the EPSILON University presents a variation in the courses. So, the hours destined to the specific knowledge disciplines add up to 1440 hours in the Geography course and 2508 hours in the Chemistry course. Due to this, the Chemistry course is one of the lowest one in the number of hours in the pedagogical disciplines with 238 hours, and the Geography one is of 544 hours. Among the courses with the lowest number of hours to the pedagogical disciplines there are History, Chemistry and Philosophy, being that this last one offers a lower total workload in relation to the others.

Regarding the number of hours destined to the professional practices, the History course only has 68 hours, Music 272 hours, Physics has 160 hours and Chemistry, Physical Education and Philosophy have 136 hours. However, the courses of Pedagogy, Languages and Literature, Geography and Mathematics comply with the resolution's recommendation. In regard to the number of hours destined to the internship, the only one lower than 400 hours is the Geography course; the others have 400h or more, as in Mathematics with 510 hours and Music with 544 hours.

In regard to training for research, only the Languages and Literature course does not contemplate a specific discipline; the other courses include some research discipline, being that Pedagogy has 306 hours. Still, about the academic-cultural activities all the courses include 200 hours or more for these activities.

This way, it is verified that at EPSILON the majority of courses in relation to the curricular organization is adequate to what is defined in Resolution nº 2/2002 of CNE. However, the area of professional practices is the one which presents the biggest deficiency in regard to the recommendation.

In the data collection for this research it was observed that two universities created a general coordination for the undergraduate courses whose role is to articulate discussions and propositions for these courses. In one of the universities, an undergraduate forum is maintained, a space in which the propositions from the various courses are analyzed, searching for a bigger articulation. Indeed, the creation of a general undergraduate coordination, a way found by the institution to reorganize the undergraduate courses considering the new CNE requirements, has favored some advances in the search of theoretical and practical articulation. The agents involved try to minimize the dichotomy between theory and practice existing in this development.

So, in the institutions group, it is highlighted the importance of the disciplines of specific training, with a high workload destined to them, which in some courses it reaches 75% of the workload. This way, even though there has been the inclusion of other training areas and the distribution of the pedagogical training happens along the course, this level of specific training predominance is close to the model 3 + 1.

In the interviews done during the research, it was possible to highlight some points which complement the undergraduate courses curricula analysis. They are the following:

- The main change happened in the distribution of the workload of the undergraduate courses expanding the disciplines for professional practice and internship with an increase to 800 hours. This resulted in a small decrease in the disciplines of knowledge of the specific areas and the maintenance of the same amount of hours in the disciplines of pedagogical fundaments.

- Another change happened in the organization of the distribution of the disciplines during the course. The disciplines of pedagogical training happen concomitant to the specific disciplines, during the course since the first semester. However, there is no intentional and programmatic articulation among the disciplines, when the articulation occurs it is isolated and circumstantial.

- The formulation of initiatives in working the relation between theory and practice during the course and inside of each discipline which composes the curriculum and integration of the disciplines of common fundaments to all the undergraduate courses can be considered an innovation.

- Regarding the professional practices proposal, some institutions try to maintain an integration among the disciplines for professional training and the internship, strengthening the practice and theory articulation among the fundament disciplines and the action of the student in the school. Some practices are specifically destined to the teacher's professional training, but some practices are destined to the graduate's professional training.

- The internship done in the schools – maintains the previous form of these practices, which are: the observation, the participation in the classroom together with the classroom teacher and finally teaching in the classroom. These internships happen in public and private schools. None of the universities checked have their own school. The agreements are done between the education departments in the cities and state, however, the school may not accept teacher-trainees. This way, each internship supervisor teacher establishes a partnership with the schools so that their students may perform these activities. The students go to these schools only one day of the week.

- The articulation with the practice from the beginning of the course is done through the Professional Practices disciplines. Indeed, this solution found by the courses coordinators and teachers groups discussed in collegiate and Undergraduation Forums, maintained by the institutions, constitutes an advance in the search of the articulation between theory and practice. However, it maintains the emphasis on the internship from the fifth period and logic of the theory as a practice action guide. This logic, which is in the basis of the scheme 3+1 still prevails in the different institutions, being that the private ones manifest a movement of search to alter it.

- Within the researched public universities, one of them, makes it explicit the maintenance of the scheme 3+ 1. The majority of the coordinators from this institution said that, in order to comply with the resolution, they created practice disciplines and expanded the internship workload in the last two years. The Languages and Literature coordinator points out that the disciplines workload was reduced because of the increase in the amount of hours for the internship. In the speech of one coordinator it is noticed the worry with the theoretical fundaments in the initial years for the later pedagogical training implying in the student's option after two and half years of course.

- In regard to the teacher's training for inclusion, in the Pedagogy courses the disciplines for LIBRAS (*Linguagem Brasileira de Sinais* / Brazilian Sign Language) for communication with hard of hearing students were included. In some institutions, LIBRAS discipline was included in undergraduate courses, besides some complementary lectures.

- Regarding the training for research, teachers have showed concern that in some institutions they offer disciplines for research methodology, although teaching with research is not done. They are initiatives of some professors. Besides this, in some courses the students do a final course paper (TCC).

Final considerations

Upon completing this text, we reiterate that the analyses presented are interim, but denounce the urgency of a policy commitment to teacher training. Decisions at national level although they recognize the need to develop a solid proposal for the undergraduate courses, provide a lightweight training and poor conditions; in the articulation between the teaching systems of higher education and elementary education; and in the support to students with encouragement to incentive them to more dedication to training.

In this perspective, a first aspect that we can perceive is that the private institutions try to meet the determinations of CNE while the public ones, using their autonomy, do not meet them totally. It is observed a movement in the private institutions in the sense of creating spaces for discussion for the agents involved in the courses.

Regarding to the basic education guidelines in Brazil, it is found that the guiding documents define for each one of the teaching modes a specific direction. This way, the guidelines for the various teaching modes besides the national curricula parameters set which include all the basic education. An interlocution between the propositions of these documents and the undergraduate course proposals demand a deeper study than this text covers. However, there is evidence of fragility in the undergraduate course proposals, since the relation with the basic education is more intense only during the internships.

The internships are understood more as a demonstration of what a future teacher is capable of teaching "classes", since in a general way the procedures include to observe teachers' classes in community schools, to plan classes and to be observed in the teaching of these classes. The study of the curriculum of the basic education is not much emphasized as a specific discipline in the courses, the preparation for teaching is focused in the didactic discipline and on the specific didactic disciplines, with little time dedicated to this study. Some courses do not include these disciplines.

Gatti and Barreto (2010) in considerations show that the universities do not assume as priority the teacher's training, and as a result, the course proposals weaken the comprehension of the questions related to the teaching organization, to the education fundaments and maintain the pedagogical disciplines disarticulated from the specific ones and vice-versa. The author calls attention of the propositions related to the internship which are inconsistent without indicating the approach policies and agreement with the schools.

Likewise, Diniz-Pereira and Viana (2010) point out to the current risks of emphasizing the training of teachers as a process of speeding up and improvisation, reinforcing the same problems denounced along the years of estrangement from the basic education and academic disrepute of the teacher's training in the university. Novoa (1992) states that teachers training is influenced by various factors, which should be studied in a way which allows to interfere in a constructive manner in the training of the graduates who in the future will be conducting didactic activities in the classroom. Training that gives to teachers the means of an autonomous thinking besides a participative self training.

It is highlighted that Martins and Romanowski (2010) specifically analyzing the didactic training of teachers in the undergraduate courses proposals find indicators that these courses do not offer the discipline of General Didactics and start to offer the methodologies of specific teaching. This way, the knowledge worked in the course about the teaching process is restricted to the comprehension of one area of knowledge, and not to the process in their totally.

Dias da Silva (2005) in his study about the conflicts triggered starting from the requirements of the undergraduate courses, points out to the fragility of the training role of the educational knowledge and for the deprofessionalization of teachers. He points out central aspects of these Resolutions of *Conselho Nacional de Educação* (CNE- National Education Council), where the implantation in the undergraduate courses "can have result in the negation of the training role which belongs to the Education area, resulting from the trivialization and/or negation of the educational knowledge." In the words of the author "The new legislation impacted the universities" for being a process of imposition of duration and the workload, the compulsory compliance of curricular credits destined to the performance of activities of a "practical" nature, 1000 hours destined to: 400 hours of "practice as a curricular component", 400 hours of "supervised teaching curricular internship", plus 200 hours of "other forms of academic-scientific-cultural activities". Dias da Silva (2005, p. 6) stresses that the "central question became arithmetic: impregnated by legal organizational culture, used to the establishment of minimal curricula for undergraduate courses, allied to the eternal clashes between bachelor's degree and degree course, the immediate result of these resolutions for our universities were

reduced to the allocation of hours in the curriculum, with disastrous consequences for the knowledge construction of future teachers".

The obtained indications in the research in focus in this text point to similar results. Undergraduate courses are in ambiguity with the bachelor's degree; striking conception that a solid theoretical training guarantees a consequent practice. The referrals, with rare exceptions invariably locate the moment of the practice in the final years of the course, preceded by the theoretical training; inconsistency in the internship propositions, with unavailability of effective guidance to students, the modulation of classes with an excessive number of students; the training proposals rarely include innovations in the articulation with the current basic education demands like inclusion, diversity, violence, which maintain the training centered in the academic domain of the specific knowledge, more articulated with the bachelor's degree; it is still outstanding the conception that a solid theoretical training guarantees a consequent practice. The referrals, with rare exceptions invariably place the practice momentum in the final years of the course, preceded by the theoretical training.

The dissonances accent the devaluation of the teacher training processes in contradiction to the crescent expansion of the education value as a permanent, continuous and universal process, condition to social life and for the development of social groups and of economic life. The challenge goes much beyond of the reformulation of curricular proposals!

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281 - The Teacher Training Literacy: Approaches, Processes and Practices

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Abstract: This research aims think over the processes that were outstanding at the continuous formation practice of the teachers at Municipal Teaching Section in Curitiba, Brasil. The method used is the quality approach in the mode study case and it includes placing, recovery, selection, organization and documentary sources analysis at the Public files, University libraries, private files, besides the semi structural interviews. For such investigation, we searched for: Identify how the teachers´ moments of the continuous formation are featured at public schools; Identify which theoretical approach of literacy were part of the continuous formation course of the teachers; Identify which theoretical references have been used at the continuous formation of the Public schools teachers; Analyze the processes of continuous formation that have been constituted at the public schools. The analysis has been accomplished having as a theoretical support Martins (1998), who defends the angle of the theory as expression of the practice and Santos (1992), who discusses the matter of the production and distribution of knowledge. Mortatti (2000), Maciel and Soares (2000), and Soares (2003, 2004) assisted by looking at the literacy most specified matters. The fundament about the continuous formation of the teachers were based on García (1999), Imbernón (2002), Marques (2000), Alarcão (1998) and Veiga (1995, 1998). The study revealed that, since the Municipal Teaching Section in Curitiba was formed, different approaches have been adopted at literacy, based on specified theoretical references, which determined the processes of formation of the teachers. In the analysis of the formation processes, some determining issues have been identified, having their origins in the need of: Institute and systematize a literacy approach, abandoning "the old" and choosing "the new"; Considering or not the practice of the teachers in the process of formation, the perspective of distribution of the knowledge was set mostly when a new teaching approach was imposed on the teachers, depriving them from their practices. For the field of knowledge production, moments are set showing that the processes of formation are based on teachers´ practicing and they are inserted in a co-authorship process. However, these movements are not unaware by the teachers, since they have already shown responses by building their inquiry.

Keywords: Teacher education, processes and practices of formation, production and distribution of knowledge.

THE THEORETICAL INTERLOCUTIONS

In this research, Martins (1998) and Santos (1992) provided the subsidies to make the reading of the background and analyze the moments which set up the teachers' training.

Martins (1998) defines experienced historic moments in Brazilian education which served to organize the data collected in this research. There are three key moments - which are part of a whole - from the outlined teaching practice developed by teachers, the theoretical refletion analysis as well as theses and dissertations on teaching.

The first moment is the *political dimension of the pedagogical act* and covers the period from 1985-1988, marked by social movements in Brazil occurred in the late 1970s and the first half of the 1980s, which constitute a new work organization, repercuting within schools. Teachers complain about the participation of eminently political decisions about their pedagogical work (Martins, 1998).

The second moment concerns the question of *organization of work at school* (1989-1993). Social movements are organized, leading to changes in the various institutions, as well as in the production relations, although in an initial way. Teachers, now union members, actively participate in the assertion movements and try to change the established social relations, develop more collective work. It is characterized as a transition period which enables new forms of organizations arising from new initiatives which circumvent the current norms.

It is the third moment, since 1994, that the emphasis falls on *the education problem as a production process and collective systematization of knowledge*. The student is emphasized as a bearer of a social practice and with self-interest, not being able any longer to be ignored by school. This moment is related to the two previous issues through the interdisciplinary problem (Martins, 1998).

Following on with his studies, Martins (2008, p. 14) presents a fourth moment, in which we would be experiencing, characterized by an emphasis on *learning: "learning to learn"*, whose central issue is that students *learn to learn* specific skills established as *competences,* previously defined in learning programs, in line with the demands of the labor market.

Martins (1996, p.85) further explains about the content-form referred to progressive proposals regarding education. According to the author, they are twofold: a concept that views the practice as a result of theory dominion, being the "*theory of practice guide*", and another concept which defends the idea that theory expresses the subjects practical action, meaning the "*theory as an expression of practice"*.

The first concept is based on the Marxist vertent, called *historical materialism*, which is a "conception of history in which the scientific rational has the party as holder of knowledge concerning the *historical mission* of the working classes and transmits it, showing which way it should be followed" [author's emphasis] (Martins, 1996, p. 86). From this standpoint it is considered that a solid theoretical background is a guarantee of a consequent practice.

The second concept is based on the Marxist vertent which "sees the social transformation as a process historically built in and through the struggles of workers " (Martins, 1996, p. 87). In the struggle of classes, there are the practice contradictions and, in this sense, the theory will express the practical action of the subjects and breaking with the idea that theory guides practice.

With this look, what we see is that in the processes and practices of teacher education, the processes of knowledge production are often disregarded, favoring the drive shaft – content assimilation. As a result, it ignores that the teachers have a knowledge about their own existential situation, which was generated in everyday social practice and follows their interests and practical needs.

This analysis initially comes from the defense made by Santos (1984) on the issue of production and distribution of knowledge. The author defends the idea that the school has placed itself in the field of distribution of systematized knowledge, contributing to maintaining the current division of labor and ignoring thus the crux of the problem.

He questions the logic of the organization of systematic knowledge, their parameters, their goals and believes that this "*knowledge consists of products of human practices within the social relations of a concrete social formation and responds to practical human needs*" (Santos, 1984, p . 5).

About this, Santos (1992) explains that a group takes over a specific knowledge, organizes and distributes it, nor taking into consideration the group that receives it can also produce knowledge.

> The structural basic field of these ideologies is the field of distribution of goods. It is this field defining its ideological elements. In it is structured their ideological systems. They all focus on one common element: the unequal distribution of goods and, with respect to education, the distribution of systematic knowledge. Consequently, the analyses of these educators tend to be restricted to cases of the transmission processes of systematic knowledge. They will concern themselves primarily with one point: reformulating methods, and assuming that, from the effectiveness of these methods, are able to achieve an equal distribution of 'educational goods' (Santos, 1992, p. 26).

According to Santos (2004), school, and therefore the student is within a conditioning framework where social institutions are structured, and their existence, form of organization and roles are determined by social relations in the mode of capitalist production.

To explain his theory, the author points out that the relationship between the economic processes and educational processes are not linear and should be understood considering the dynamics of different patterns of capital accumulation as well as the transformations that capitalism is undergoing, and thus the worker's training is inserted into the capitalist system.

By taking an epistemological model in which theory is conceived as an expression of practice and the problems of the concept of borgeous economic theory as an expression of capitalist practice in the field of movement, it is assumed the commitment to guide the teaching practice from which the subjects possess the knowledge they have, how it was produced, its practices and needs.

THE METHODOLOGICAL JOURNEY

The study was based on a qualitative research approach, case study method which according to Andre (2005, p. 16) it is not a specific method of research, but a particular form of study. It also says that the case study is not a "methodological choice, but a choice of the object to be studied" (Andre, 2005, p. 16). He also explains that the knowledge produced from a case study is different from other reseach because it is more concrete,

contextualized, focused on the interpretation of the reader and based on reference populations determined by the reader.

Triviños (2007) still defines the case study as a research category whose object is a *unit* that is analysed deeply, which characteristics are given mainly by two factors - the nature and the scope of the unit - as well as the theoretical framework which serves as a guideline to the researcher.

Based on these ideas is that RME in Curitiba was chosen as object to be studied, with its characteristics and particularities.

The definition of instruments for the research was based on the possibilities of doing an analysis of the object of study in its entirety. Therefore, we chose to do a document research of primary sources and through semi-structured interviews as a way to better investigate the data collected in the documents.

The collection of documents for this analysis was varied. Among the documents collected in schools, municipal archives and private papers belonging to teachers, are: newspapers produced by the Municipal Education Secretary (SME), the RME curriculum proposals; listings, reports and course planning, textbooks, personal writing with course records.

The "conversation" provided with the documents was done in order to be able to ask the appropriate questions to elicit responses which could really contribute to research.

For the interviews, the teachers selected were who met certain criteria. The first criterion specified that the teacher should belong to the RME's own framework of teaching. The second criterion specified that the teacher should have participated in SME activities, in a direct or indirect way for the development of literacy courses offered to teachers. And as the third criterion, at least one teacher would be selected to represent each of the periods defined during the development of the research.

The organization of the data was done in periods whose definition was given from the ideas set out by Martins (1998): the political dimension of the pedagogical act; the practice issues; the organization of work at school; the problem of teaching burdening on the production process and the collective systemization of knowledge; the view of the student as an individual carrier of a social practice and with its own interests; and the intensification of learning in order to "learn to learn ", in which specific skills and competencies are defined as previously defined learning programs.

Five periods were defined, arranged in decades. This organization serves a didactic role which helped organize the ideas and does not intend, thereby, to define historical periods. The delimitation of compelling ideas for every moment does not take away the possibility of finding them in another, because it is considered that the time of production of ideas follows a self movement and it is not still.
Considering, then, the above explanation, it was defined as follows:

  a) *the 1960's* (1963-1969);
  b) *the 1970's* (1971-1979);
  c) *the 1980's* (1980-1989, subdivided in 1980-1985 and 1986-1989);
  d) *the 1990's* (1990-2000);
  e) *the 2000's* (2001-2008, the present in question).

The first period starts in 1963, the year the first public school is built and teachers' training activities within the school itself begin. They are private initiatives to meet immediate needs.

The second period covers the 1970s, when there is a standardization of teacher education through training courses in literacy methods.

The characterization of the 1960s and 1970s took place primarily having as reference the interviews and private documents, since it was not found in the municipal archives the records of the courses concerning these years. The periods which follow had as their main source the municipal archive documents with the crossing of the data obtained in interviews and also documents present in schools.

The third period is the 1980s divided into two main blocks: 1980-1985, which corresponds to the continuity of the processes established in the previous decade but begins to manage a movement for change, and 1986-1989, which corresponds to the change process itself, arising from the national post-dictatorship movement. That's when it identifies the political dimension of the pedagogical act, teachers demanding more space for participation and the approach to literacy begins to receive influences from linguistics and from the writing psychogenesis studies.

The fourth period covers the entire 1990s, when emphasis is placed on working with literacy resized by the linguistics studies. The moment is focused on the organization of work in school, looking back to the practice issues and to the problem of education which lies with the process of production and collective systemization of knowledge, and the student starts to be seen as an individual carrier of a social practice and with self-interests.

And the fifth period, which addresses the current situation (2001-2008), with a systematization of the courses up to 2005 and the interviews. Marked by the early absence of a new approach to literacy, but which ends with elements that characterize the intensification of learning in order to "learn to learn", in which specific skills are defined as previously defined skills in learning programs. To literacy, it is set up a more focused approach to phonological awareness agregated to previous approach.

ANALYSIS OF PROCESSES AND TRAINING PRACTICES

In the 1960's and 1970's it is possible to identify that the focus is on literacy techniques training based on different methods and proposals that were being worked with teachers: *Caminho Suave*, *Método Misto*, *Erasmus Pilotto*, conditioned and repeated speech. It is recurring the use of the terminology "techniques training" for the courses offered, regardless of whether they referred to literacy or not.

This approach refers to the tecnicist pedagogical conception arising from the education reform by Law No. 5692/71. It has as main element the rational organization of means with the operationalization of objectives, the mechanization of the process and the division of the pedagogical work in order to seek efficiency by minimizing subjective interference. The standardization of teaching takes place through a plan formulated in advance, which determines to the teacher and to the student when and how to do it.

In this view, the role of the school becomes "the training programs repeater", as Veiga (1995, p. 21) examines it. At this point, no space is given for the school to take over the management of their processes and do not value the knowledge that teachers have of their pedagogical practice.

For Braggio (1992), the methods used in literacy classes bring a conception about the nature of the language isolated from the "totality of the linguistic phenomenon and disconnected from a socio-cultural-historical context which gives its origin" (pp. 7-8). Its acquisition is based on a vision of man as a being isolated from society, passive and uncritical, unable to "experience the internal contradictions of changing himself and the society which surrounds him through its *praxis*". Society is conceived as static, homogenous and devoid of antagonistic values and of class struggle.

Thus, it can be assumed to focus discussion on the best teaching method for literacy is the same as homogeneous classes training to facilitate the teaching process disregarding other determining factors.

In search of a solution for the high failure rates, the RME Department of Education has imposed the implementation of Eurico Back's proposal in public schools. This implantation was followed closely by administrators from the school network. By the way, teacher Liza says:

> And city hall has forced schools to use it. So the people who were in the Department of Social Welfare[82] were on a Saturday at school and we had to sign a term commitment, of responsibility, assuming the results that the school would have for not using this method [...]. It was our luck, because it was too complicated. First we had a great meeting to pass something that absolutely nobody had heard until then; second it was an imposition; third no one asked anyone what we thought about it. It was a method that did not work, I think with two, three years or even less, it finished. No one ever spoke about it again. We had stacks because city hall, even without we using it, sent all the material (LIZA).

Another attempt to specifically address the issue of literacy was done. The work of Professor Erasmo Pilotto[83] was already known by some people of the state and city school network and presented a methodology for literacy. The teacher had already made an experience, around 1950, and had had good results. The proposal signaled a rapid methodology because, as was recalled by teacher Liza, he always said: "*We do not have much time to teach writing, we have to be fast.*"

In the 1980s, in addition to the training courses focused until then, it is possible to see some movement in the proposals that address the broader issues. The words "training" and "techniques" begin to take less space and now words such as "seminar", "meeting", "study group" are used – although in literacy this movement begins to be felt only in 1984, when there is the first reference to "reflection", and in 1985, with "new alternatives" and "meeting".

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[82] The first initiatives of City Hall in the educational context date from the 1950s. In 1955 was created the Education and Culture Section, which was part of the Department of Education, Culture and Tourism. In 1965 was created the Department of Social Welfare, and the Board of Education now started to have sections in accordance with the new units that were being created. The City Department of Education was created later.

[83] Professor Erasmo Pilotto contributed for the education in Parana through his work as a professor, writer and Secretary of Education and Culture.

With regard to teacher training courses, it is also shown those who describe themselves as "newalternatives to literacy", whose content focuses on the student's knowledge and the pedagogy of Freinet, with the same principle. It is considered that the resulting ideas were being managed with the new local and national configuration.

In the period 1986-1989 the focus of the national context on approaches related to literacy begins to undergo a change. Proof of this is the abandonment of an approach based on literacy methods and the search for new alternatives for the pedagogical work. The national context is marked by an intense social participation, and the courses considered as a background have as a guiding axis the discussion on the historical-critical pedagogy. This discussion is also based on the literacy approach.

It is in this context of openness, of collective participation of the popular people that there is a significant change in the content of the courses offered to teachers starting in 1986. Teacher Liza justified:

> *Because we, around 78/79 back in school, we were discussing a lot this issue of child reading, of the child understanding, of the child being able to express him/herself. Then the mixed method was no longer coming. Erasmo Pilotto was no longer coming. We were searching other materials, reading other materials, then what we had in the early 1980s was already another level of production, it was another type of work. You were starting to have a Cagliari[84], which you heard talking from time to time [...]* (LIZA).

The change occurred in the course content it is being managed during the previous years and starts to show its face only now. The political context which was being experienced, according to Martins (1988, p. 62), happens inside schools and teachers complain of participating, featuring an eminently political moment.

The background discussions brought in its base the historical-critical concept. This concept has become focused in the areas of knowledge and literacy. For the reorganization of the pedagogical work in schools, teachers claim for more study time. It is during this period that is is created the teachers' statute. On this, teacher Liza says:

> *Joined with the statute, joined with the assurance that the statute gave that city hall was responsible in offering at least an annual course for the teachers. Then came the Pedagogical Studies Week, which was the City Seminar on Literacy. There was a moment that the issues of literacy in fact began to be discussed, shared, socialized in the network. It was beginning to have this discussion in Brazil* (LIZA).

In the early 1990s, it was configured what Martins (1998, p. 62) pointed as a strong mark of the moment, the collective work organizations, where the teacher asks for room for discussions. Consequences of this are the courses which deal with the theme "Basic Curriculum"[85] and the "pedagogical doing" conducted within the schools themselves, with each one working according to their specificities.

In the general context, the central discussion themes are the courses which address the pedagogical doing, the organization of the pedagogical work and of the Basic Curriculum, and the courses designed to literacy are present within these broader themes.

Cycles of learning implanted in 1999 at RME sought to bring a reorganization of the pedagogical work, transforming the serial school organization into learning cycles.

Another aspect to be analyzed during this period, notably in the 1990s, was the question of practice. Martins (1998, p. 35) characterizes this scenario whose eyes turn to practice issues as the new watchwords. About this, teacher Elen says:

> *In the 1990s the city government changes and with it changes one way of seeing this. It started to be said the following: it is worth more who has the practice than who has the theory, and we who were in possessiom of the theory end up not even knowing how to say..., we were on the sidelines of this process, because a new group arrives at the Department and brings with them people who were in the classroom. The practice, to them, was who was working there on the floor, and then what happens, we thought and they performed. There was this moment of who thought and who performed [...]* (Elen).

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[84] The teacher refers to Luiz Carlos Cagliari, master and doctor in Linguistics and author of many papers in the area of literacy, besides being professor at *Unicamp*.

[85] The Basic Curriculum was done in the 1980s and represents the first guiding production of the knowledge areas of the basic education.

The teacher also explains that this positioning - the practice as a watchword - it was intentionally defined by the Department of Education.

> *That was verbally placed, by the departament head, was the policy of bringing people who had the practice. Today it is clear that these people who had the practice, had already appropriated the theoretical issues, could already review what they did and of course also advanced, but at that moment it happened that way* (Elen).

When the studies about linguistics arrive, the writing psicogenesis and the RME Basic Curriculum, breaks up with the literacy approach focused on the methods.
It is during this period that the pedagogical practices begin to give voice and opportunity to the student. It is tried from the students knowledge to develop the work in the classroom. Research developed on writing psychogenesis follow in this direction, on how the student learns to read and write. About this look for the subject, the teacher says:

> *Yes, if you get before the 1980s, you will get just that, then when it appears, when it starts the entire discussion that the issue is not how to teach, but that behind that there is a subject who learns, and that when he/she arrives at school already has a way that he/she traveled and what he/she thinks about this object is the light of the work of Ferreiro* (Elen).

SME concentrates efforts to convince the teacher that they should work in another way. Well, this conviction was the result of theoretical discussions and when it comes to practice, many problems begin to happen. The children ended the year without knowing how to read or write. The older teachers, despite what the Secretariat proposed, they continued to do this as they knew, and the younger, who participated in the training courses of SME, they worked only with the new approach to literacy. The "old teachers" had the specific student's material to show to the "Secretariat", the didactic guidance as determined by them, but they also had exercises that they themselves drew up, the so-called "slush fund", and believed that it worked. On this, teacher Liza tells:

> *They became the guardians, the keepers of time. The teacher who was longer there, he/she was the slush fund, so he/she had the material for the Secretariat and he/she had the slush fund. The new teacher did not know about the slush fund. It was then that there was a collapse of the work on the first grade, at the time, because there is a moment that it downed on us, because the child would come out of 1st grade without knowing how to write, without knowing what was the purpose of the letters* (Liza).

In the 2000s, resulting from global capitalism, the municipality starts to manage the computing processes in the network and to articulate ways of achieving ecological actions, since it carries the designation of Ecological Capital and the issue is widely discussed in the global context. A product of that is the investment devoted to training teachers between the years 2001 and 2004 in these two sectors in detriment of working with other areas of knowledge.
During this period it is noticed a movement that also emphasizes the ways students learn and the specific skills are defined as competencies and they are previously defined in the learning programs.

> *In the guidelines we have evaluation criteria for the cycle. So, it has been a long time that teachers have asked that we say exactly what the child has to learn during the year. So, there were the general cycle criteria and the school was organized according to what was selected and that would be worked in each year* (Alice).

Already the *learning to make* focused on the productive subject as characterized by Martins (2008) is found in the teacher idealized by Ana, where she explains what is necessary for the teacher:

> *This entire staff has brought a conceptual discussion about evaluation, and now we need two other things: the procedural teaching and teaching attitude. We need teachers who know what to do, when, how, besides why. [...]* (Ana).

INTENTIONS OF THE CONTINUING TRAINING COURSES

In 1988, we lived at RME a time marked by an intense collective movement and many ideas were being developed. The construction of the Basic Curriculum brought as a mark a critical-historical philosophical concept and, in a parallel way, an approach to literacy marked by "conceptual revolution", which broke with methods that were being disseminated in the form of training workshops.

The need to establish a new philosophical concept generates a collective movement, calling teachers to be coauthors of the process. As for the approach to literacy, it is necessary to create situations of "re-form" the teacher to know, understand and then be able to apply the new knowledge originated from the conceptual revolution. These needs have to be addressed by offering continuing training courses.

It is seen, then, in 1988, the duplication of course offerings. In the five previous years, the amount does not exceed 94 courses per year: in 1987, 77 courses were offered; in 1988, the total jumps to 154. The focus of the courses are the contents and methodologies from different fields of knowledge.

In 1992, teachers start to have in their hands an extended and reformulated curriculum. A new team is formed at SME, with the permanence of some from the previous group. The reorganization of the curriculum is justified, in the words of the director of the Department of Education, for the need to comply

> [...] with the indicators given in the monitoring in the work of the schools; with the advising which showed the difficulties and needs by the teachers; with the valuable contribution by the local consultants and from other parts of the country; with the aid and cooperation from various sectors of the SME, particularly from many education professionals from our school; [the team from SME] who prepared this edition – which registers the progress made up to now (Curitiba, 1991, p. 12).

By bringing new material into the hands of teachers, it is necessary to work with the ideas present in them. It is understood, then, that in 1992 there is a quantitative leap in offering courses. During 1991, there are 124 courses offered, and in 1992, the offer goes up to 277.

In examining the titles of the courses, it is identified a focus on the curriculum. In order to illustrate, there are titles as: *SME Basic Curriculum; The Basic Curriculum under discussion; Curriculum proposal 92 - study and analysis; Basic Curriculum, a new education proposal; Basic Curriculum: reflexion for a new practice; Basic Curriculum: a new perspective on teaching.*

In 1995, an even bigger jump is observed: there are 310 courses offered, being that in the previous year there were 137. One explanation for this is made by teacher Elen:

> In the 1980s the issue was more about quality, because it was discussed theoretical, basic, fundamental issues [...]. In the1990s the municipal government changes and with it changes one way of seeing this, it started to be said the following: it is worth more who has practice than who has theory [...]. Then the learning and teaching laboratory appears, and by then it is already 1990, and in this learning and teaching lab the people who were in the classroom working with the student began working with the teacher, and then the training courses appear by the quantity, by the pounds [...] (Elen).

The comparison done by the teacher about the 1990s in relation to the previous decade indicates the change of the municipal government and the overlap of practice related to the theory as factors which determine the need for new courses. The approach to literacy, with a greater focus on linguistics, occurs in terms of theory as a guide to practice.

Teacher Liza says that during the 1990s, working with 1st grade was compromised due to literacy data referrals:

> It was then that there was a work collapse in 1st grade at the time, because we have a moment where you realise that the child would come out of 1st grade without knowing to read, write, without knowing what letters are for. Was it general? No, it was not general, but it was the majority, the result was very complicated and it was a process which lasted a long time [...] (Liza).

The problem identified by teacher Liza is serious: the children were not learning to read and write, they did not know what the letters were for. You could not teach syllabication to children, it was forbidden. The guidance given was towards the work from the text.

Then, the need to show practice on how to teach children literacy skills from the text became the motto. And so the courses take place "*by the quantity, by the pounds ...*".

In 2007/2008, the intent of the courses offered to teachers, in the words of Alice, is:

> *To work with phonics and the textual approach. Both the text macrostructures and the textual microstructures so that literacy really become effective. It is subsidizing the teacher so that he/she has the practical and theoretical part... Then we work within this need, of the teacher understanding that he/she needs to use both approaches to teach literacy. There are some rescue issues, of things that were left out [...]* (Alice).

The continuing training courses conducted in the RME points to the need to subsidize the teacher in his practice as a literacy teacher. However, it emphasizes the idea of using these training areas for the consolidation of a new literacy concept that, at times, become impositions.

FINAL CONSIDERATIONS

The conclusions concerning the processes and training practices of the literacy teachers are based on a question concerning the formation of areas of training, which can be constituted as spaces of *production* or of *distribution* of knowledge. By constituting themselves as *production spaces*, it is considered that the knowledge that teachers bring from their practice serve as a starting point for reflection and they walk towards *theory as practice expression*. On the other side, the *distribution spaces* of knowledge are characterized by the formation of a group which appropriates knowledge, organizes and distributes it regardless that the group which receives can also produce knowledge, thus, they walk towards the *theory as a practice guide*. From this viewpoint, we noticed a movement between the production field and knowledge distribution in the various periods discussed in the research. The perspective of knowledge distribution is mainly imposed when a new approach to literacy was imposed on teachers, ignoring the knowledge which they bring to their practices. For the field of knowledge production, moments are marked where training processes start from a teachers' practice and these are inserted in a process of co-authorship. However, these movements have not gone unnoticed by teachers, since they showed reactions when making some inquiries.

In moments when it was instituted the imposition of a new approach to literacy, there was also a reaction by teachers seeking to ensure their practice, and clashes were fought by requiring a positioning. Such conflicts are characterized by the need to make a choice: "either this or that".

To make reading of what has been done so far, it is the thought of Alarcão (1998) ideas that reinforce the need to see the teacher as producer of knowledge. She said:

> Teacher's knowledge is not merely academic, rational, made of facts, notions and theory, nor is either a knowledge made only of experience [...]. It is a knowing act in a situation [...], refusing outright the idea that the teacher is a mere technical bureaucrat, a yes man from the system and from the government, a mere executor of directives issued from above[...] (Alarcão, 1998, pp. 104-105).

Marques (2000) points vocational training as a challenge, as it must be based on other requirements, considering that professional practices are the training space. "If before the theory could be built in anticipation of future practices, the practices now anticipate the theory, require to be better understood to be better exercised" (Marques, 2000, p. 206).

The continuing education can happen in different ways: specialization courses, workshops, educational meetings, seminars, congresses; however, regardless of form, it is clear that teacher training takes place largely by stripping himher of his/her knowledge.

Therefore, it is considered that in the processes of teachers' continuing education it is essential to have them as coauthors in the process of knowledge production, considering their practices and taking as the central axis *the theory as expression of the practice.*

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288 - Teacher Development Through Iterative Processes – Learning Study and Design-based Research

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Abstract: Research on teachers' professional development usually aims to support meaningful and sustainable shifts in practice, which Butler, Novak Lauscher, Jarvis-Selinger & Beckingham (2004) claim require analytical theories on learning. Such shifts can be made by the use of models such as the iterative process developed by Butler et.al. (2004). The model includes concrete activities and access to mentors during a period of two years. Even more, the professional development usually aims to have some kind of impact on pupil outcomes. In a study on the impact of school leadership on pupil outcomes, one of the found perceived challenges is to "personalize the learning experience of the students" (Day, Sammons, Hopkins, Harris, Leithwood, Gu, Brown, Ahtaridou & Kington, 2009, p. 193). In our research we have focused on teachers' professional development in relation to the pupils learning outcomes (Holmqvist, 2010; Olander, 2010) using different models to achieve sustainable shifts in practice. In this paper we present the result from four of our studies in which we have used different models; learning study and designed-based research. Both are a kind of action research and the teachers are co-researchers in the iterative processes. The studied objects are formulated by the teachers in both models. However, a learning study relays on a theoretical framework and aims to capture what it takes to learn a specified phenomenon (Holmqvist, Gustavsson & Wernberg, 2007). By that, a learning study do not focus on the design of the lesson, it rather focuses on the content and in what way the features of the content are varied to make the pupils discern all needed parts. In the learning studies presented in this paper variation theory is used as a theoretical framework (Holmqvist, Gustavsson & Wernberg, 2008). One aspect which differentiates learning study from design-based research is the latter's focus on developing a theory that characterizes the design. Further on, the focus is more on the design of the lessons (methods and instruction) than the features of the content. However, both of them make improvements both on teachers' professional development and the pupils' outcomes. The results of the learning studies show how the teachers' understanding of how to use contrasts when presenting the object of learning resulted in significant better learning outcomes (Holmqvist, 2010). In the reported design-based research study (Olander, 2009) the experimental group had a significant better outcome than the national sample concerning if they are in line with science theories. Comparing three answers in a science test, 43% of the answers in the experimental group were in line with the theoretical explanations, but only 9% of the national sample had three answers in line with the theoretical explanations. In the paper we discuss the results in relation to the different models to explain what features seem to be of importance to teachers' professional development in relation to pupils' learning outcomes

Keywords: Action Research, Learning/lesson Study, Design-based Research, Literacy

INTRODUCTION

Research on teachers' professional development usually aims to support meaningful and sustainable shifts in practice, which Butler, Novak Lauscher, Jarvis-Selinger & Beckingham (2004) claim require analytical theories on learning. Such shifts can be made by the use of models such as the iterative process developed by Butler et al. (2004). This model includes concrete activities and access to mentors during a period of two years. Even more, the professional development usually aims to have some kind of impact on pupil outcomes. In a study on the impact of school leadership on pupil outcomes, one of the found perceived challenges is to "personalize the learning experience of the students" (Day, Sammons, Hopkins, Harris, Leithwood, Gu, Brown, Ahtaridou & Kington, 2009, p. 193).

In our studies we have focused on teachers' professional development in relation to the pupils´ learning outcomes (Holmqvist, in press; Olander, 2009) using different models to achieve sustainable shifts in practice. In this paper we present the result from four of our studies in which we have used different models; learning study (3) and designed-based research (1). Both are a kind of action research and the teachers are co-researchers in the iterative processes. The studied objects are formulated by the teachers in both models and aims to capture what it takes to learn a specified phenomenon (Holmqvist, Gustavsson & Wernberg,

2007). However, a learning study relays on a theoretical framework about learning. By that, a learning study do not focus on the design of the lesson, it rather focuses on what it takes to "learn the content and in what way the features of the content are varied to make the pupils discern all needed parts. By that the design of the instruction is subordinated.In the learning studies presented in this paper variation theory is used as a theoretical framework (Holmqvist, Gustavsson & Wernberg, 2008). One aspect which differentiates learning study from design-based research is the latter's focus on developing a theory that characterizes the design. Further on, the focus is more on the design of teaching strategies that communicate the critical features of the content (Mortimer & Scott, 2003). However, both of them make improvements both on teachers' professional development and the pupils' outcomes, but it is not only the iterative process or the teachers' knowledge that makes the pupils learn more.

The results of the three learning studies show how the teachers' understanding of how to use contrasts when presenting the object of learning resulted in significant better learning outcomes by the pupils (Holmqvist, in press). In the reported design-based research study (Olander, 2009) the experimental group had a significant better outcome than the national sample concerning if they are in line with scientific theories. Comparing three answers in a science test, 43% of the answers in the experimental group were in line with the scientific explanations, but only 9% of the national sample had three answers in line with the scientific explanations. Our main question in this paper is - in what way can the teachers' and pupils' developed knowledge be related to the iterative processes used in the two different models? And as we can see differences in the groups of pupils – what features of the iterative process seem to be of importance? Our hypothesis is that it takes more than an iterative process to make those changes, but the iterative process might be an important tool to use when searching for features needed to develop teachers learning.

THEORETICAL FRAMEWORKS

Action research

Coulter (2002) claims education and action in fact get little attention in educational action research. Instead there is a strong focus on the relation between theory and practice. However, there is no clear connection between good practice and application on theory. Coulter (a.a.) means it takes more than theoretical knowledge and experience to create good practice. Knowing what to do might make the teachers talk in a much initiated way about their practice, but this do not mean there necessarily has been any changes in it.

> Deciding what counts as good practice – understood as *praxis* – involves more than the application of theory or the exercise of skill. Determining what is the right thing to do in the right way at the right time – and actually doing it – involves a particular kind of judgment: *phronesis,* a term variously translated into English as 'prudence' (Betner, 1983), 'practical wisdom' (Reeve,1992) and 'practical judgment´(Steinberger, 1993).[…] Teachers with *phronesis* must not only know what to do: they must do it. (Coulter, 2002, p 191)

Analyzing results from an educational action research project should be based on other data than interviews, observations and field-notes only, to capture what kind of changes actually occurred. Otherwise the teachers' way to talk about their changes or development in practice, the participants' enthusiasm noted by the observers and the expectations all have on what they will achieve might guide the results in a much more positive direction than what is reasonable. Even if the teachers have both theoretical knowledge and are experienced, it does not mean they are able to use their abilities in a way that develops practice. Herr and Andersson (2005) present different kinds of approach in action research, and in this study we take our departure in what is called technical action research, as we use empirical data to describe our results. We have a strong interest to make the implicit features in practice explicit to develop practice. This means we do not only base analyzes on data from the participating actors expressed statements of changes or developments. In fact, we have in studies noticed how the teachers misjudge learning situation as more developing by contrasting their expressed assessments of learning with data where the pupils' knowledge is documented (Ljung-Djärf & Magnusson, submitted). Our departure is that a reliable result about developed educational practice should include more than personally expressed feedback from the participators, as the main aim is to develop learning.

Design-Based Research as an iterative framework

Design-based research is an approach within a larger family of *design research* (Plomp & Nieven, 2010), and design-based research is characterized by Sandoval and Bell (2004) as a "theoretically framed empirical

research based on particular designs for instruction" (p. 199-200). The Design-Based Research Collective (2003) propose a methodology where the design of learning environments and theory development (from ´prototheories´) are intertwined. The working process is iterative; using continuous cycles of design, instruction, analysis and re-design. Furthermore, the work has to include active participation of practitioners, the designs have to be assessed in authentic practice and "also focus on interactions that refine our understanding of the learning issues involved" (The Design-Based Research Collective, 2003, p. 5). The study presented in this paper basically followed the methodology of *design and validation of topic-oriented teaching-learning sequences* (Andersson, Bach, Hagman, Olander & Wallin, 2005) where researchers and teachers collaborate in an effort of making science learning more sustainable. In this approach an area of school science is chosen, preferably one that is considered problematic in relation to students´ long term retention, for example optics, state of matter or evolution. In a design phase (see Figure 1) the teachers and researchers scrutinize what it takes to learn the chosen topic, which is an exploration that considers nine aspects of which one is connected to the scientific side of the chosen topic, the character or the core scientific aspects of the topic. The reasons for teaching the topic are considered along with a selection of relevant content for the actual group of students. The students and the teachers current ideas (starting points) are investigated along with an analysis of local circumstances and the actual curricula and syllabuses. Furthermore is a review of research literature in science education made in order to find examples of current teaching practice and already performed interventions; in this respect the database from Reinders Duit (2009) especially helpful. The work in the design phase leads to a suggestion of goals for the sequence along with a tentative teaching sequence of approximately six to ten lessons. This sequence is enacted by the teachers in their own classrooms (meaning that the tentative sequence is adjusted to e.g. the age of the students and other local circumstances). The sequences are documented in various ways, for example by log books, tests, video recordings, and this documentation forms the basis in the next step which is an evaluation that leads to a re-design which is enacted, documented, evaluated etc.
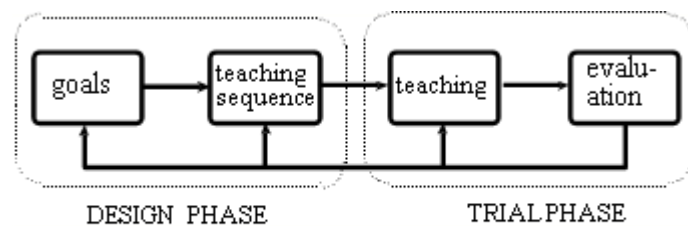
Figure 1: Working process

Learning Study as another iterative framework
Learning study (Holmqvist, in press) is a theoretical based lesson study (Lewis, xxxx; Toschida, xxxx) where cycles are used to develop knowledge about what it takes to learn in different subject matters. The model is flexible and should be adapted to the object of learning, which means it can consist of one single lesson per group or several lessons per group. However, the cyclic process is important as the results of one lesson are used to further improve the lesson design to develop an increased learning outcome. In the studies we discuss in this paper variation theory (Marton & Booth, 1997; Holmqvist, Gustavsson & Wernberg, 2007) is used as the theoretical framework. The model used consists of an iterative process where the design of the first lesson is based on the results of the screening and the studies in subject didactics. The second lesson is revised based on the learning outcome, i.e. the assessed knowledge in the pre-test compared with the assessed knowledge in the post-test. By that we can describe what seem to have been possible to understand and what still seems to be hard to gain knowledge about. This will be repeated one more time, which means the Learning Study Cycle consists of three research lessons, as shown in figure 1 below. The iterative process gives the teachers possibilities to gain knowledge about both the students' learning, learning about the subject and learning about instruction. The process also includes video-observations where the teachers study both their and colleagues' teaching and the interaction in the classroom. However, the main aim is to study how the object of learning is handled in a classroom situation and what the students' seem to discern of it. Learning study is a theory-based model, and the theory used so far is variation theory (Marton & Booth, 1997; Holmqvist, Gustavsson & Wernberg, 2008). Variation theory is based on the assumptions that discernment, simultaneity and variation are all required in a learning situation. You have to discern the phenomenon you are supposed to learn about, and the discernment is possible because of simultaneously

awareness of varying aspects. When you decide if a person is tall or short requires the simultaneously awareness of varying lengths, if everyone was exactly the same size length would not be discerned.

Figure 1: The learning study cycle.

The theoretical framework is used to design the instruction, and the teachers are introduced to the theory during the learning study cycle. This means their knowledge about the theoretical framework hopefully develops during the process and results in a gained knowledge after each cycle.

METHODS AND PROCEDURES

Design-based studies
The project group consisted of two researchers, four teachers, their 180 students (in grade 5 – 9) and the working process (see figure 2) took place during one school year.

May/Aug/Sep/Oct	Nov/Dec	January	Feb/March	May/June
Design meetings	Teaching 1	Evaluation 1/ new design	Teaching 2	Evaluation 2

Figure 2: Working process during the two cycles

The topic we chose was biological evolution, partly due the rich literature in science education on students difficulties to appropriate the topic in a scientific way (cf. Bishop & Anderson, 1990; Kampourakis & Zogza, 2009). We started with four design meetings where we explored the nine aspects (see previous section) ending up in a teaching goal focussing the use of a scientific theory as a *tool* (Mortimer & Scott, 2003). This was formulated as: the students should be able to explain the evolution of life on earth using the meaning of the terms heredity, variation and selection. Our ´prototheory´ in relation to teaching strategy was informed by research that, of very few, show positive effects in students learning; specifically literature on students use of language (cf. Lemke, 1990), the use of peer group discussions (Jimenez-Aleixandre, 1992) and dialectic argumentation (Asterhan & Schwarz, 2007).

Learning studies
English as second language is the subject in the three learning studies reported in this paper. Three different objects of learning have been studied; (a) possessive pronouns, the infinite verbs (b) to be and (c) to have. One learning study was implemented per semester (Learning Study A, B and C), for a total of three semesters, which means that three different learning objects were focused upon. In this study, three micro-cycles form a macro-learning study cycle (Learning Study A includes lessons A1, A2 and A3). The participants in the study were six teachers, their pupils and researchers. The teachers were included in a team at a school for pupils aged 10-12 years. The numbers of participating pupils in the first learning study were 54 (23 boys and 31 girls) in school year 5. During study two 64 pupils were included (29 boys and 35 girls) in school year 4. In study three 48 pupils participated (26 boys and 22 girls) in school year 4. Each cycle starts with 3-5 meetings to discuss the theoretical framework (variation theory) and define the object of

learning. Each learning study started with a screening, which means the students' previous knowledge is analyzed. Based on these results the tests and design of the first instruction is planned. By that the lesson is jointly designed. Before the lesson the students' take a pre-test, and after the lesson they take a post-test. This makes it possible to measure the development between the two assessments. The items in the test are designed to capture if the students' have discerned the needed critical aspects (what it takes to learn the phenomenon) to understand the object of learning. The result is used to design the second lesson, which is implemented in a new group of students. This iterative process is repeated one more time (in total three lessons per learning study). The lesson is video-documented by two cameras.

Measurements and analysis

Design-based studies
Analysis in the study was conducted in two ways; on the one hand a macro analysis and on the other hand a microanalysis. The macro analysis is more concerned with learning outcomes (the product of learning) estimated with a pre- and post test design generating quantitative data pointing towards generalization as knowledge claim. The micro analysis is more concerned with the learning process estimated as language analysis of student interactions in peer groups generating qualitative data pointing towards situative knowledge claims.

In order to validate the intervention in relation to students´ learning outcome a pre- and post test design (Olander, 2009) was used. The pre-test was given a few days before the instruction started and the post test approximately three months after the teaching ended. Some of the questions where the same in both tests and served as tool when estimating whether the students had changed their way of answering; an indication of gained sustainable knowledge (at least three months). This paper will especially focus three questions given in the delayed post-test because they serve as a kind of control. The study did not make use of control groups in the sense that a comparable group where given "ordinary" teaching. This relies partly on our doubts whether educational research can use the standard idea of control groups (for example another group in the actual school) perhaps there are to many invariants that biases the idea? On the other hand educational research should be prepared to make knowledge claims that are possible to generalise. The study presented in this paper made use of a previous national assessment in Biology for compulsory school (National Agency of Education, 2004) as a kind of control. This assessment was performed by the Swedish National Agency and given to a random sample of Swedish ninth graders (fifteen year old). In the assessment there were three questions (out of twelve) about biological evolution and these three were given to the experimental group in their delayed post. Both groups, the national sample and the experimental group, answered the questions under similar circumstances, for example as unprepared individual writing assignments and the students answers were assessed by the same standards in both groups.

The analysis of students talk in peer group discussions (Olander & Ingerman, 2010) was performed in order to get an indication about the ways the intended teaching strategy (see ´prototheory´ in previous section) was enacted in the classroom and appropriated by the students. The analysis of students talk was guided by an idea from the work of Vygotsky (1986) concerning the tension between the *meaning* and *sense* of a word or utterance. Vygotsky made a distinction between the stable zone (*meaning*)of a word, i.e. the zone that points towards the generalised, collective and lexical meaning of a word; while *sense* is more situated and dependent on the context of the talk, thus pointing to the local, personal, and creative zone. In the present study teachers and researchers (in the first design phase) decided that the scientific story should be communicated with the key terms: heredity, variation and selection. These terms are close to what Vygotsky define as meaning. i.e. lexical, generalised and collective interpretation. The analysis of students talk focussed the ways the students made use of these terms, i.e. the sense of the terms (the personal and situative zone).

Learning studies
All lessons were video-recorded and transcribed verbatim. The analysis of the instruction was made after each lesson and compared with the results of the tests taken by the pupils (pre-test, post-test and delayed post-test). This process was repeated three times in each cycle as there are three lessons per learning study. Finally, all the three learning study cycles (including three lessons each; n=9) were analysed and compared with each other, as well as the discussions during the meetings with teachers and researchers.

RESULTS

Design-based studies

Two types of validation and comparison (χ^2 -method with p<0,01) of students learning outcome was performed, internal and external validation. The internal validation made a comparison within the intervention, between students answers before and after the intervention. The students in the experimental groups significantly (p<0,01) improve their way of answering from pre-test to delayed post-test, and this was the case irrespective of the age of the students (for a more thorough description see Olander, 2009). The external validation made use of a control consisting of a random sample selected and assessed by the Swedish National Agency (2004). This assessment was done in grade 9 and therefore our comparison is more thoroughly done in relation to the 83 students in the experimental group that were in grade 9 (see table 1).

Table 1. Consistency among three answers in grade 9 (p<0,01)		
	No answer in line with theory of evolution	One or two in line with theory of evolution	Three answers in line with theory of evolution
National sample (n = 620)	59 %	32 %	9 %
Experimental group (n = 83)	16 %	41 %	43 %

Nearly 60 % of the students in the national sample do not give any answer (out of three) in line with the theory of evolution which points at the fact that the topic is problematic to appropriate for Swedish students. In that light it is interesting that more than 40 % of the students in the experimental group was able to answer all three questions in line with the theory of evolution.

The intention from the teachers were, as earlier mentioned, to communicate the scientific story of the evolution of life on earth with certain key terms as tools: heredity, variation and selection. An often occurring teaching strategy was to let the students discuss and explain phenomena related to evolution. The pupose was that the students should make use of the introduced key terms – but the students hardly ever used the terms in verbatim. Instead they made recontextualisations and our analysis (Olander & Ingerman, 2010) turned to these recontextualisations. The theoretical underpinning relies on the assumption that the key terms reflect the meaning of the words and the students recontextualisations reflect the sense of the words (Vygotsky, 1986). It turned out that the students made use of paralleling, transferring and delimiting strategies. In summary: the key term variation was recontextualised as ´difference´ or ´dissimilarity´ (paralleling); heredity was expressed as ´lives on´/ carried on´ (transferring); and selection was mostly referred to as ´survival´ (delimiting). All these recontextualisations have their merits and drawbacks in relation to the meaning of the key terms, but they all informed the teachers actions, for example, they often used the expression ´difference´ instead of variation (and it turned out to be equally good). The teachers were also able to start a conversation about whether ´lived on´ or "survival capture all the nuances that heredity and selection signify – this is an example of teachers employing formative assessment.

Learning studies

The focus in this paper is not mainly on the students' results, it is the effect of the iterative process which is highlighted. However, it seems as the cyclic process develop the teachers' abilities to design instruction in a way which makes the students' understand the object of learning in a better way during the cycles. By discussing and analyzing both the lessons and the students' learning outcome with colleagues and researchers the teachers seem to gain knowledge about what it takes to learn. In the three learning studies reported here a pattern of variation in contrasts was used. The more able the teachers seem to be to handle contrasts to make the students learn, the more increased knowledge. In Holmqvist (in press), the outcome of the learning studies have been analysed and described as in figure 2. The results show how the experimental group showed increased knowledge over time when exposed to the design where the contrast pattern was used. Even if this is not an explicit finding which supports the hypothesis that iterative processes gain

knowledge about how to design instruction - which in turn gives increased student learning outcomes – the results points at more developing learning situations.
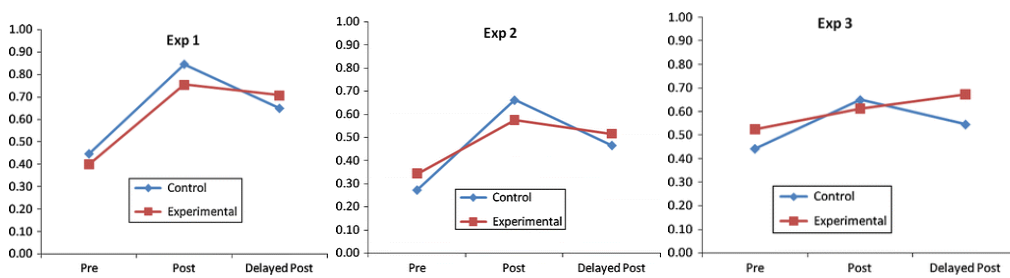
Figure 2: Differences in learning outcome in short (pre-post) and long term (post-delayed post) and between control and experimental groups.

DISCUSSION

With the four exemplified studies we have shown that the students who participate in the interventions significantly improve their ways of answering written questions concerning the taught topic; the object of learning. The four studies have certain features in common, for example the working process is iterative, conducted in authentic practice and recognize the contribution of the teachers both in planning, enactment an evaluation of the interventions. Furthermore, the aim in these studies is to make conclusions not only grounded on statements from teachers, but also on test results from students and from in-depth analysis of design meetings and classroom interactions. In our view this opens several ´black boxes´, for example teachers´ planning (intended), interactions during instruction (enacted) and students´ learning outcome (lived). We claim that our approaches enhance the possibilities to make conclusions about important features of teacher development. Our studies indicate that an iterative process in collaboration with teachers assessed in authentic practice has an impact on teacher development.

However, we would like to point on some issues that are not equally focused in learning study respectively design-based research; mainly the issue of ´content´ versus the ´language´ that the content is communicated in the classroom. The primary aim of a learning study is to explore how the object of learning is handled through the lens of variation theory (discernment, simultaneity and variation); meaning that the content is primarily focussed (and then language). In the design-based approach described in this paper the primary aim is to investigate in what ways the scientific theory works as tool in the students sense-making process; meaning that language is primarily focussed (and then content).

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290 - Formative Process in Veredas Project and Reflexes in Pedagogical Practice of Participants

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Abstract: This study seeks to understand the importance and significance of Veredas Project for teachers' participants from perception and reflection of them on their teaching practice. This field research was conducted with five teachers that Project participants engaged in the teaching profession in the State schools of the city of Viçosa – Minas Gerais; two teachers' tutors and a teacher teaching Coordinator of the Instructor Agency (AFOR) of Federal University of Viçosa, through a roadmap of semi-structured interviews and backed in documentary analysis. We emphasize participants did and still do an exercise of reflection on its formation and its practice in the classroom, given the proposed for the course, the development in the practice of triad action-reflection-action. The course made this process of reflection of participants about their own practice and, moreover, can be seen that they continue their studies seeking specialization courses.

Keywords: Training of teachers, Veredas Project, teaching practice, reflective teacher.

INTRODUCTION

This study's[86] inserted into the debate about teacher training, discusses how object study training and pedagogical practice of teachers under the Veredas Project – Higher Education of Teachers (Veredas Project, shorthand).

The context of research was the first Veredas Project version deployed by the State Government, State Department of Education of Minas Gerais (SEE-MG), sponsored by international bodies, including the World Bank (BIRD) . Started in February 2002, completed in July 2005, the course was intended to enable and qualify at a higher level 15.000 (fifteen thousand) teachers of early elementary (called teachers participants or just participants). Were effective partnerships with eighteen higher education institutions (IES) mining, public and private, called Agency Instructor (AFOR) realized training and certification of participants. The in all, AFORs professional tutors were 851 which took the teaching-learning activities of participants of Veredas Project throughout the State.

Specifically, what if you wanted was to discuss the formation of teachers under the Veredas Project, identifying the perception of the teachers' course participants about the influences of this course in its pedagogical practice during the course and those five years after its termination. Sought to verify participation in a course of initial formation in service specifically in Veredas Project, meant and still means in reflections on the teaching of the teachers course participants, through discourse analysis of five teachers participants, a teaching Coordinator and two teachers belonging to the Instructor Agency of Federal University of Viçosa (AFOR-UFV).

SCENARIO THE VEREDAS PROJECT IN INSTRUCTOR AGENCY OF FEDERAL UNIVERSITY OF VIÇOSA

To understand the reasons that surround the goals and the entire Veredas Project planning is important to contextualize the scenario of education in Brazil from the Law of guidelines and Bases of education – LDB-law n ° 9394, established on December 20, 1996 (Brazil, 1996). The LDB in his Art. 62, indicates how minimal training required for the exercise of the teaching in the elementary grades, higher level training in undergraduate degree course full. Aware that many teachers-in-Office in the public schools of the country hasn't had superior training, Art. 87 of the law adopts provisions concerning the training of teachers in exercise, using features of distance education as a means to meet the training of teachers.

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The Veredas project incorporated the guidelines modernization for teacher training – in service and the distance – and the necessary political and ethical dimension to intellectual formation of new type, according to the ideas, ideals and hegemonic practices. Understanding the function of the school is to train the human being, which implies "work, in addition to cognitive development, aspects of affectivity, citizenship training, ethics, sexuality, anyway, all dimensions of human beings" (Minas Gerais, 2002a, p. 74), the teacher's training may not be just "technical and academic", although these aspects are indispensable. The new type intellectual, required to deal with all matters in which the school is involved, assumes the "cultural transformation that in turn implies lobby interior of the need to change the pedagogical process" (Minas Gerais, 2002a, p. 75).

To articulate the theory and pedagogical practice, we practice as a central element of the course. The emphasis on the centrality of practice is to situate educational action figure of the teacher and the classroom. Despite the bill states that the importance of theory cannot be diminished, it's a knowledge built on experience, i.e., contextual knowledge and returned to practice in the classroom.

The teacher who acts in the grades of elementary school is expected as features the ability to be familiar with the curriculum content, plan and develop teaching-learning situations, stimulating situations in which your students can interact socially with tranquility, which administer the situations in the classroom that respects the cultural diversity of the students and learn to deal with them. With these features the teacher "appreciates knowing that produces in their daily work, shall own improvement and is aware of his dignity as a person and as a professional". State Secretary of Minas Gerais (Minas Gerais, 2002b, p. 3).

Within the proposed Veredas, the professional who seeks to form is the one that seeks dialogue theory and practice, a teacher who not only teaches the contents, but it reflects on them, taking as reference its experience in the classroom and the social context in which it is inserted.

In this context the professor makes a personal investment in your training process itself, through the work critical-reflexive about their praxis and rebuilding your personal identity, resulting in customer experience knowledge.

In the perspective adopted by the Veredas Project, as a pedagogical proposal, the teacher prepared to act in the early grades of elementary school is characterized as a professional search tools necessary for competent performance of his duties and has the ability to question their own practice, critically thinking about it.

To implement a superior training course, teachers were provided five integrated systems to ensure its execution in all its organizational levels. They are:

Instructional System - responsible for the operationalization of the curriculum - defining areas, disciplines and workload, seeking to ensure the use of instructional materials. Sets the curriculum. As for the curriculum Veredas it was organized into three main sections: Core Content Elementary School, Center for Knowledge and Pedagogical Center for Integration.

Operating System - responsible for the arrangements for carrying out activities - general screenings (candidates, AFOR, tutors, materials) planning and coordination of activities (classroom and collective).

Tutoring System - which provides support for educational activities (individual, distance driven and pedagogical practices), planning and implementation of recovery activities for learning, development of support materials to participants, planning and monitoring of tutors.

System Monitoring and Performance Assessment - responsible for evaluating the program, check its quality and the learning of the course participants - collecting data: processes of implementation, expected outcomes and impacts on teaching practice, and the development of assessment tools.

Communication and Information System - responsible for contacts and information flows - organizes reception centers and Portal Veredas on the Internet. It is this core of computer science AFOR that will provide access to the Internet, with information relating to the course, to mentoring, to news, the curriculum, agendas and records of assessments. Computing and audiovisual media, along with guides, will help bridge the gap between teachers and students.

The Pedagogical Veredas in the AFOR/UFV - covers the poles 8 and 11[87] - specifies that the Project will last for 3,200 hours and will be developed in seven modules of 457 hours, covering a range of activities. The

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[87] The poles 8 and 11 of AFOR, respectively comprise the following cities: : 1- Abre Campo, 2- Acaiaca, 3-Alvinópolis, 4- Amparo da Serra, 5- Araponga, 6- Barra Longa, 7- Cajurí, 8- Canaã, 9- Diogo de Vasconcelos, 10- Dom Silvério, 11- Guaraciaba, 12- Itabirito, 13- Jequeri, 14- Mariana, 15- Oratórios, 16- Ouro Preto, 17- Pedra Bonita, 18- Pedra do Anta, 19- Piedade de Ponte Nova, 20- Ponte Nova, 21- Porto Firme, 22- Raul Soares, 23- Rio Casca, 25- Santa Cruz do Escalvado, 26- Santo Antônio do Grama, 27- São Miguel do Anta, 28- São Pedro dos Ferros, 29- Sem Peixe, 30- Sericita, 31-Teixeiras 32- Urucânia, 33- Vermelho Novo, 34- Viçosa. 1- Alto Caparaó, 2- Alto Jequitibá, 3- Antônio Prado de Minas, 4- Barão de Monte Alto, 5- Caiana, 6- Caparaó, 7- Caputira, 8- Carangola, 9- Chalé, 10- Conceição de Ipanema, 11- Divino, 12- Durande, 13- Espera Feliz, 14- Eugenópolis, 15- Faria Lemos, 16- Fervedouro, 17- Lajinha, 18- Laranjal, 19- Luisburgo, 20- Manhuaçu, 21- Manhumirim, 22- Martins Soares, 23- Matipó, 24- Miradouro, 25- Miraí, 26- Muriaé, 27- Mutum, 28- Orizânia, 29- Palma, 30- Patrocínio do Muriaé, 31- Pedra Dourada, 32- Reduto,

interaction strategies are developed through individual and collective activities, some in person and others from a distance.

One such strategy is to Face Intensive Phase. In these meetings, which occur at the beginning of each module, the AFOR, present themselves to the course participants' contents and activities for the period, developing work plans and participating in the activities Contemporary Culture. In this phase the teacher students have to stay a week in AFOR, participating in various activities like lectures, social gatherings, cultural activities, and to prove every six months.

THE CONCEPT OF REFLECTIVE TEACHER IN VEREDAS PROJECT

The material produced by the Veredas Project for the training of teachers was based on the concept of reflective teacher as a reference, especially as authors Nóvoa, Perrenoud, Schön.

Besides Nóvoa, Perrenoud, Schön, other authors also address this theme, such as Alarcão, Bolivar, Contreras, Girox, Pepper and Zeichner, among others, there is no unanimity in relation to that concept, and in some respects their opinions converge, in others they diverge.

In the discussion of these authors, the training of teachers has shifted from an approach focused more on the academics for a professional ground-centric perspective (Nóvoa, 1992). And that shift brings with it the need to understand how this professional thinking, his actions and his actions from their training and their daily practice.

This is how some authors highlight the emphasis on the concept of reflective teachers in different countries, mainly from the movement of teacher development that marked the years especially in 1990 (Pimenta & Chedin, 2005).

The leading proponent and pioneer of this concept, the American teacher Donald Schön that through study and observation, he realized that the professional degree from a curriculum that offers the first science, then its implementation and, finally, the application of that knowledge technical professional, is not able to respond to the demands that arise in daily work, because they go beyond the knowledge produced by science and the technical answers that could have not yet formulated (Pimenta & Chedin, 2005, p.19).

This perspective is that Schön (1992) propose a training based on the epistemology of practice, i.e., "the enhancement of professional practice as a moment of constructing knowledge through reflection, analysis and questioning of, and recognition of tacit knowledge, this the solutions that the professionals are in action " (Pimenta & Chedin, 2005, p.19).

Perrenoud (1993) highlights the need to train teachers reflexive:

> "The professional mobilizes a capital of knowledge, know-how and be not stalled, on the contrary, grows constantly accompanied the experience and reflection on experience" (Perrenoud, 1993, p. 186).

From the postulate of Perrenoud can think that a reflective teacher is one who develops his practice taking a posture analysis and problematization permanently in action that plays, mobilizing for both, the knowledge acquired in your training as well as those generated in their practical experience.

Understanding the teacher as a reflective practitioner, the context becomes fundamental to your training process. Continuing training that advocates the professional workspace, in the case, the school becomes a privileged environment because it allows the explicitation demands stemming from this context, where teachers can put themselves forward needs and dilemmas of teaching. View by this prism training continued advances in terms of initial and continuing training, where the school context-space and activity of teacher- become privileged spaces for fostering such training.

The Veredas Project, whose was to feature in-service training, allowed the teachers dialogue between content studied and the issues experienced in daily practice, this process has pervaded the teaching proposal of the Project, whose aim was the enhancement of practice reflected. Broadening their field of training leading to their ability to cast a look of strangeness about their work and, in an exercise of reflection, analyzing it critically.

The reflective teacher must be one that performs a reflective analysis of practice underpinned by a solid theoretical and ethical and committed involvement with and in the context that builds knowledge, from the idea that all knowledge is the result of the search and the subject's action on your surroundings.

Think of the teacher as reflective professional is to say that the issues of teaching job but are practical questions that require "a natural treatment insofar as they are strongly determined by situational

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33- Rosário da Limeira, 34- Santa Margarida, 35- Santana de Cataguases, 36- Santana do Manhuaçu, 37- São Francisco do Glória, 38- São João do Manhuaçu, 39- São José do Mantimento, 40- São Sebastião da Vargem Alegre, 41- Simonésia, 42- Tombos, 43- Vieiras.

characteristics, context and the history of the class as a social group" (Gómez, 1992, p. 102). Therefore, it is understood that the activity of professor finds herself immersed in a dynamic context, plural which is not restricted to the classroom, but covers a wider field that involves the school, community, society where his work is housed.

The classroom, however, is the special area of its action, where it acts directly on most of the time of their work. Second Gómez (1992) the teacher is a researcher of classroom insofar as it reflects on and about your action in a reflective dynamics.

> (...) away from instrumental rationality, the teacher does not depend on the techniques, rules, and revenue derived from an external, or theory of curricular requirements imposed from outside by the administration or by pre-established schema in school textbook. By knowing the structure of the discipline in which it works and to reflect on the peculiar ecosystem of classroom, the teacher is not confined to deliberate on the means, separating them from the definition of the problem and desirable goals before, constructs a theory appropriate to the unique situation of your scenario and prepare a strategy for appropriate action (Gómez, 1992, p. 106).

The ability of the teacher reflects on his action leads to re-scheduling a new knowledge, a new strategy of operation from the challenge that presents itself. This does not mean, however, that he develops actions "improvised", but from a reflection that allows you to mobilize their tacit, confront them with the new knowledge acquired and the reality in which you are located. Therefore, the importance of considering the experience and practice of teachers in their training process. Not an empty practice, decontextualized, rather, a reflective practice.

The proposed Veredas Project perceives the teacher as a reflective practitioner, able to think about their practice and, through studies coupled with their acquired experience, re-laboring new knowledge, new knowledge-dos, and new practices.

According to the pedagogical proposal of the Veredas Project, the teacher of lower grades of elementary school needs to develop itself as a "professional thinker" (Minas Gerais, 2002, p.14). For both the teacher should understand education in its different dimensions are also capable of producing pedagogical knowledge, putting in their own practice critically related to the students, community and society.

PEDAGOGICAL PRACTICE TEACHERS PARTICIPANTS THE VEREDAS PROJECT

When we draft theory and pedagogical practice, we practice as central element of the course. The emphasis on the centrality of the educative action practice ranks in figure of the teacher and the classroom. Even though the project stated that the importance of theory cannot be lowered, it is a knowledge built on experience, i.e. a contextualized knowledge and focused on classroom practice.

The teacher who acts in the grades of elementary school is expected as features the ability to be familiar with the curriculum content, plan and develop teaching-learning situations, stimulating situations in which your students can interact socially, that administer calmly situations in the classroom that respects the cultural diversity of the students and learn to deal with them. With these features the teacher "appreciates knowing that produces in their daily work, shall own improvement and is aware of his dignity as a person and as a professional" (Minas Gerais, 2002b, p. 3).

Accordingly, Tardiff and Lessard (2005) argue that it is important to the association between the knowledge transmitted by top-level institutions related to teacher training and experiential knowledge of these professionals in exercise, i.e. knowledge based on daily work, and on knowledge of their environment. For him, "the pedagogy is the set of means employed by the teacher to achieve their goals within the framework of educational interactions with students" (Tardiff & Lessard, 2005, p. 117). The author explains that the pedagogy is seen by teachers as a technology used in the course of their work.

Inside the reflections on the formation of teachers in its size paradigm, realizes a sharp inclination, in actuality, progressive educational trends. According to Silva (2006), these trends are based on the principle of critical analysis of social realities within the capitalist mode of production that values the sociopolitical bias of education. Giroux (1990), as cited in Pimenta and Ghedin (2005) saw the need to train teachers who are critical, and reflective. Teachers must be able to analyze the school contexts more comprehensively. In this case, the reflection would be a path to transformation of social inequalities, assuming thus an emancipating role. Cunha (1989) agreed with the above-mentioned reflection above by stating that:

> "The practice of teachers in the classroom is consistent with the mode of production that happens today in our society, i.e. the Division of labour and knowledge. The analysis of this reality is more an

effort to help the teachers and students to reflective exercise. And only the reflection can give us the consciousness needed to change "(Cunha, 1989, p. 151).

Teacher training and constant updating are guided in pedagogical paradigm of action-reflection-action (Schön, 1983, as cited in Tardiff & Lessard, 2005). Your decisions and actions, therefore, must be focused on analyzing and solving problems identified in both the social conditions of its exercise teaching, as in case of seizure and active ownership of students, making the practice of teacher is reasoned reflection object.

How do teacher, their actions, and their attitudes are closely related to their beliefs, their training, their life experience. Is a whole article. Therefore, it is believed that, in proposing the formation of a reflective teacher, wished himself also a new design for teaching action that extrapolates unilateral limits transmission of knowledge: the teacher teach and we learn from previously established techniques and static. Inside the Veredas Project training proposal goes beyond this assumption admitting a professional more "complete", able to think and reflect on their actions, intra and extra-school.

In the project's pedagogical proposal Veredas, the condition of teacher-in-office would give the teacher participant the "opportunity to articulate their practical and theoretical knowledge developed in the Study Guides, solving everyday problems and raising new issues for the theoretical discussion" (Minas Gerais, 2002, p. 36). In walks the idea was that teacher participant could go reflecting on his training and his performance at the same time, where theory and practice are constantly articulated.

Teacher training proposed by Veredas, has a prospect of forming a reflective teacher, his practice comes as key point in the process of training. This perspective knowledge on the teacher's professional practice must have, among other grounds, reflection on practice. And this reflection must be made on sharing with other teachers, the exchange of experiences, look on the action itself as a teacher, talking with the theories, methods and standards of their field. Is the conjunction of all these elements that is what you're doing teaching, its pedagogical practice.

The Veredas Project has enabled new learning experiences and challenges, and, above all, a conception of teacher training focused on the practical perspective of rationality, in which the reflective professional so idiosyncratic constructs its own professional knowledge, encouraging the teacher the development of new pedagogical knowledge.

The training is built through the work of critical reflection on the practice, and the reconstruction of a personal identity. According Dominicé (1990):

"Giving back to experience the place it deserves in learning the knowledge needed for life (personal, social and professional) passes by the finding that the subject actively constructs their knowledge throughout their life course. No one is content to get to know, as if he were brought from the outside that holds its secrets formal. The notion of experience mobilizes an interactive and dialogical pedagogy". (Dominicé, 1990, p. 149-150).

Permeating the idiosyncratic dimension, many authors realize weight exercised by personal experiences to guide teaching practice. Second Tardiff and Lessard (2005, p. 46):

Today, one of the trends of research on the teaching consists of favouring malleable or fluid aspects of craft, sometimes to the detriment of coded or formalized aspects. Teaching begins as a work heavily contextualized, concrete, positioned (Schön, 1983), marked primarily by situational contingencies. Teach becomes improvisation, more or less regulated (Perrenoud, 1996; Tochon, 1993) somewhat resembles the "free jazz" and based on intuition (Van Manen, 1990), or even on the idiosyncrasies of each teacher (Elbaz, 1983). The teaching is then designed as a "craft" means a learned art intact, held mainly groping, and partially by reactions reflected in emergency contexts. The cognitive foundations of this work, i.e. the set of knowledge, skills and abilities necessary to comply therewith diary, assume here quite experimental coloration, personal experience, until the previous story, family or school (Butt et al., 1988; Carter and Doyle, 1996). Affection also assumes a prominent place here because it is based on the strong affective experiences (relationships with students, positive or difficult experiences, etc.). that the "self-training" of the teacher (Abraham, 1984) is built and updates itself.

The role of the teacher is constructed and interpreted on a daily basis. It is in accordance with the interpretation of the goals that educators will guide your practice with a view to the teaching-learning process (Tardiff & Lessard, 2005).

Tardiff and Lessard (2005) have also to be teaching is to have, overall, an emotional work. According to him, professor transposes into practice all that he is as a person. To be aware that the human knowledge is an object of a teaching job, there is no way to maintain objectivity in this relationship, since teachers are also loaded of subjectivity, characteristic of humans.

It becomes necessary to resume the fact that teaching is influenced both by external agents, as well as internal elements to teaching itself. However, understand the teaching is not only analyzing the simple sum of these elements. The sum of external and internal to the teacher generates a resulting hybrid of sharp idiosyncratic dimension (Tardiff & Lessard, 2005, p. 211) stated that:

> [...] teachers do not apply nor follow mechanically the school curricula; Instead, separate them and turn them into appropriate situational who find their previous experiences as well as many other conditions, such as your understanding of the matter, his interpretation of students ' needs, available resources, the progress of the class, your preferences and values, etc.

The Veredas project's pedagogical proposal is in the perspective of forming a reflective teacher who assume responsibility for their own professional development and participate as protagonist in the implementation of educational policies. Thus, while it aims to train professionals within a vision of professor, wants to contribute to improve their professional practice and to improve the quality of public school, in a continuous process of action/reflection/action (Braúna & Ferenc, 2008).

According to Pimenta (2005), when it proposes to teacher training reflective, believes that this practice enhances not only the teacher as a person in the exercise of their profession, but also from school.

The allowance of Morin's thought on education is where everything connects to everything; in learning to learn is that the teacher models your action that results in a pedagogical practice transformative, because "this way, the human being, through education, will be able to rework his thinking and reflecting consciously" (Petraglia, 2003, p. 77).

Society press changes in teaching-learning process that make it possible to put the teacher and the student in conjunction with the content so that they are able to acquire, through practice questioning their own viewpoints and build your knowledge.

Teacher's practice must be reasoned reflection object. Your decisions and actions must be targeted to consequential analysis and for resolving problems identified in both the social conditions of its exercise teaching, as in case of seizure and active ownership of students.

The teacher thought permeates their attitudes and knowledge built into your own learning process. Such knowledge, well organized, reveal the characteristics faculty he prints in their work. Make sure, in this situation constant professional growth, aspects of clarity and objectivity in developing content and domain broad theoretical-practice in substantiating this implicit knowledge.

CONCLUSION

The Veredas Project arose after applying the LDB 1996 in a context of educational reform. It is based on pedagogical paradigm or paradigm of rationality practice, in this paradigm will arise the importance of teacher reflective image, an image that will try to work the possibility of professor make your reflection on their pedagogical practice from its knowledge, with the theoretical knowledge of course, having as main axis reframing of teacher professional identity. This paradigm came somehow counteract the paradigm of technical rationality and make a speech about the pedagogical and practical experience; considering knowledge constituted by persons, their baggage of knowledge on pedagogical practice lived.

In examining the contents of the depositions taken from the interviews with the participants teachers of Veredas Project one can see that there were changes in posture, in ideas and in practice of those teachers. We believe that this process of reflection and practice was stimulated by the training course. A reflective teacher expression, reflective practice, reflection on practice was recurring themes throughout the project's pedagogical proposal and was present in writing all the educational material. The triad action-reflection-action was often crafted in modules. The teachers were reflecting and building such reflections over three and a half years of the course.

We realized through the words of participant teachers they have developed a new perspective on your teaching practice. They are more questioning about his practice, about its role as educator, they have developed a habit of thinking more about their own practice and that has not been lost over the years after the completion of the course, on the contrary, they continued alone seeking new knowledge, challenges, wanting to grow as a person and as a professional. We believe that these teachers, because live in a university city

offering many opportunities for graduate courses contributed to achieving these teachers continue their academic education.

The knowledge and the training process through participatory acquired and seem to endow these teachers course, a critical sense more pointed, offering them useful intellectual tools for understanding and interpreting more complex situations in which an intellectual link between knowledge and reality walks towards enabling the emancipation of those persons and not just instrumentalize them technically to "pass" content.

The Veredas Project has provided the teachers to rethink and reflect on their own pedagogical practices. This involves rethinking your actions in the classroom, their professional attitude, their own school.

During the analysis of the interviews of the teachers course participants realize that they have an exercise of reflection on his training in the course and its practice in the classroom. Such musings seem to cater to that proposed by progress on bringing teachers participants to make the linkage action-reflection-action.

According to data analyzed, reflexive action on teaching proved to be a frequent element in speeches of the teachers interviewed who experienced the Veredas Project and those five years after completion of the same, many of them remain in the pursuit of ongoing formation through courses of specialization.

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291 - The Importance of Training Didactic-Pedagogical in Postgraduation Courses

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Abstract: This study aimed to explicit the dimensions of the formation teachers of higher education held at the Stricto Sensu graduate studies (Masters) in special, how occurs the pedagogical training. The methodology was based on an exploratory study that provided subsidies to reflect on the processes of teacher training of 128 students enrolled in the course Teaching Higher Education, regularly offered in the Federal Institutions of Higher Education of Minas Gerais. The results pointed the postgraduate as pledge of greater employment opportunities, and the titration highly valued in different social segments, especially in academia. The objective to better exercise professional function and the desire to specialize in that area were the choices that stood out, occupying respectively the first and second place in the classification of graduate students. The needs identified in this study provide for the urgent implementation of the VI National Plan of Graduate Studies (PNPG 2011/2020), considering the locus of teacher researchers and professionals who work at different levels of education, especially higher education. This new plan should propose ways for the Graduate Programs include in their courses, alternative ways to cover the issue of teacher training, suggesting the introduction of the Didactic of Higher Education as part of the curriculum of graduate school.

Keywords: Didactics of higher education, teacher training, pedagogical practice, Post-graduation Stricto Sensu.

INTRODUCTION

Working with the training of teachers soon faced with the dilemmas which mainly since the early 1980s, come across the field of Didactics as to the nature of their object of study, its contents and, particularly, its role in teacher training.

Recent issues, such as the National Performance Review of Students, whose goal is to assess the income of students of undergraduate courses in relation to the syllabus, their skills and competencies, bring the scenario of discussion one of the oldest problems as well; which is the formation of the teacher, not only regards the moment in which it occurs, but also by the processes used, the ways to evaluate it and to what extent the training of the teacher is relevant factor in the quality of teaching, student's professionalization and development of the University's social commitment with the society.

Generally understood to teacher training as a condition for a good transfer of knowledge. When we question relations between policies, curricula and practices, developed in universities by teachers, students and administrative personnel, as well as considering the Brazilian University intensifies its forms Strategic Board on the three pillars: education, research and extension, to standards of excellence and competition on the market, one might ask: will teacher training take place in post-graduate Stricto Sensu and occupy only pedagogical issues in the classroom? Or should the role of teacher training not include the professional practice of Lecturer, both in teaching and administrative fields, research and extension? We believe that all these fields are spaces of teacher training, both in postgraduate courses and in professional practice in higher education institutions. We know that the formation of the lecturer occurs mainly in graduate programs, Stricto Sensu, and that these are privileged spaces research such training, as a result, this is the basic premise being worked on this study. How is the training of teachers in Postgraduate Courses? There are general education represented by the scientific content and pedagogical training is included in the curricula of graduate school? Is there emphasis on post-graduate courses for teaching? These are some of the issues we can learn in our study.

Sought to clarify the dimensions of the formation of the teaching staff of higher education held at postgraduate level Stricto Sensu, and in particular, as pedagogical training. So, tried to unveiling the

formation process of Master students and Doctorate students, who will be future teachers of higher education, and graduate students who already exercise teaching University.

Our research focuses on postgraduate Stricto Sensu, having as reference the students enrolled in higher education Didactics discipline, which is the only representative of didactic-pedagogical referential curricula. The Federal University Of Viçosa (UFV) and the Federal University Of Minas Gerais (UFMG) were the only federal institutions of higher education (IFES) that regularly offer that discipline, so the constituents of the sample were searched.

We focus on the issues of teacher professionalism, understood as the set of abilities, skills, attitudes and values that constitute the specificity of being a teacher. To constitute a continuous reconstruction process of knowing and doing teachers working implies a continuous flow of movement between vocational training and practice of the profession. In search of seizure of these two dimensions of being unprofessional indissociable from teaching-training and exercise of the profession, we selected as informants for this study students-teachers, actors, multi-faceted, experiencing the process of continuing training in the context of the graduate.

We will also examine in particular the pedagogical training conducted in graduate school, according to teachers' view of the Higher Education Curriculum and course coordinators of the Postgraduate Diploma in Education.

We seek to capture alternatives and reflect on them, trying to understand how the training processes, in particular, continued, can constitute a new praxis and an important instrument for professional development of teachers and reframing of these training opportunities in graduate programs.

We welcome this problem on the evaluation of Didactics of higher education in teacher training, because aside from being very significant identification of characteristics of that formative process, can serve to improve and enrich training programs of university professors. Of course, this task is a challenge, given its complexity, to reflect on teacher training processes in the Stricto Sensu graduate studies in IFES in Minas Gerais.

METHODOLOGY

In this study, the outline of empirical and logical design/construction process of knowledge from an exploratory study descriptive second Triviños (1994), reaching up to the analysis of the meanings of words in questionnaires and interviews, we can offer subsidies to reflect on teacher training processes in the Stricto Sensu graduate studies in Minas Gerais.

In the context of analysis of the universe, we researched focus on training of University lecturer in the postgraduate Stricto Sensu, with reference to students enrolled in higher education Didactics discipline in higher education Institutions Federal of Minas Gerais (IFES/MG).

The exploratory study was conducted in three stages: at the beginning of the first semester and at the end of it, in the discipline Didactics of higher education, through questionnaires applied to graduate in four classes (three UFMG and the UFV) in which this discipline was offered. One year after the completion of this discipline, applying a questionnaire by email addressed to students/teachers, to ascertain the purposes previously and also punctuated, because they are acting as teachers in the classroom.

In addition to the questionnaires, we conducted interviews and study legal documents to meet the work, with enough material for analysis.

We are continuing our investigation, doing interviews with teachers and coordinators of this discipline of post-graduate education, UFMG and UFV.

It should also locate training for university teaching in interconnection with the dynamics of the university and one of the basic components of the policy that guides them, so it's crucial position in the government literature that gestated the post-graduate courses.

RESULTS AND DISCUSSIONS

We understand that this research has attempted to make a rereading of data collected in three moments: in the beginning, the end of the course of Didactics of higher education and one year after being in practice and from there we were unveiling the multiple experiences of graduate students and teachers (Didactics of higher education) in relation to knowledge about education in postgraduate courses. The form, coherence and meaning are built from several search, interactive moments ranging from the way the teacher tried to overcome the challenges of practice and establish relations of content/text to context, providing new pedagogical situations, new methodological issues that could lead students to criticism, reflection, building, Deconstructing concepts and attitudes, rebuilding them.

Although graduate students are currently studying the discipline Didactics of higher education and the data obtained, are aimed at teaching in higher education, the responses of students follow a logic that puts the world of research priority in relation to the world of pedagogical practice.

It is worth noting, however, that a high percentage (85,5%) demonstrates the importance and the goals of graduate to become lecturer.

Analytical disciplines programs in two great proximity; IFES has basically cover the same content.

Observe, by data collected, the search "overvaluation" and please note that the search isn't just one of the largest postgraduate functions, but also a precondition for its social relevance and quality of academic courses, given the benefits of financing linked to activities associated with the research as well as the implementation of instructional resources and improvement of production conditions of research in a context where the number of areas of common interest and partnerships for joint research between science, technology and culture grow quickly. Graduate programs should be seen as essential partners in promoting these integrations and the basis for development of science and technology in the country.

The search process as a whole contributes to the collective reflection on the problems faced by educators, as well as strengthens the need for the teacher as researcher, highlights the very national policy graduate, who has been implementing the emphasis on research priorities and guidelines of the plans, given its strong relationships with the processes of the new world order.

Post-Graduation was considered as the largest pledge job opportunities. It is a general understanding that the titration is very valued in different social segments, in particular in academia.

The goal of exerting better professional roles, and the desire to specialize in the area chosen, were the choices that excelled, occupying, respectively, the first and second place in the ranking of graduate students.

To our questioning to master students and doctorate students, respectively, were some course of specialization (specialization) and master's degrees, if such training was fruitful and why, we got that 39,1% made the course of specialization (specialization) and admit that was fruitful theoretical-scientific training received. To justify this process gains suggest: stimulus to scientific research and the masters; greater safety to teach classes; development of self-awareness and self-esteem, anyway, most training was a differential in the face of other professionals and enabled the work culminating in papers publication, important for the curriculum.

The material gains of that process are shown mainly through the expansion of opportunities on the labor market, in addition to obtaining earned wages and promotion. As regards the intellectual gains, become more efficient in the chosen area; produced new knowledge; improved the quality of teaching activities; increased its contribution to the institution in which they work; started to develop research activities and become more technically efficient in the educational area.

Pre-doctorate students just a thought that wasn't fruitful training at the master's course, but not justified. Others pointed out the gains of this process, namely: personal growth; search for new technologies; training for teaching staff and encouraging research; critical-reflective reasoning, security to support discussions and positions within the area of operation.

If we make a correlation of intellectual and material gains with the four classes searched, we can see clearly that the class where the largest number of masters does not match the greatest material gains and intellectuals as income of such training, in particular in the undergraduate classroom, with the exception of published works, the greater technical efficiency in the chosen area of research and development.

We note that the relationship theory/practice has been object of constant thoughts and research, since part of the permanent analysis of educational issues of our time. The data show that the vast majority believes that the course is mainly theoretical, little suited for practical reasons, however, these same graduate students present contradictions in relation to the affirmative that the theoretical approach of most disciplines offered in course provides solid basis for elucidating the practical problems faced in his professional practice activity, because the results corroborate with what was commented in relation to the previous statement.

We see that among the many items raised both by students and by students/faculty of higher education generally occurs playback system; There is no clarity regarding the goals of the courses, the disciplines; coexist with curricular fragmentation and therefore with a certain isolation from the teacher.

This fragmentation curriculum, disciplinary, leads us to question the University model that separates the teaching of research, also in the process of continuing training in postgraduate courses.

We also point out that the research the problem of academic advising, which is fundamental in postgraduate courses. The lack of time deserves attention, since the data clearly show that most students aren't being properly directed, since their mentors are not being able to serve them properly, when this becomes necessary.

This is undoubtedly a serious flaw in the structure of academic graduate, which affect not only the student, but also the institution Hais delays for the student in completing their studies, and low scores in the evaluation of Coordination de Improvement of Higher Education (CAPES), which, inter alia, takes into account the elapsed time for students to complete their courses.

These questions concerning academic advising, in particular the lack of time for the Advisor must be framed in a broader framework and complex scenario of public universities. Data provided by the subject of research and, more specifically, by lecturers (teachers discipline Didactics of higher education), we can infer that there is lack of funds across all sectors, whether in teaching, research, extension, administration, and a stressful and an individualist to fundraising for the institution. Add to that the early retirements, a permanent staff of credentialed teachers and a permanent staff of teachers new doctors in Graduate Programs, besides the leakage of skilled teachers for private universities, given the scale of pay increasingly outdated in a policy of non-salary increase, utilizing strategy grant bonuses, such as Teaching Stimulus Gratification (GED), reflections today of a policy meritocrática evaluation in a wage policy based on individual and incremental gains.

The goal of creating the GED, established by law No. 9678/98 was to encourage the improvement of teachers ' work in higher education, in order to improve the service offered in public higher education institutions. Please note that currently the GED was extinct and replaced by a fixed bonus.

We highlight that as to graduate in itself, it appears that the same is perceived by learners/teachers in higher education, such as place of teaching and dissemination of knowledge, research, which should give actors it integrated cultural and scientific training, socialization and commitment to help students become subject thinkers, able to construct elements facilitators for understanding and ownership critique of reality.

We emphasize that as the graduate himself, it appears that it is understood by students / teachers in higher education as a place of education and dissemination of knowledge, research, which should provide actors incorporated in a cultural and scientific, socialization and commitment to helping students become thinking subjects capable of building elements for facilitating the understanding and critical appropriation of reality. For learners, is also regarded as Uzhhorod dissemination of knowledge and research, with the function of providing cultural and scientific training, however, is more intrinsic to the world of work with an emphasis on respective areas corresponding to the training they received at graduation and, in particular, in the specific area to which they are currently headed in the post-graduate course.

As to the Didactics of Higher Education, the goal is the search for qualifying and enabling for teaching with pretense of following academic career. It is for them a search space discussion/reflection of educational practice and be paramount in any area and essential for those who work in higher education.

The statements expressed by students and learners/teachers in higher education, covering knowledge, skills and values punctuated as expectations with respect to the Didactics of higher education, we can infer that there is some way to both (students and learners/teachers in higher education), a very sharp featured in relation to knowledge of methods and teaching techniques.

It is visible in the current literature and also by the data obtained in this research, the emphasis on the aspects that occupy the top three positions respectively by sort order, which are: knowledge of teaching methods; knowledge about the relationship teacher/student and knowledge about learning assessment, noting that despite advances in the educational area, these day-to-day aspects of teaching job constitute a focal point in training and in teaching.

We note that, for most graduate discipline Didactics of higher education was beyond expectations, with a broader approach, inserting context historical, cultural, social and political.

Analyzing the discursive set of teachers/specialists, we can infer that, despite the similarity pointed to in designing teaching University, equating it with other levels of education, we realized that teachers themselves always end up reinforcing some gap in higher education and postgraduate courses, either related to students as a way of dealing with the construction and systematization of knowledge and, in particular, the research activity, highlighting so certain peculiarities of teaching in higher education.

As to the meaning of graduate teaching practice, the data suggest a certain similarity between the views of learners/teachers in higher education and teachers/specialists. The lecturer is increasingly aware that the graduate as an instrument of empowerment and improvement is imperative in your professional qualification, as well as the need to research and develop its capacity for reflection and critical evaluation.

It is noted that despite the positive significance of graduate studies for the vocational qualification for teaching, was seconded in accordance with the data obtained with teachers/specialists and also by literature, for Nunes (1999), the "culture of titration" in academia. Therefore, it should be noted that the importance of the titration extrapolates the improvement of qualification and professional practice, including in sphere of appearance meritocrática.

Another factor to be highlighted, which we believe to be of fundamental importance, is that much of the intellectuals involved in teaching have no pedagogical training. So, managers of departments and universities, to seek the quality of the course, should concern itself with this type of training, contributing to the teacher's professional experience in different areas of knowledge, and we believe that the role of disciplinary Didactics of higher education would be an ally in this process.

When evaluating how teaching/learning in higher education the relationship theory/practice in the post-graduate course, noticed that predominated a theoretical academic vision and was seconded that rare are the teachers who are interested in practical, turning to reality. According to some of these teachers, they have a good relationship theory/practice, specifically in the discipline Didactics of higher education, which provides the opportunity of this integration.

A significant portion of these teachers said they had encountered difficulties of various natures in the course, but as participants of the teaching-learning process, found more meaning in the knowledge when they realized the relationship with practice. Realized in their experiences, in particular, offered by discipline Didactics of higher education, the ownership of knowledge via reflection and discussion of actual problems, concretes, experienced in the daily lives of University classrooms and the need to know the drive theory/practice in your relationship of autonomy and dependence.

In this research, the relationship theory/practice has also been analyzed according to changes in teaching job, in the face of new technologies. We observe that most graduate students already teachers, failed to make this relationship, just emphasized technical aspects of the use of new technologies. However, the vast majority stressed that new technologies assist and facilitate teaching, mainly the globalised Internet access that enables quick info to foreground, making the need for constant updating.

For these reasons we listed of teachers/specialists, new technologies make sense only when they help in teaching, research and to build better your space in the classroom. For some teachers, new technologies, if well used, to work with certain themes can help the student understand the practice, even showing virtually. On the other hand, some teachers highlighted live poorly and are not yet able to use new technologies, especially printing that true sense of the relationship theory/practice.

In this scenario, we stand that has happened frequently, particularly in universities, the coexistence with the lack of more modern equipment, even the teachers have access therefore is impractical lect wanting to take advantage of new technologies, even if there is availability for the acquisition of certain equipment for this purpose.

We believe that in the process of search of own practice, teachers looking to update the theory that had and did not realize the complexity of teaching-learning process, is looking beyond their own resources, new theories, theorists, and new methodologies best suited to the reality facing them.

Recognize teachers as able to hypothesize about their practices is a theoretical methodological principle, which allows us to consider the University as an area of theories and practices in permanent movement of construction, deconstruction and reconstruction. Accordingly, we give and give special emphasis to discipline Didactics of higher education, by signing, with the data collected, our hypothesis that the way has been developed in graduate courses at UFMG and UFV, can contribute to pedagogical training of teachers, working individually, collectively and collaboratively with the reflection of the daily practices of higher education and making improvements in teacher action.

It is interesting to note that was quite prominent in the third stage of data collection, although in the preceding steps have not been mentioned, the obligation imposed by the CAPES, through Ordinance 052/2000 repealed by Ordinance Nº. 052/2002, of students of master's and doctorate degree in teach. So, fellows, students are forced to make internship in teaching, corresponding to one semester of the master's course and two semesters in graduate school.

Several of these graduate students, who are already teachers in higher education, highlighted have colleagues in course that never delivered a lecture and do not have any kind of training, or even attended some discipline, that instrumentalize minimally to such even as teachers feel like starring roles in the process of teaching. Accordingly, we have the account of one of the teachers that so epitomizes this kind of sentiment: "... in the specific case of my course, students are treated like real kids and our advisors live at the expense of jobs that drove them to school and we are forced to give without any training, so they can ensure our scholarship, therefore, the degraded salaries, the grant is part of the budget and our survival ..."

According to the majority of teachers investigated, this type of teaching internship requirement seems to be made to cover the shortage of teachers in universities today, where there are deficits in tables and difficulties of hiring even teachers.

We believe that the graduate must fulfill a vital role in the process of preparing the lecturer, but to do so, must be careful, as stated in this study, associate the part pedagogical not unlinked, fragmented, but as a permanent dialogue with the specialized fields of knowledge.

In the current context of graduate programs these fields are unlinked, generally is unreal that if teaching meets a function without any kind of pedagogical preparation.

The initiative is very valuable thinking concretely to graduate as a space for university teaching practice, but for that to happen, it is necessary to rethink before this space as a continuing training that, in most courses, lacks any kind of pedagogical apparatus that can support the internship in teaching.

Subject to these settings, we believe that this stage of teaching should be extended to all postgraduate students, not only for fellows from CAPES and is designed in an integrated manner with the discipline Didactics of Higher Education, and worked in an interdisciplinary perspective, towards a coherent didactic action.

It is worth noting second Estrela and Estrela (2006), as cited in Simão et al. (2009) the continuous training is a concept polysemic referring to different visions, different sensibilities different ideological and epistemologies

For Simão et al. (2009) training in its current format is intended to improve professional skills, but should look the way it organizes and contractually for their suitability for professional situations and it is in this context we situate the important formative of didactic teaching disciplines imprint.

In post-graduation, regardless of course, it is necessary to include in the curriculum field disciplines such as pedagogical higher education Didactics and use media and computerization. It is essential to prepare students and teachers not only to use such equipment, but especially that they learn to speak critically reflective and creative in the process of production of knowledge. So, after attending these disciplines, we can assume that the internship in teaching may be well structured and leveraged by both parties. We observe, however, the difficulty of accomplishing this in practice, given the current restriction of deadlines in the postgraduate.

On these reflections, observations and investigative issues stemming from this process, you may want to emphasize some factors essential to the process of formation in postgraduate study, in particular with respect to the University teaching, contextualizing the University itself, the curriculum, in short, the fundamental elements that constitute the heart of this and other educational researches.

Note that for fostering, University of scientific production, the articulation of several areas of knowledge and professional qualification is understood not only as preparation of workforce productive, but as preparation of subject able to understand and deal with the contradictions of his time and build your own socio-cultural identity and professional.

The current moment is transitional in which seeks to build a more democratic, egalitarian society, pluralist and inclusive. It is significant that, with the process of democratization, educators have acquired a greater role in the debates and when forwarding proposals. Universities, particularly focusing on autonomy, come looking to perform experiments, changes and reforms in curricula. Note, however, that most of the initiatives are located and discontinuous, disappearing or periodic modifications with the weakening of leadership, the dismemberment of teams or simply with the cut or restriction of funds.

Take the student as a subject capable of transforming their learning in an emancipatory practice is to admit that our courses require changes every day at school level, able to introduce a new ethic and a new social practice, which involves articulating a new project for vocational training courses under the post-graduation configured in dimensions epistemological, political, social, cultural, scientific and technical cooperation.

CONCLUSION

When considering the progress achieved, in particular those gaps discussed in this study, we believe that some challenges may be delineated for the achievement of a new course "for the Didactics of higher education, for example: trail paths that mitigate or even overcome obstacles that implement a qualitative change in curriculum construction process, as the precarious dialogue between experts of specific contents and pedagogical content. We emphasize, in particular, that the data from this research have shown, both by graduate students as mainly teachers graduate, i.e. that they should invest in programs of graduate who configure education as social practice and the teacher as researcher critical-reflective of his teaching job.

The discussion of new teaching methodologies, the revision of curricula, with the insertion of new materials, processes of ongoing assessment of all activities will make it possible to identify a profile for the postgraduate courses, defining clearly the role they should play in society.

This time of transition from the world economic order and of the needs identified in this study brings the urgency in the drafting of V Plan National of Post-graduation (PNPG), whereas the graduate is the trainer

for fostering of researchers and professionals who work in the various levels of education, particularly in higher education. It is known that these professionals, teachers mostly don't have pedagogical formation, and therefore this new plan should propose means for Graduate Programs include in their courses alternate ways to cover the issue of pedagogical formation, suggesting the introduction of Didactics of higher education as part of the curriculum of graduate courses.

The little academic production, the training of professor of higher education in Brazil is one of the manifestations of an absence of policies that value and encourage this field of educational research, which is so important today, given the large growth of top courses in the country.

There have been advancements in the field of research, which prioritize the statistical parameters, which are systematized and offer a good standard for studies and reflections in the face of higher education policies. In contrast, in the area of training of University professor, not true fluency surveys which would give subsidies to political decisions concerning the processes of teaching, research, extension and administration at the universities, regarded as interdisciplinary fields, which represent a flow of relationships and tensions, and they are demanding new strategies for knowledge management in the face of new requirements for training and professional performance of teaching career.

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293 - Coming to Know in the Eye of a Storm: A Beginning Teacher's First Year of Teaching

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Anna Dean: I began teaching in the eye of a storm
Cheryl Craig: How so?
Anna Dean: Let me tell you what happened... (Interview excerpt)

When researchers begin studies, they enter new inquiry fields where events have been unfurling longitudinally (Clandinin & Connelly, 2000). The same can be said for beginning teachers. When they launch their careers, they enter into school contexts where human experiences also have been temporally unfolding. They, too, arrive in the midst of things—with some things being immediately apparent and others becoming revealed through reflection. This paper is about beginning teacher, Anna Dean, and how her first year of teaching transpired. It centers on her experience of coming to know T. P. Yaeger Middle School, the campus where she was first hired. The work features Anna's developing knowledge of change efforts underway in her school context and her emerging sense of who she was in the throes of these initiatives. Before I probe Anna's 'learning to teach in the eye of a storm' narrative, I present the literature that undergirds this study and the research method I use. I then introduce Anna Dean, myself, and the state of T. P. Yaeger's school milieu prior to Anna's arrival.

THEORETICAL FRAME

Researched and written from the teacher perspective, this study examines the influence of specific reform initiatives on one school context, a beginning teacher's knowledge development, her emergent identity, her communities of knowing, and the stories she lived and told, and re-lived and re-told during her first year of teaching. The study is based on the understanding that teacher knowledge is personally and socially funded (Dewey, 1908, 1938) and narrative in form (Connelly & Clandinin, 1990). It coheres around Clandinin's (1986) conceptualization of personal practical knowledge, which is "knowledge constructed and reconstructed as [teachers] live out [their] stories and retell and relive them through processes of reflection" (Clandinin, 1992, p. 125). The stance respects the teacher as a curriculum maker (Clandinin & Connelly, 1992; Craig & Ross, 2008), one who is both a knower and a doer in the educational enterprise. Also integral to this research is the idea of teachers' personal practical knowledge being embedded in the context in which it is situated. To Clandinin and Connelly (1995), the contexts of teaching comprise a professional knowledge landscape composed of "relationships among people, places, and things [It is] a landscape that is both intellectual and moral" (p. 5). Needless to say, teachers' professional knowledge landscapes are constantly changing.

In addition to narratively accounting for the beginning teacher's knowledge and the context in which she taught, this paper also narratively explores Anna Dean's identity through her composing of "stories to live by" (Connelly & Clandinin, 1999, p. 4). In this paper, her "story to live by" shifted on a continuum of experience as her circumstances changed. But it also became altered in response to stories other people gave back to her. This feedback—or lack of it—additionally influenced how she made sense of situations. As with other human beings, "multiple I's" (Cooper & Olson, 1996) informed Anna's *in situ* knowledge.

The final piece of this theoretical frame has to do with teachers' communities of knowing. In this paper, two different versions of community are probed. In my research program, I previously conceptualized the idea of teachers' knowledge communities as:

> ...safe, storytelling places where educators narrate the rawness of their experiences, negotiate meaning, and authorize their own and others' interpretations of situations. They take shape around commonplaces of experience (Lane, 1988) as opposed to around bureaucratic and hierarchical relations that declare who knows, what should be known, and what constitutes 'good teaching' and 'good schools' (Clandinin & Connelly, 1996). Such knowledge communities can be both found and created (Craig & Olson, 2002, p. 116).

For instance, in my early work with beginning teachers, Tim (Craig, 1995a, 1995b) and Benita (Craig, 1995b, 1998), it became evident that they took different stories and different versions of their narrated experiences to different people in different knowledge communities for interpretation. Also, Tim's and Benita's inclusion in particular knowledge communities in their school contexts served as admission or denial of entry to other communities of knowing. Tim, for example, learned the pathway to leadership in his beginning years from the male assistant principal at his school. Benita, as a substitute teacher, did not come to know this story. Benita's temporary position, along with her particular knowledge community associations, precluded her from this text, but made other topics, particularly those concerned with how to work productively with students, parents and other teachers, readily available to her.

In their knowledge communities, the teachers with whom I conducted my early narrative inquiries paid close attention to the upsides and downsides of their experiences located on the intellectual, moral, personal and interpersonal landscapes of their schools. They became introduced to perspectives impossible to achieve through individual reflection. In their conversations, they made their practices transparent, and their knowledge and beliefs known in the presence of others. Additionally, while participating in their communities of knowing, they exercised their narrative authority (Olson, 1995; Olson & Craig, 2001) in ways that legitimated their own and others' narrative knowledge as embodied in people and embedded in situations. As a result, individuals' narrative truths (Spence, 1982) emerged in the interwoven stories publicly discussed. Through processes of layered meaning making, such truths became accepted as satisfactorily representing their beginning experiences from the standpoint of the individual as confirmed by knowledge community members. Furthermore, in teachers' communities of knowing, knowledge as the generative construction of personal meaning, as opposed to knowledge as attribute—codified lists of formal knowledge, which others declare worthy of being known, was emphasized.

In recent research conducted at T. P. Yaeger Middle School (Craig, 2009), I identified differences between knowledge communities as organically lived by Yaeger's teachers and the idea of professional learning communities externally imposed on them by the school leadership team, eventually supported by school district imperatives. At the outset of this work, it is important that readers know that professional learning communities have been defined by DuFour, Fullan, and many other researchers (i.e., Hargreaves, 2000; McLaughlin, 1995) mostly in the educational leadership and school change literatures. Such definitions outline what teachers should know and do in community. In other words, they project a formal view of teacher knowledge, which is significantly different from the practical view of knowledge around which my idea of knowledge communities is conceptualized. DuFour (2001), for instance, has stated that professional knowledge communities "focus on learning rather than teaching, work collaboratively, and [are] accountable for results." According to him (DuFour, 2004), "people use the term to describe every imaginable combination of individuals with an interest in education—a grade-level teaching team, a school committee, a high school department, an entire school district, a state department of education, a national professional organization, and so on" (p. 6). For the purpose of this work, I have introduced DuFour's definition of a professional learning community because the administrators and selected teachers at Yaeger attended his workshops at the request of the principal and supported by the school's reform funding. Hence, DuFour's notion of professional learning communities and how to implement them was presumably foremost, but not singularly, on their minds.

Before moving on to describe my research method, I sketch differences between teachers' knowledge communities and professional learning communities in Figure 1. The distinctions are important to keep in mind as this paper proceeds. They are matters I allude to in my forthcoming characterization of Anna Dean's beginning teaching experience and a theme, among others, I take up at the conclusion of this paper.

Knowledge Communities	Professional Learning Communities
Organically lived	Administratively introduced
Can be found or made	Expected to be present
Commonplaces of experience	Focus on learning rather than teaching
Relational among individuals and across groups; collaborations emerge	Collaboration anticipated at the outset
May exist within member of various groups; also occur between teachers who interact for their own purposes	Any visible group within a school/organization
Accounts of practice	Accountable for results

▼   ▼

Fueled by a Practical View of Knowledge   Driven by a Formal View of Knowledge

Figure 1: Contrast between Teachers' Knowledge Communities and Professional Learning Communities

RESEARCH METHOD

This research enterprise was approached through the narrative inquiry research method. Narrative inquiries are studies of people in relationship by researchers who themselves are also in relationship (Clandinin & Connelly, 2000). Because it is a fluid means of investigation, narrative inquiry is a difficult method to live and even a more complex one to explain (Clandinin et al., 2006). This is because studies respond to phenomena encountered in the field as opposed to predetermined research principles (Connelly & Clandinin, 1990). Thus, "questions…do not begin with what theoreticians, researchers, and policy makers know [or want to know] but, rather, with what… teacher[s] know and [are finding] in professional practice" (Clandinin, 2000, p. 29). In a nutshell, the primacy of teacher experience (Eisner, 1988) is emphasized. In this particular paper, Anna Dean's first year of teaching is placed in the foreground while contributions from her fellow faculty members appear in the background, playing a supporting role.

Stories of experience in narrative inquiry are typically created using a variety of research tools to excavate teachers' knowledge in context. In this work, for example, teacher interviews and participant observation of classroom teaching, professional development sessions, department meetings, and faculty meetings, as well as document analysis, support the inquiry. These field texts were then transformed into research texts using three interpretive devices: broadening, burrowing, and storying and restorying. Broadening situates the research texts in the social, historical trajectory of events at Yaeger. In this paper, broadening principally accounts for changes that took place on T. P. Yaeger's professional knowledge landscape prior to when Anna Dean came to the school. Burrowing, on the other hand, involves an upclose look at particular experiences she lived in her first year. Burrowing mainly appears in Anna's 'learning to teach in the eye of a storm' narrative. Finally, storying and restorying captures transitions in Anna Dean's situations and interactions and how she made sense of them. But the process of storying and restorying also captures personal and social changes that occurred in Yaeger's professional knowledge landscape as a consequence of human interactions. For readers' information, field texts gathered from research participants before Anna Dean was employed at Yaeger inform the characterization of T. P. Yaeger Middle School prior to her arrival. Field texts collected after Anna became a faculty member at Yaeger illuminate the research text of Anna's 'learning to teach in the eye of a storm' narrative. Some of these texts originated with Anna whereas others came from other faculty members in the department and in the school who also participated in the research. Each educator formed an individual unit of analysis in the study. Others discovered what peers contributed when the account was seamed together.

Introducing Anna Dean

A native Texan, Anna Dean graduated from a state university with a Communications degree. After working in her major field for awhile, she entered an alternate certification program in a community college to prepare to become a teacher. She pursued the alternate preparation route because it was "the cheapest" entry into the profession and the most commonly available approach in the metropolitan area. Anna, who had a one-year old child, was in need of a reliable job with a reasonable income. Personally, she was in an unhappy marriage and on the verge of a divorce. She paid for her expedited teacher education program through working as a substitute teacher in one of the regional school districts by day and waitressing in a city café in the evenings and on weekends. She continued this arrangement even after she was certified because the large urban school district where she sought employment was in a hiring freeze. However, while surfing the school

district's website one day, she discovered a literacy teacher vacancy at T. P. Yaeger Middle School. She immediately took her resume to the campus; her interview was scheduled the very next day. On her hiring committee were two female literacy teachers, slightly older than her, "who were arguing with one another more than they were asking [her] questions." This meant Anna, of necessity, had to disagree with one. In Anna's view, these preliminary exchanges "set the stage" for how she would be "in the middle of things" from that point onward. Anna Dean indeed secured employment at the "plum middle school" in the large urban school district. But she also was introduced—in her words—"to enough games to last a lifetime".

Introducing the Researcher
My research program at T. P. Yaeger Middle School began in 1997 when I first moved to the U.S. from Canada. At that time, Yaeger was in the midst of a 'models of teaching' change effort supported by a major national reform movement, which was spearheaded by a consultant from one of the state's regional offices. The dissemination of the change effort depended on the consultant training 20 Yaeger faculty members and those faculty members correspondingly teaching the remaining teachers the changes they needed to make to their practices. However, the teachers at Yaeger found the 'models of teaching' reform problematic. First, they resented being taught by one another. Second, the prescribed nature of the teaching models stymied their natural desire to make curriculum "in the moment" alongside their students. Third, the models did not sufficiently address course content. And fourth, they did not account for the human particularities of their students (Craig, 2001).

Fortunately, a second national reform effort became introduced to Yaeger before the backlash against the models of teaching effort became too severe. I also was able to follow that initiative, which gave the principal and faculty of T. P. Yaeger Middle School considerably more freedom in choosing what initiatives would best suit the campus and the students peopling it. Among those changes were the introduction of Critical Friends Groups (CFGs), the combining of the assistant principal and counselor positions so that students would be better known, and the creation of a daily class period where students in different programs (Gifted-and-Talented, English as a Second Language, Regular Academic) and of different ages mingled and honed their leadership skills. Preliminary experimentation with the readers' and writers' workshop approach to literacy instruction was the fourth major change. The latter's purpose was to model a productive PLC for other departments in the school, which were also about to be reformed.

When the major national reform effort ended, the local office of the reform endeavor agreed to continue to support Yaeger's literacy initiative and my study of it (Craig, 2009, 2012, in press). As part of this third funded project, I came to know Anna Dean who was hired to replace one of three literacy teachers (14 in all) who personally or administratively had been moved or removed the previous year because their practices were seen as incompatible with how literacy instruction was supposed to occur at Yaeger. Hence, Anna entered the T. P. Yaeger school context "like a deer in the headlights," as one peer put it. She and I naturally came to know each other amid the happenings and goings on of the 2004-2005 school year. Several of her literacy colleagues already were participants in my study. It made sense that Anna participate as well. She joined the narrative inquiry of her own free will—in fact, at her own suggestion. In her introductory conversation with me, Anna confided that "she had become a member of the Yaeger faculty and the literacy department 'in the middle of something'" and that "little did she know she was entering 'the eye of a storm.'" Feeling "shell-shocked," she said she "wanted to think and talk things through with me." From the beginning, Anna saw me as an educator who provided a different perspective than her colleagues in her school milieu. According to her, I made her feel that she was "not alone" and that I "supported what [she] could not articulate, but what [she] was definitely witnessing and feeling…." As for some of the other Yaeger teachers and me, we also had formed knowledge communities—around different commonplaces of experience—as the investigation into how organized school reform efforts affect teachers' knowledge developments in context had been underway for seven years.

Introducing the Professional Knowledge Landscape of T. P. Yaeger Middle School
The social, narrative history of T. P. Yaeger Middle School patterns the development of the fourth largest city in the U.S. Advertised in the early years as being located on the city's "wooded edge," Yaeger currently sits on the longest street in Texas, a stone's throw away from the business center. Originally slated to be the high school for the upper class neighborhood surrounding it, the campus never expanded beyond the middle grades because history interrupted its projected expansion. The federally forced desegregation of the city's public schools resulted in 'white flight' to the suburbs and a mass exodus of sectors of the city population to private education. To manage the social and political upheaval of the 1970s, the school district, supported by the U.S. Department of Education, declared Yaeger a magnet school for gifted-and-talented students. This

resulted in qualified youth of all races and from all socio-economic backgrounds attending the campus. It also ensured that the students learning alongside the remaining upper crust neighborhood children were "the brightest and best" that the city had to offer. And the campus's later acceptance as an International Baccalaureate (IB) School further increased the campus's academic stature and enhanced its program offerings.

Over time, the principals assigned to Yaeger had backgrounds that reflected the eras in which they lived. For example, prior to the desegregation of public schools, one of Yaeger's principals headed up the White Citizen's Council, which advocated for the preservation of racial segregation of the city's public schools, among other things. The principal who followed him understood her mission as one of making Yaeger "the closest thing to a private school that a public system could offer." Somewhat later was the principal who led the way when my research project on the campus began in 1997. An elementary school leader, she, like many others of her generation, had been strategically placed at a secondary campus "to connect students' lives with the content areas they were studying," as she worded it. She additionally was expected to bring the programs, faculty and students that effectively were operating as "two schools in one" into a unified whole. This meant that gifted-and-talented classes would no longer inhabit the top two floors of the building and that regular program youth and their teachers would assemble in bottom floor classrooms. It also meant that funding among students enrolled in different programs would become more equalized. Implications for teacher professional development were wrapped up in these changes as well. For example, the 'models of teaching' reform initiative earlier mentioned targeted gifted-and-talented teachers. However, the principal felt strongly that her entire faculty should be given the opportunity to participate in the professional growth experience. Hence, she created the conditions for every Yaeger teacher to be involved.

The same principal also seized the chance for T. P. Yaeger Middle School to be a lead campus in a major national reform movement when it set up a local office in the city. Some saw her as exhibiting "the shiny balloon" syndrome (a long-term teacher's metaphor)—always chasing new and better approaches. One of the latter innovations turned the campus into a charter school, which exempted it from following certain policies and procedures of the district's schools. The underlying reality of the situation was that this principal could not grow Yaeger in the direction the faculty wanted without either convincing the school district that all middle schools needed to make the same changes or accessing funding from external sources and working around school district protocols. The latter approach she learned—and others concurred —was "the path of least resistance." CFGs were one of the first changes she introduced to Yaeger on the Friday afternoons she had specially dedicated to teacher professional development. It was a major *fait accompli* for her to gain school district approval, arrange early dismissal for 1500 students, re-organize 26 bus schedules, and revamp the school timetable to make it possible for Yaeger's teachers to systematically study their practices within regular school hours.

When this much-loved principal retired, she left T. P. Yaeger Middle School in a position where it had more discretionary funding than it ever had had. Thus, the principal who replaced her—an internal appointment who was equally well-liked—was able to increase the array and heighten the intensity of the changes while enjoying the decision making liberties that the school charter afforded. At the top of his agenda were the reading and English programs in the school. The retirement of one teacher and the subsequent shuffling of remaining faculty allowed him to terminate the school's Accelerated Reading Program. Largely a teacher-proof curriculum, the packaged program no longer fit with how education was being conducted on the campus. The principal simultaneously was able to alter how English was taught by dislodging it from its content area moorings and replacing the separate English and reading specialties with the literacy designation. This resulted in a reconstituted literacy department filled with teachers who no longer exclusively taught English or reading but were responsible for students' overall literacy development. About the same time, interest in the readers' and writers' workshop approach to literacy instruction was burgeoning. After the department head of the newly minted literacy department and two teachers (eventually three) attended sessions in an east coast state, it was decided Yaeger would experiment with the approach through hiring a consultant they met at the sessions (Craig, in press). The consultant was to serve in an advisory capacity because the faculty had already agreed and subsequently had been permitted (under the previous principal's leadership) to "control… professional inservice…[using] the intelligence amongst [the teachers]…" One major vehicle to achieve the latter, as earlier suggested, was CFGs. Among these was a CFG group especially tailored to the needs and interests of teachers new to the profession. In some instances, teachers new to the building also participated.

Not inconsequently, another reform initiative—instituted by the new principal and popular throughout the school district—was also simultaneously introduced: PLCs (DuFour, 2001, 2004; DuFour & Eaker, 1998; Wood, 2007). Of his own accord, the new principal arranged for several faculty members to accompany him

to Las Vegas to attend sessions where they learned that CFGs—the teacher-driven approach to professional development birthed under the old principal's watch—were passé. At the workshops, they were told they needed to "get beyond CFG groups and make the jump to PLCs," which would operate within grade-level clusters and cross-grade departments, structures already in place at the school. Also, despite CFGs being rejected as "artificially imposed" groups, CFG protocols would be retained because they were understood to be "efficient and effective" ways for teachers to interact in PLCs. According to one assistant principal, it was administratively thought that Yaeger's shift to PLCs "would not be a difficult process… because [the faculty] was already living so many of the [PLC] tenets." Such things as "extensive collaboration among teachers, action and experimentation in classrooms, and constant improvement," for instance, were already solidly in place on the school's professional knowledge landscape. Hence, in Las Vegas, representative Yaeger faculty members witnessed their principal transform into a "PLC man"—a male leader who had changed from actively engaging in open inquiry alongside teachers and fellow administrators in a manner deeply appreciated by all, to one "who had the answers" and expected others to arrive at "those answers." When one teacher passed a note questioning the wisdom of abandoning Yaeger's productively functioning CFG groups, the principal scratched OUT on the scrap of paper, promptly returning it to its sender. For the individual, this signified that the principal's "mind shift" was complete—"CFGs [were] not need[ed] anymore…We had outgrown them" was the message with which he and others returned from Las Vegas.

Because it was impossible for all 85 faculty members to attend the out-of-state PLC seminars, those who did not participate came to know the change in leadership perspective vicariously in the school building, which increasingly became called the "schoolhouse." Phrases like "failure is not an option" began to trickle into the school's vernacular. And "persistent discomfort" became the principal's new "management strategy." Its oft repeated logic was that "discomfort helps people grow and learn…" While purposely creating friction in others' lives seemed to work for the leader (who reportedly was experiencing challenges in his own), it did not seem to work well for most Yaeger teachers. The general sentiment was that the teachers' daily sense of security had been "robbed." In fact, in their private moments, long-term faculty confided that they were "most creative" when they were "happy," not when they were "feeling discomforted," a further phrase bandied about. Although the teachers continued to hold their principal in high esteem and understood that he was not intentionally being malicious, they also recognized he was "a force to be reckoned with." So did others on the leadership team who admitted that they had attempted unsuccessfully to moderate his approach. Hence, for one reason and another, the principal wielded a great deal of positional power. Also, in stark contrast to the former principal who worked with people's idiosyncrasies to retain good teachers, the new Yaeger principal, according to one assistant principal, increasingly saw people as being replaceable. In other words, one good teacher could easily be substituted by another. Hence, faculty members began to "walk on eggshells" because word was getting out that "if you were not on board," the administrative response could likely be "we don't need you here anymore..." For example, prior to Anna Dean's employment at Yaeger, the literacy department head who favored readers' and writers' workshop had left the campus purportedly because she could not reconcile how the consultant's presence at the school adversely affected relationships already in place. Thus, the remaining Yaeger faculty members, as one long-term teacher explained, were not necessarily "people who whole-heartedly believed in the [workshop approach]." Rather, they were "people who just were better at weathering the storm, knowing what the [potential] outcome could be, and detaching their emotions so they did not blow up and say something they would regret." In short, they were "survivors"—as another long-term teacher phrased it. Such was the state of the professional knowledge landscape of T. P. Yaeger Middle School when Anna Dean initially joined the literacy department.

Learning to Teach in the Eye of a Storm: Anna Dean's Story
When she first was employed at Yaeger in 2004-2005, Anna discovered that other teachers in the literacy department had been assigned common preparation periods whereas she, a beginner and a newcomer to the school, had her preparation time scheduled in a different class period. This meant that the experienced literacy teachers had the luxury of intellectually informing one another's planning and teaching and she did not. It also meant that it was easier for them to develop and maintain relationships through these natural interactions. The veteran teachers had "track records and time," according to Anna. She had "neither." Words like "alone" and "isolated" punctuated her description of herself. On one hand, she felt "cut off from the rest." On the other hand, however, she was "determined to survive."

For Anna, it did not take long before she awakened to the fact that the literacy department was splintered in a number of ways. Having sensed it in her job interview, she became convinced of it in her early interactions with her new peers. For example, Anna came to know that one of her female interviewers was one of the two department heads and a friend of the principal. That teacher had been among the first three faculty members

who went to the East Coast state and had been an early adopter of the readers' and writers' workshop method. As for the second teacher, she was not a department head, but a relative of another strong literacy teacher who would become Anna's mentor. And that interviewer was not against the workshop approach per se. But the image she held of T. P. Yaeger Middle School, not unlike her relative and the majority of other faculty on campus, was that it was a professional knowledge landscape where teachers had "input and choice." Hence, she was willing to experiment with workshop strategies, but was less than comfortable with others decreeing Yaeger a "workshop school." Consequently, she did not think Anna, a beginning teacher, should be forced to make an early commitment. Instead, she hoped the workshop approach would grow on Anna—as it was growing on her—and that both of them—through free choice—would support readers' and writers' workshop.

These two individuals, to a certain extent, generally represented the spectrum of opinion in the literacy department. The female department head earlier introduced had at least one other teacher and the principal supporting her as well as the two assistant principals who followed the principal's lead. Meanwhile, the other female teacher, Anna's second interviewer, had her male family member agreeing with her and was overtly backed up by the second of the original workshop teachers and more quietly by the third original workshop teacher, both of whom were women. This left eight other people in the department: one being the second department head (male); another being Anna. Aside from the newcomers (Anna and two others), the remaining five individuals (four females, one male) loosely agreed with the larger group of teachers. But they (including the male department head) were reticent to say so. Being close to retirement, they did not want to risk being transferred to more difficult urban schools at this juncture of their careers. Also, the veteran teachers were seriously reeling from the fact that a highly accomplished teacher had been administratively reassigned the previous year—not because of student performance (her students' test scores were among the best)—but because she resisted how language development was addressed via the workshop method. Some teachers admitted to weeping when they saw their colleague who kept her own counsel trudge across the parking lot one last time. They felt badly that they could not interact with her or bid her farewell. Some additionally felt terrible about the new teacher in her second year of teaching who also had been removed (as well as another teacher transfer) because her progress was not as stellar as expected. In one person's words, that beginning person had also been "attacked, brought down, and kicked out." All in all, the remaining literacy teachers were experiencing significant loss. This unavoidably affected personal friendships and existing professional relationships as well as future professional relationships, particularly with newcomers to the profession and others new to the school milieu. One long-term Yaeger teacher summed up what happened this way:

> Teacher: The principal was in his PLC groove and he wanted us to be a workshop school. Whatever we would be would be school-wide and PLC-related.
> Cheryl Craig: Was that ever discussed with everybody?
> Teacher: Actually, it would not have been a problem, probably, it was the way it was done by forcing people…I think a lot of people would not have been disturbed by what is basically an idea…
> Cheryl Craig: So you would have been okay with it, but it was the forcing that was the problem?
> Teacher: It was the forcing. He wanted us all as a PLC on the same page on the same day. Because kids, particularly in the GT classes and in the regular program, are just not on the same page nor do they need to be. It's just been hard, very, very hard…
> As for Anna, she offered a slightly different spin on the situation:
> > … The principal may have been using [the staff developer] to weed people out who were not fitting his version of PLCs. ...Not that he didn't think the staff developer had a lot to offer, which she did. They were trying to make cookie cutters of us…

In addition to the East Coast sessions in which literacy department members regularly participated, Anna Dean came to know that the literacy teachers also received whole group instruction from the staff developer, had the staff developer conduct demonstration lessons in their classrooms, and taught lessons themselves. She quickly found herself in the same position as the more experienced teachers. As a teacher new to the profession, she, too, had her lessons critiqued by the staff developer in the presence of their principal, the two literacy assistant principals (all three of whom were the teachers' formal appraisers), her literacy department peers, me, and of course, her middle school students who inescapably were present. In such situations, she more often than not felt "sophomoric." Nevertheless, the staff developer advocated this approach because, as she publicly explained, it was the way she had been prepared. And the principal supported the approach because it fit "the results orientation" of PLCs as well as the school district training

in which he concurrently was immersed. Also, Anna learned that there was a beginning movement afoot in the school district to connect student achievement with teacher performance, a thrust that would not be problematic to those instructing Yaeger's GT youth, but could certainly present issues for teachers in the regular academic program like herself, whose classrooms were peopled with learners relatively new to the English language. Although these students' learning curves were mostly normal, their test scores had not yet met grade level standards, a development that would not bode well where teacher incentive pay was concerned.

Needless to say, having 20-50 "entourage" visits—made possible by the in-district school charter—perturbed the vast majority of the literacy teachers whose classrooms in the rambling historical building were much smaller than usual. Anna especially spoke of how "intimidating" it was to be told as a beginning teacher that she was doing the workshop "wrong" when she was merely trying to figure it out. It seems the school's "persistent discomfort" focus was especially "discomforting" her because it denied her the positive feedback she desired. Also, Anna observed veteran teachers—some being highly versed in the workshop method— buckling under pressure due to "performance anxiety." She even witnessed the staff developer biting at the heels of the literacy co-chair, telling him—in front of all the people assembled (including the school administrators and his students)—that his class "was the worst GT class" she had ever observed. In Anna's view,

> [The observation process] was really awful. They [the principal, the staff developer, etc.] just went after people. I felt guilty simply because I was there listening to it and thinking, "Gosh, I'm glad they are not going after me, if you know what I mean."
> But Anna was not the only one who felt this way. One of the original workshop teachers echoed her sentiment, stating:
> …when I went into other people's rooms, I felt so badly for them…It was embarrassing. What was being said to them in front of kids and other teachers…. Even if it was justified, I don't feel it was in the students' best interests. It diminished the teacher in front of the children.

That individual went on to stress what was particularly disturbing to her as an experienced classroom teacher. She explained that:

> …it was the way it was done with all of these people with clipboards and the microscopic way they came in and zeroed in on me with one child. And the children [particularly those who were English-as-a-Second-Language learners and possibly offspring of undocumented workers] were very nervous. And I could feel the tension from them and how they looked at me as their leader. And when they saw me starting to falter and be nervous, they also were upset…

As for the second of the three teachers who originally spearheaded the workshop method at Yaeger, she retrospectively observed that "the intensity [of workshop] went up ten-fold" and "we lost the fun in all the intensity—we lost what you work with people for."

A further strong advocate of readers' and writers' workshop was Anna's mentor who, as foreshadowed, was the relative of one of the female teachers who initially interviewed her. While not one of the original workshop teachers, he, as a Mexican American, was well-known throughout the region for the culturally appropriate ways he engaged at-risk Hispanic males in reading and writing activities. Despite him arguably being one of the most marketable teachers in a school district populated mostly by minority youth, he, too, was unable to disrupt the way readers' and writers' workshop was being implemented at Yaeger. In spite of his valiant efforts, he could not sway how teachers—including his relative, Anna, and himself—were imposed upon. While he possibly could have mentored Anna in previous years when he was personally less stressed (the question remains for Anna whether young, professional males and females should be paired in mentoring relationships), it was difficult—near impossible—for him in this situation with everyone else in the department experiencing upheaval and stress. In fact, Anna's mentor did try to intervene. When the second department head (the male one) distributed a ballot inquiring how the staff developer's time would be best spent at the end of the 2004-2005 school year, Anna's mentor agreed with the majority of others. So did Anna. Having the staff developer help the teachers with their curriculum overviews for 2005-2006 (instead of visiting their classrooms en masse with clipboards) was democratically determined to be the activity most appreciated. According to an assistant principal outside the literacy department, it was blatantly obvious that the literacy teachers were fatigued by the high stakes testing which had recently occurred and "road-weary" from all the workshop/PLC "visitations."

But the attempt to alter the agenda of the professional development session only served to raise the ire of the principal. From where the principal was positioned, it seemed that a "conspiracy" was underway to "hijack" the change effort in which he had poured massive amounts of time, effort and money. Further to this, he appeared to feel "betrayed" by the literacy department members on whom he had admittedly lavished much attention. Consequently, he used the power of his position to push his preference through. In response, Anna's mentor and some other teachers contacted the staff developer, claiming their "voices were not being heard" in the mix. When the staff developer presumably communicated their concerns to the principal, he became increasingly agitated, believing his positional authority was being usurped by the teachers' narrative authority (Olson, 1995; Olson & Craig, 2001) and their desire to preserve that authority through having their versions of their lived experiences heard. A consequence of this was "a showdown" between the literacy teachers and the staff developer with the administrative team present and in apparently full knowledge of what was going to happen. It was, as one long-time teacher explained,

> …so confrontational…[The] staff developer pretty much instigated it and from what I heard and saw, it was a mean and ugly thing, something that should not be happening in a professional setting…There was so much tension, I think everybody thought something was going to blow…

And erupt it did, as the same teacher continued her explanation of what happened:

> The staff developer tried to play up the tension to where the person could just, you know, blow the engines. I'm coming through. I'm going to do this come hell or high water. This is the way it is going to happen. And it just intimidated us so badly…the demeanor, the manner, the culture…what was said and how it was said…I didn't like being bullied like that…

Of course, one of the major points of contention was the "excessive" number of visitors/evaluators that each literacy teacher had had in their classrooms during the 2004-2005 school year. And where state law was concerned, it was clear: the veteran teachers, who were on a relaxed evaluation schedule, could have as few as one formal assessment based on 45 minutes of observation once every three years, not 20-50 class periods per year allowed by the charter—with formal appraisers present. As for the more junior literacy faculty (i.e., Anna), they were to be assessed a minimum of one time per year also based on 45 minutes of observation by their assessors. A related difficulty—one repeatedly stressed—was the fact that Anna, a beginning teacher (with hands gestured in her direction, nonetheless), had been subjected to approximately the same number of classroom evaluations as others and that she had been unable to participate under the same conditions because she did not have a common planning period with them. In the contentious meeting, Anna openly admitted that she was "drowning, drowning, drowning." And her mentor backed her up, saying Anna only received quick advice here-and-there in the hallways between class changes. When one experienced, but new-to-school teacher assessed the problem as being "like an onion with many layers… and that the faculty never seemed to get past the layers to address the core issues," Anna Dean and others pleaded that she cease talking. Having been urged all year to use her voice, that same teacher was now strongly advised—by a chorus of peers—to suppress it. The stark truth of the matter was that they feared her job—and theirs—were on the line.

Furthermore, the tensions in the literacy department did not disappear in the aftermath of the highly problematic staff development session. In fact, the acrimony escalated when the principal upped the ante by requiring the teachers to sign an oath to show their commitment to the workshop approach, and to confine knowledge of their struggles to the literacy department so that news of the discontent would not spread throughout the school context where other faculty members were increasingly becoming disturbed by what was happening and having their future employment opportunities threatened as well. Also, if the literacy teachers did not go along with signing the oath, they would no longer teach at Yaeger. In other words, if they did not comply with the principal's edict, the terms of the school charter would be further invoked and the literacy faculty members would have no other choice but to leave like "a parade of teachers" had previously done, as one participant worded it. The oath, according to another long-term literacy teacher, "kind of crept in…like Nazi Germany." To yet another experienced participant, what happened was "an emotional drama…[where] we were held under fire and ….muzzled. We had to sign…affidavits. We were ordered. It didn't feel professional at all."

In Anna Dean's first year at Yaeger Middle School, the campus lost five more literacy teachers: the onion-story faculty member, a special education teacher, Anna's mentor, her mentor teacher's relative (one of the teachers who initially interviewed her), and one teacher who personally chose reassignment rather than continuing to teach under such conditions. Also, one of the literacy department assistant principals resigned from her position as well, genuinely troubled by what had transpired and the accomplice role she was

perceived to have played in the melee. Further to this, the principal was promoted: he became a regional leader who would have continuing influence on—and power over—T. P. Yaeger in the years to come.

REFLECTIVE ANALYSIS

A number of themes available for reflective analysis are interwoven throughout Anna Dean's narrative of her first year of teaching. Among those themes are (1) different versions of teacher community, (2) shifting school landscapes| shifting teacher identities, and (3) the eye of the storm | the perfect storm. Each of these themes will be unpacked separately. The paper will then end with some closing remarks.

Teachers' Knowledge Communities | Professional Learning Communities

When Anna Dean enrolled in her teacher preparation program, she, like other preservice teachers, was generally introduced to PLCs (CFGs and Readers' and Writers' Worship as well) as 'best practices'—practices deemed to work for "every teacher, every learner, every time." Such practices were held up as universal solutions to school and curricular problems and prime vehicles to spearhead educational change. Such approaches were also typically presented as if nothing existed in teacher relationships or on school landscapes before they were introduced or as improvements to old models that had been previously implemented (i.e., PLCs touted as being able to accomplish what CFGs had not). Exemplary qualities of community that may have already been in place in professional relationships in schools like T. P. Yaeger tended to be attributed to initiatives grafted onto them by administrators and school reformers, rather than as inherent fruits of prime teacher interactions naturally occurring among members of the profession. No preparatory conversation was directed to the idea that PLCs were mere facsimiles: institutional proxies aimed at mimicking and replicating teacher knowledge communities, administrative efforts to institutionalize something that was already present and active but difficult to instantiate (bottle/trademark) in their current form. Stated differently, PLCs are nothing more than leadership attempts to make formal, visible and accessible human knowledge-using and creating relations that are, by their very nature, informal, invisible, and difficult to pin down due to the number of educators interacting inside and outside of school milieus and the overall social-historical-emotional-relational-intellectual complexities present on teachers' professional knowledge landscapes.

Readers learned that, when Anna arrived at Yaeger, she discovered, not by virtue of her formal education but through her personal knowledge carved through her experiences in context, that the veteran teachers had natural ways of interacting with one another when left to their own devices. She in fact witnessed these multiple knowledge communities at work. She saw how the teachers fruitfully used relationships with one another to support, improve and communicate the subtleties of their literacy practices. Anna additionally learned, as most beginning teachers do, that her isolation as a newcomer, aided and abetted by her less-than-ideal timetable, precluded her easy entrée to these communities. Another prohibiting factor, specific to Anna Dean's case, was the loss that veteran Yaeger teachers had experienced when a beginning teacher was not retained the previous school year. The fact that Anna's mentor was male furthermore may have denied her access to certain other literacy department associations. Despite all of this, Anna Dean was astute enough to recognize that these communities of knowing were something she wanted to tap into, having already figured out that I, too, could be a knowledge community for her, albeit a different one.

Anna also witnessed the Yaeger teachers' rebellion when PLC parameters were used to dogmatically direct and control what happened in their professional associations with one another and in their face-to-face teaching of students in their classroom milieus. It seems the administrative overlay of the PLC imperative seriously interfered with the teachers' naturally occurring knowledge-using and knowledge-creating relationships, replacing the productive collegiality and natural collaborations that organically existed among faculty with intense feelings of suspicion and distrust. "The inorganic combo," in Anna's words, "made [everyone] scared—especially [her]. People did not know their colleagues any longer…No one knew who would tattle on whom…" She witnessed how hierarchal power was used to advance the administrative agenda—even while losing some of the ablest, most prepared faculty. Also, in the background was the charge that PLC proponents leveled at CFG groups, which was a criticism that could equally be extended to PLCs. Whereas Yaeger's CFG initiative harnessed the intellectual energies of willing teacher participants, involved beginning teachers in relevant ways, and provided all teachers with open-ended processes they could generatively use, PLCs, as implemented at Yaeger, were undisputedly under the principal's thumb. What became sanctioned as good practice was what administration preordained as good practice. Beginning. Middle. End. Other gainful approaches—even those resulting in outstanding standardized test scores—were outlawed.

Shifting Landscapes | Shifting Identities
When Anna Dean came to Yaeger, she entered a professional knowledge landscape that was in rapid transition. Whereas the previous principal had cultivated teachers who put their personal stamps on their practices and were praised for their individual signatures, the current principal favored a "cookie cutter approach" (to borrow Anna's phrase) to both teacher and program development. Consequently, certain teachers whose practices had been "golden" during the previous principal's tenure were risking expulsion under the present principal's leadership. Some who had been complimented for being "voiced up" had basically been told to "shut up." Anna herself had been issued this warning by colleagues and school leaders alike. Most certainly, teacher professionalism and leadership were under serious attack at Yaeger. Paradigmatic change was underway—and community was the guise in which it was dressed. But fundamental questions remained: Whose version of community? What implications for teacher identity are couched in different conceptions of community living? And, how do comfort and/or persistent discomfort spur or stymie individual and community growth?

As an impressionable beginning teacher, Anna was assigned a mentor whose reputation as a literacy teacher was sterling both inside and outside the school context. Over the year she worked alongside him, she saw how his sense of security was challenged and how his professional voice as an expert educator was stifled. She witnessed his job satisfaction turn into ferment, eventually giving way to his personal decision to transfer from Yaeger. Anna also observed how the teacher from her job interview panel trembled and sobbed over the multiple classroom visitations and the less-than-complimentary utterances during and after the observations. Further to this, Anna heard stories of how former beginning and experienced teachers had also had their practices "halved, quartered, and divided" (a Southern U.S. expression) with their peers and students serving as eyewitnesses. In these instances as well, she saw experienced teachers' productive 'stories to live by' (Clandinin & Connelly, 1999)—that is, their identities in the making—becoming 'stories to leave by' (Clandinin, Downey, & Huber, 2009). Here, too, implications for beginning teacher identity formation also arise. Most specifically, should Anna, the newcomer, compose her 'stories to teach by' using the strong narratives of those who moved to other schools, willing to stand up for what they believed in, or should she choose as narrative exemplars the tales of those who remained at Yaeger and silenced desires they held for their students and themselves in order to retain employment? And what particular experiences—and the ways in which they were responded to—contributed to the morphing of teachers' stories of staying into teachers' stories of leaving? To which career markers should beginning teacher, Anna, specifically be awake?

The Eye of the Storm | The Perfect Storm
Anna Dean's narrative is chronicled through the extended lived metaphor (Lakoff & Johnson, 1980) of 'learning to teach in the eye of a storm,' an unprompted comparative frame around which Anna's beginning teaching experiences cohered for her. The metaphor Anna lived in her first year of teaching exemplified how her experiences unfurled in somewhat of an insular fashion at the eye, while persistent discomfort swirled around her on the storm's periphery. But as the tumult on T. P. Yaeger's professional knowledge landscape gained speed and intensity, she increasingly found herself at the vortex, embroiled in issues veteran literacy department colleagues also experienced. Like all storms, the turmoil at T. P. Yaeger Middle School involved multiple forces, created human destruction, and was watched in a spectator fashion by those given no option but to helplessly observe. In fact, what transpired at Yaeger could be considered a perfect storm—with all of the weather conditions for a nasty situation present inside the school milieu—thanks to the charter's less benevolent application—and equally evident outside of it—with demands for accountability, standardization, and value-added assessments of teachers' worth gaining momentum and afforded highest priority.

CLOSING STATEMENTS
Anna Dean's self-selected 'eye of the storm' metaphor also aptly portrayed the research process I lived as an embedded, collaborative researcher. When this study first began in 1997, I could not have predicted the events that would have unfolded at Yaeger. Neither could I have imagined the fate of some of Yaeger's strongest faculty who would move on to become teacher leaders at other district schools or in other school districts. Also, I would not have thought that the ravage would be tolerated by the faculty—out of trepidation—and by the school district—due to the enormous disconnect between the ubiquitous system and what actually happens to flesh-and-blood teachers and students in real-world schools. Most of all, I could not have fathomed the dwindling respect for teacher professionalism and the lack of a constructive presence of professional organizations working on teachers' behalf.

Thankfully, storms on the professional knowledge landscapes of schools do not only break, lash, hit, and blow. They also abate, subside, and pass. But then other storms can mount, following quickly in the path of those that came before. Anna Dean's tenure at T. P. Yaeger Middle School continued for four additional years. Weather reports further illuminating her 'eye of the storm' narrative are in the offing.

> *Living, telling, retelling and reliving [stories] mark the qualities of a life…, a [paper] on narrative inquiry, one reflective of this ongoing quality of life, simply stops at some point or when the author…say[s] enough is enough…at least for now… (Connelly & Clandinin, 2000, p. 187).*

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306 - Chinese Teachers' Perceptions of Professional Development: Findings from Ongoing Research

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Abstract: This article investigates Chinese teachers' professional learning and development. It analyzes the factors that hinder or facilitate their professional learning and development such as school culture and leadership. Data were gathered through a questionnaire (n=493) with beginning and experienced teachers in Jiangxi Province, middle China. Findings suggest that Initial Trainning and In-service Education are undervalued and they support the importance of observation of colleagues' teaching and teaching practice.Learning is view as a practical and trial-and-error process and reflecting upon one's own practices emerged as one of the most difficult features in professional learning. Poor school leadership and staff are not encouraged to participate in school activities emerged also as key issues from the data. The school culture and relationship perceptions however are not so bad as school leadership perceptions. Heavy workload, scarcity of resources, lack of time are the top three reasons that hinder teacher's professional learning and development

Keywords: professional learning, teacher professional development, school culture

INTRODUCTION

There has been a long research history for the teacher professional development in China.The most famous educator in ancient China named Confucuis, Confucius has rich and deep thoughts about teacher professional development. Such as"To commit knowledge to memory quietly, to study tirelessly, and to enlighten others indefatigably — these are not difficult for me." "If one can have new inspiration by reviewing what he learned before, he is qualified to be a teacher.". "Teaching benefits teachers as well as students. "Confucuis' research about teachers' professional learning and development has profound impact for Chinese till today.

The research of Teacher professional development has stopped for a long time since then, the widespread research in modern China has begun from 1980' and has gained more and more attention of researchers,policymakers, teacher educators. According to the Teachers Law issued in 1994(Law number 1/3, 1 January), Teachers are professionals who exercise the functions of education.This is the first legal confirmation to view the professional status of teachers. According to the Regulations on the Qualifications of Teachers issued by Chinese government (1995) and Regulations for Implementation of Teacher Qualification issued by the State Education Commission(2000), Regulations for implementation of teacher qualification has begun all over the country.In the beginning of 21st, Chinese government has begun to use the conception of teacher education, and put forward the task of how to promote the teacher professional learning and development and take it as the main direction of Chinese teachers education reform of development.

Teacher professional development were written from different instances by Chinese educators. Some educators deemed the growth of teacher professional development has experienced four phases as follows: begnining teachers, Qualified teachers, key teachers, professional teachers(Zhong, 2001). Chinese educator said the professional teachers are the highest stage, it is the marks of the teacher has become action researchers.From 1990', teacher professional development community has begun from the New Curriculum Refrom (Shang,2005; Wang, 2010; Ling, 2010). There are three administrative levels including four modes, such as collaboration between school inspectors and teacher (lesson-dicussion mode), collaboration between university and school (subject-research mode), collaboration between teachers in the same school (based-school-research mode and prepared-for-lesson-together mode(Shang,2010). School-based curriculum is another Important areas of research of teacher professional development (Zhao, 2010; Song, 2007; Liu,2005). The most popular conception of teacher professional development was described as three stages: Pre-vocational education, in-service learning, post-job training.

METHODS

The Pre-vocational education is the education for the begnning teacher, this paper is part job of an onging research of begnning teachers. Data were gathered through the Questional on Teacher Professional Learning and Development(QTPLD). To capture the data,the questionaries were carreid out in Nanchang City and Pengze County of Jiangxi Province, in middle China; Nanchang is a middle-level city and Pengze County is a poor country area in China. The schools were selected on the basis of typical Chinese criteria: type of school (rural,inner-city,and suburban) and level(top, common,). With the rapid development of its economic development, Chinese teacher education has made big progress. Nowdays, most of Chinese teachers not only in city inner-city but also in rural and suburban areas, most of teachers hold permant positions, and the delopma has also improved greatly.700 QTPLD questionaires were sent randomly to 18 middle and primary schools. Only 493 quesionaires are useful, many teachers take a negative attitude to the investigation. They claimed no interest, no time.

FINDINGS

Table 1: Contexts of Profssional Learning(%)

ITEMS	Strongly agree	Agree	Disagree	Strongly disagree
a)My professional learning occurred (or occurs) in isolation based on private practical teaching experiences in the classroom.	26	69	5	0
b)My professional learning occurred during my teaching practice/professionalisation.	24	71	5	0
c)My professional learning occurred during my Initial Teacher Training.	3	20	71	6

The vast majority of the respondents(n=493) claimed their professional learning did not took place during their Initial Preparation (77%), most of respondents agreed the importance of teaching practice(95%). Teachers claim their learning occurin isolation based on private practical teaching experiences in the classroom(95%) [Table 1, a, b, c] .

Table 2: Teachers' Views of Professional Learning (%)

ITEMS	Strongly agree	Agree	Disagree	Strongly disagree
a)Professional learning is a social process which is influenced by the norms and values of the workplace.	6	36	56	3
b)Professional learning is an idiosyncratic process depending on one's own personal biography.	20	68	11	1
c)Professional learning is a practical process depending on the educational settings in which teachers work.	33	65	2	0
d)Professional learning occurs according to a trial-and-error procedure.	64	35	1	0

In Table 2, teachers regard learning is view as a practical (98%) and trial-and-error process (99%) and reflecting upon one's own practices emerged as one of the most difficult features in professional learning.

In Table 3,scope of professional learning, most of Chinese teachers agree with the scope of professional learning all stated in Table 3.

Table 4 shows the process and the preferences of learning of new(less than three years of teaching) and more experienced teachers. Teachers stated that they learned continuously by analysing students' reactions in the classroom, by trying out new strategies in the classroom which they have devised, and by observing their colleagues teaching. [Table 4 e, m,b and d]. Learning by attending conferences and seminars, attending in-service education courses were valued less by the respondents.(Table 4 k and q). Also, attending in-service education courses was not a major process from which teachers learned(Table 4,i). Poor school leadership and staff are not encouraged to participate in school activities emerged also as key issues from the data(Table 5). Heavy workload, scarcity of resources, lack of time are the top three reasons that hinder teacher's

professional learning and development.

Table 3: Scope of professional learning （%）

ITEMS	Strongly agree	Agree	Disagree	Strongly disagree
a)Professional learning is about the acquisition of the technical knowledge and skills required to be a teacher.	27	70	3	0
b)Professional learning is about the capacity to develop classroom-related teaching strategies.	25	70	5	0
c)Professional learning is about the ability to make sense of classroom events.	15	70	15	0
d)Professional learning is about the capacity to solve problematic situations.	12	72	16	0
e)Professional learning includes the analysis of teachers' own beliefs and images of teaching.	15	70	14	1
f)Professional learning is about the ability to make decisions according to the context.	16	78	6	1
g)Professional learning is about the capacity to analyse and reflect on the aims and values underlying one's own action.	16	79	5	0
h)Professional learning includes the capacity to analyse and reflect on the aims and values underlying the institutions in which one works.	19	64	17	0
i)Professional learning includes the capacity to investigate and reflect upon one's own practices.	33	66	2	0

Items	Mean Score	SD	Rank
a) Heavy workload	2.35	.816	1
b) Personal problems	2.89	.813	4
c) Classroom conditions	3.16	.881	9
d) Lack of motivation	3.12	.823	8
e) Working conditions at school	3.08	1.585	7
f) Lack of guidance and support	2.93	.845	6
g) Scarcity of resources	2.44	.921	2
h)Lack of provision of relevant courses or opportunities	3.20	.815	10
i) Lack of time	2.62	.771	3
j) The isolation in which I work	2.90	.810	5

5-point scale: 1=nearly always, 2=often,3=sometimes felt, 4=rarely felt,5=is not relevant
Table 6 Mean Scores, SD and rank order for factors hindering teachers' learning and development

Items	New Teachers			Experienced Teachers			Over all
	Mean Score	SD	Rank Order	Mean Score	SD	Rank Order	Mean Scores
a)I learn when I read professional books and articles.	1.51	0.535	7	1.5	0.554	5	1.50
b)I learn when I try out new strategies in the classroom which I have devised.	1.37	0.593	5	1.3	0.473	3	1.33
c)I learn when I listen to my colleagues' experiences.	1.98	0.561	11	2.02	0.524	9	2.00
d)I learn when I observe my colleagues teaching.	1.41	0.494	6	1.41	0.493	4	1.41
e)I learn when I analyse my students' reactions in the classroom.	1.22	0.443	2	1.20	0.443	1	1.21
f)I learn at unpredictable times.	2.28	0.546	13	2.32	0.596	13	2.31
g)I learn at regular intervals.	1.92	0.587	10	2.01	0.647	8	1.98
h)I learn continuously.	1.52	0.535	8	1.62	0.602	7	1.58
i)I learn when I attend in-service education courses.	2.58	0.692	15	2.57	0.668	15	2.57
j)I learn when I attend courses where there is enough time to master new knowledge and strategies and to put them into pratice in the workplace.	2.74	0.698	17	2.67	0.673	17	2.69
k)I learn when I attend conferences and seminars.	2.47	0.679	14	2.48	0.662	14	2.48
l)I learn when I attend courses or meetings which provide me with new teaching strategies that I can use in my classroom.	2.15	0.573	12	2.18	0.583	11	2.17
m)I learn when I reflect in practice (during the decision-making process).	1.19	0.405	1	1.25	0.466	2	1.23
n)I learn when I reflect on my own practice (a posteriori).	1.33*	0.506	3	1.44*	0.516	5	1.40
o)I learn when I reflect about the context in which teaching occurs.	1.37*	0.508	4	1.51*	0.519	6	1.46
p)I learn when I share experiences with my colleagues.	1.89*	0.635	9	2.05*	0.672	10	1.99
q)I learn when I participate in the organisation of a course or project at school level.	2.61	0.597	16	2.61	0.5822	16	2.61

4-point scale:1=very important,2=fairly important,3=of little importace,4=not important

*p<0.05,**p<0.001

Table 4 Mean Scores and SD of items of processes of learning of new and experienced teachers(more than three years of teaching)

items	URBAN(n=212)		SUBURVAN(n=137)		RURAL(n=144)		Overall
	Mean Score	SD	Mean Score	SD	Mean Score	SD	Mean Score
a)In general there is a supportive climate in my school.	2.12	.584	2.35	.648	2.45	.635	2.28**
b)There are effective working relationships among staff.	1.93	.555	1.99	.500	1.90	.512	1.94**
c)There are collaborative opportunities between the school and other local institutions.	2.70	.661	2.96	.468	2.90	.498	2.83**
d)In general teachers work together within my department.	2.08	.479	2.12	.455	2.22	.620	2.13**
e) There is collaborative planning within my department.	2.53	1.487	2.39	.573	2.63	.746	2.52**
f) There are adequate resources to respond to professional needs.	2.15	.602	3.11	.590	3.26	.687	2.74**
g)In general teachers reflect on students' achievements.	1.89	.530	1.99	.485	1.91	.541	1.92**
h)There are opportunities to discuss the process of curriculum development, namely regarding curriculum 'flexibilisation' and 'alternative curricula' within my department.	2.71	.621	2.79	.561	2.72	.573	2.74**
i)In general staff engage in site-based innovative and school improvement processes.	2.99	.732	2.92	.642	2.84	.686	292**
j)Staff are informed about school policies, events and projects on a regular basis.	2.24	.562	2.26	.532	2.40	.702	2.29**
k)Staff are encouraged to plan and implement curriculum projects.	2.90	.741	3.07	.495	2.94	.617	2.96**
l)The headteacher/executive council involves all staff in discussions about curriculum development.	2.99	.588	3.11	.432	2.92	.597	3.00**
m)The headteacher/executive council involves all staff in discussions about professional development.	2.96	.579	3.06	.416	2.90	.583	2.97**
n)The headteacher/executive council encourages me in my professional development.	2.67	.627	2.80	.608	2.67	.688	2.71**
0)In general teachers reflect on their curriculum practices within my department.	2.02	.389	2.01	.374	2.10	.623	2.04**

4-point scale:1=very important,2=fairly important,3=of little importace,4=not important

*p<0.05,**p<0.001

Table 5 Mean Scores and SD of items of urban,suburban and rural schools and overall means and SD

CONCLUSION

There is neither law nor any kind of formal ITT course in China for teachers, teachers has no conception of ITT. There has been a long tradition in China that beginning teachers were cultivated by experienced teachers, so teaching practice is very important in China.The reflective teaching also has an uncomparative position.

The phenomenon of exam-oriented education is still very serious in both primary and middle school in China. With the One-Child Family Policy and improvement of living condition, students are trained even from the kindergarten.So the workload and pressure for teachers is very high,they lack of time to pursuit of their professional development.Teachers are not lack of relevant courses or opportunies,classroom conditions and motivation are also undervalued.

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311 - Teaching and Teacher Training: A Vicious or Virtuous Circle?

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INTRODUCTION

The professional aspect of teacher training is in the core of a more general context of teachers' work. Undoubtedly, one of the most marking aspects of this work's conditions, as cause and consequence of many problems, is its insertion in a career framework.

At which point of this framework are teaching careers? What would indicate their level of professionalization compared to other careers? What consequences for the teaching work may be anticipated from this relative position of teaching in the general career framework? Let us examine this situation from the Brazilian viewpoint, trying to compare it with other realities.

PROFESSIONALIZATION IN BRAZIL: GENERAL AND SPECIFIC ASPECTS

The thematic approach of professions becomes more relevant as modern society proves professionalized. According to Barbosa (2007), "professionalism may be considered the modern way to organize social inequalities". What happens, as stated by the same author, is that professions become social groups – professional groups – with great capacity to organize social relations; this capacity starts to influence the world's structural and hierarchical organization as a whole[88]. This arrangement makes professionalization a tool for social mobility, because "professionalization is the collective project of social mobility that eventually guarantees monopolies on service provision and certain privileges in the occupational structure" (Bastos, 2004, p. 57). Professional hierarchization is the peculiar manner to organize these inequalities (Larson, 1997). Therefore, the existence of a rigid career hierarchy reflects the unequal conditions surrounding the exercise of occupational privileges and monopolies.

In the Brazilian case, we may talk about a State constituted by professional groups. Beyond physicians' universal and everlasting prestige, the State's formation and maintenance may be associated with the support by two groups: lawyers in colonial Brazil; engineers, indispensable to the movements of industrialization; and again, lawyers, in the transition to the third millennium, within the judicialization of social relations (Barbosa, 2003, 2007).

The case of lawyers is illustrative. Although higher education has not occupied the central position it took in the 19th century in Europe and the United States, university graduates were decisive actors in the construction of the Brazilian national State. Especially significant is the contrast between the importance of Brazilian founders, predominantly jurists, and the weight of the military in the foundation of Ibero-American countries. José Murilo de Carvalho (1980) evidenced, when studying the political elite of the empire, our legal formation initiated at the University of Coimbra, making up the first generation of statesmen, as the essential ingredient of the Brazilian mandarinate. Possibly, there was, from Coimbra to Brazilian law schools, an internalized process of constitution and replacement of the mandarin network, efficiently continued during our whole history. Nowadays we still may observe the predominance of Law graduates in the Brazilian political administrative representations.

Such a circumstance does not go unnoticed by students. For 80% of university graduating students in 2003 and 2004, "undergoing professional training is the main contribution of the course. That is, students attend higher education in search of a profession" (Ristoff, 2006, p. 91).

As a result, between 2002 and 2009, the estimated number of people with a university degree in Brazil according to the PNAD changed from 6.9 to 12.2 million. It represents a 74.8% increase, what corresponds to almost 750 thousand new graduating students per year. The highest increase was observed among women; in the category color, among blacks and mixed-race people.

By career, the highest increase was that among teaching professionals with higher education degree. They were 1,076 million in 2002, and changed to 2,096 million in 2009, a 94.7% increase. In total, 80% of these professional taught elementary school. This increase is explained by the high number of elementary school

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[88] Social marker of great importance, for example, to presentation rites in society.

teachers who graduated in this period. In 2002, there were 2.7 million teaching professionals, 46% of them with a university degree; in 2009, there were 3.7 million, 61% with a university degree.

In that period, income differences due to schooling decreased, but attaining higher education still means to earn 193% more than average, compared to 173% in 2002. The advantage of people who have a university degree over those graduated at high school was three times in 2002, against 2.8 times in 2009 (income of all works by people over 18). Income varies among the several occupation groups with higher education, but differences in relation to those with no degree are very significant. The average income earned by teaching professionals with a university degree is R$ 2,022.00, a difference of 59%. For professionals of the exact sciences and engineering, it is R$ 4,375.00, a gain of 117% (Schwartzman 2011).

Even with all those advantages, disparities in the salary return of careers stand out. It is a matter of concern to us in so far as we worry about the working conditions of education professionals.

HIGHER EDUCATION, PROFESSIONALIZATION, AND CAREERS

As salary differences among careers stand out, there is another related point to be discussed: higher education is the field of professionalization, par excellence. Professions, in turn, are divided according to their institutional character, organization, political weight, social prestige, etc. Each one of them will fall into a corresponding pattern of social, economic and symbolic profitability.

For that reason, we cannot ignore the fact that the respect achieved by bearers of university degrees brings internal distinctions, translated into career hierarchy. Taking higher education as the constituting and safekeeping field of professionalization and profitable titles in the economic, social and symbolic market, we understand that any investigation about it must be careful to avoid generalizations. Thus, we did not conceal the selection of courses in our study; quite the opposite, we privileged it.

The more or less generalized context of devaluation experienced by teaching-related careers is a source of worry, because it constitutes cause and effect of a lot of difficulties related to teacher formation, in a kind of vicious circle. Accordingly, the low perceived status and the low remuneration rates of these careers, usually lacking professional associations that may strengthen them, conform to the inadequate job supply for present and future teachers. Inequality between these and other careers is considerable and extends over time. Many of the problems experienced in the daily process of teaching training and practice – despondency, shortage of material and academic resources to complete a course, limited political bargaining power – originate in this field.

The social effects of these careers' lowliness have been easily observed in Brazil: elementary school teachers with a university degree earn less than the average population with similar instruction level. Considering teachers with no university degree, the salary average is inferior to that of the total population, according to tables from the 2006 PNAD (Salário, 2008). Probably related to this fact, we may verify a shortage of almost 250,000 teachers at Brazilian public schools, taking into consideration the needs of middle and high school in Physics, Chemistry, Biology and Mathematics (Faltam, 2007). One cannot say that these teachers do not exist: an unpublished study by the Ministry of Education (MEC) demonstrates that except for Physics and Chemistry, there are more graduates than necessary to teach all the classes wanting teachers. The survey claims that there are enough graduate teachers to meet the demand, but they choose other jobs (Falta, 2007).

This external aspect of unprestigious careers attained by teacher education programs has a counterpart inside post-secondary education institutions, where these courses also lack prestige. Comparing facilities, number of professors per student, the hours when the courses are offered, and research grants, there are hierarchical distances among schools within a university. In a debate about democratization of the campus held by INEP, one of the lecturers affirms: "university decision-makers are internally investing more in courses chosen by the elite. Wise investments, though, are not made in courses joined by the poor" (Santos, 2005, p. 83). On the other hand, a Chemistry student of an evening course at UFMG stated about that point: "UFMG conceals the fact that there are no serious initiatives for the promotion of social inclusion. In the evening there are no speeches, seminars, courses. Our formation is restricted to the core curriculum. Libraries are close and I have difficulty in borrowing books. Everything is much more difficult" (REDE, 2006).

The social composition of the different courses reflects and nurtures this hierarchy. From the entrance examinations to the exams that reveal the profile of graduating students, what stands out is the influence of social condition on the distribution of courses and their regular attendees.

STUDENTS' SOCIOECONOMIC PROFILE, CAREER, AND PROFESSINAL DESTINATION

Nogueira (2005) shows the several aspects of career choice in school trajectories: "[...] the choice of an undergraduate course may be described as the result of a set of perceptions (beliefs and values explicitly fostered or tacitly cherished as practical knowledge) that one holds in relation to himself and the acting

environment" (p.11). The correlation between "social place" and individual perception supports the occurrence of self-selection in the choice of an undergraduate course, joining the objective and subjective dimensions of reality.

In order to face this problem we must ask what kind of profile, in socio-economic terms, has teaching attracted. May one think of recruitment in close affinity with vocational perspective? What bargaining power as a professional category would these professionals have to use in keeping monopoly and privileges that guarantee respect for their career? Which position inside universities is occupied by teacher training courses in relation to funds, symbolic expression, and input? To discuss this subject, we conducted a study that deals with career hierarchy in higher education, the socioeconomic profile of undergraduates of some careers related to teacher formation, and the position of these careers in the Brazilian university context. The selected careers were Language and Literature, Mathematics, and Biology, courses that traditionally form teachers and reflect three great knowledge areas, in a time series.

For the purpose of conducting this study, we made use of micro data from the "Provão"[89] (a test for undergraduate students, which evaluates higher education in Brazil) in a time series from 2000 to 2003. This series could not be enlarged because in 2004 the system to evaluate higher education changed, with the conduction of an exam that adopted another methodology (the National Exam of Students' Performance – ENADE). The "Provão" was taken by all undergraduates, together with a socio-economic questionnaire.

From that questionnaire we selected some indicators that literature considers advantageous in the schooling process: parents' titles, income, occupation status, school of origin, color, and marital status (Foracchi, 1997; Martins, 2006; Schwartzman, 2000). The examination of these indicators' behavior in each career compared with all the others present at the "Provão" in those years started to guide the study.

We called the group of those other careers "General". In 2000, the "General" category comprised the following courses: Management, Agronomy, **Biology**, Social Communication, Law, Economics, Engineering, Physics, **Language and Literature**, **Mathematics**, Medicine, Veterinary Medicine, Dentistry, Psychology, and Chemistry. In 2001, it included all those and also Pharmacy and Pedagogy. In 2002, Architecture, Accountancy, Nursing and History were added. In 2003, it had all the previous and Speech and Language Pathology, and Geography.

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he evolution of some of these indicators is presented in the following Table.

Table 1 – Economic variables, by career and "General" group – 2000-2003

YEARS	Groups/Careers	White	Higher Education		Does not work	School of origin
			Father	**Mother**		**Private**
2000	General	**80.17**	**30.13**	**24.34**	**31.64**	**43.18**
	Language/Literature	70.64	9.65	9.95	20.70	20.77
	Mathematics	73.19	8.39	8.90	18.77	18.63
	Biology	74.06	19.82	17.79	37.08	33.22
2001	General	**77.48**	**26.74**	**22.68**	**30.55**	**39.69**
	Language/Literature	68.98	8.93	9.80	19.66	20.56
	Mathematics	67.10	8.13	9.30	17.43	20.03
	Biology	71.53	19.02	18.30	34.56	33.28
2002	General	**76.10**	**24.55**	**21.49**	**28.48**	**35.18**
	Language/Literature	69.85	9.50	10.26	19.09	18.97
	Mathematics	64.37	7.68	9.40	18.41	17.70
	Biology	71.49	20.06	19.37	35.13	33.34
2003	General	**72.68**	**24.05**	**21.95**	**28.27**	**35.03**
	Language/Literature	62.89	9.38	10.73	20.32	19.66
	Mathematics	61.91	7.91	9.92	19.60	17.94
	Biology	70.24	22.31	22.34	36.43	35.81

Source: Micro data from Provão (drawn by the author)

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[89] Provided by INEP in CD-ROM on request or downloaded from the site. The database was set up in SPSS.

The three selected courses are more socially unfavored than those of the "General" group. There are **fewer** students who are white, single, have undergraduate parents, come from private secondary schools, and have high family income – in the teaching careers than in the "General" group.

Later we examined the evolution of data over time, observing a pattern of stability in all indicators, not reflecting alterations of socio-economic profile in the courses. It is important to highlight that the studied years correspond to a moment of higher education expansion, with increased enrolments, what could have changed the socio-economic profile of undergraduates in these courses.

TEACHER TRAINING "FROM THE INSIDE"

Would this whole previously described asymmetric situation be reflected inside the institutions of higher education? This is what we are discussing next. The observed vicious circle establishes a reality in which the equation terms denouncing inequality are responsible for nurturing it.

As we have seen, low social prestige and low rates of remuneration in some careers – lacking representative associations that may strengthen them – conform to the inadequate job supply for present and future teachers, inside and outside the courses that prepare them.

One must remember, as a comparison, the situation of careers counting on strong professional associations: Medicine – the Federal and the Regional Councils of Medicine; Law – the Brazilian Bar Association; Engineering – the Federal and Regional Councils of Engineering; Management – the Federal and Regional Councils of Management. These associations may strengthen their careers at institutional, salary, symbolic, political and market levels. Besides, courses in these areas may open, close or expand according to what these entities express, what guarantees restricted access to the profession. For example, according to decree 5773/2006, the creation of courses of Law or those of Medicine, Dentistry and Psychology must be submitted to the Federal Council of the Brazilian Bar Association or the National Council of Health. Accreditation and accreditation renewals, according to the same decree, imply not only the considerations of these associations, but, under article 37: "in the case of a course corresponding to a regulated profession, the Secretariat will establish a limit of 60 days for the profession regulation organ, of national scope, if willing, to offer data for the Ministry of Education's decision. Meanwhile, however much active teacher unions are, there is no equivalent action or existing legal basis in our country.

We must consider another aspect of the problem, concerning the interior of institutions. Could we think of an environment, opposite to the professional-corporate and business scenario, in which the several courses integrated, in equal conditions, inside university? Unfortunately we do not, and for a historical reason.

Quoting Anísio Teixeira (UFRJ, 2007), "because schools were created as isolated institutions of professional education, they tend to keep, even when integrated at university, their loyalty towards the school, not towards university" (p. 12). Then, a poor sense of solidarity among courses is fostered. Inversely, competition for resources and benefits, and no common identity, seem to be the historical mark of Brazilian universities. In this case, the law of the jungle prevails: the more fragile courses are (even the founding courses such as teacher training), the more fragile they will remain inside institutions.

This point of view is shared by Darcy Ribeiro: "from there comes the structure of these universities established as federations and professional schools, not only autonomous for their independence from university, but also, stuck in their isolation, including because of the hostility among them" (Ribeiro, 1975, p. 39). A seriously contradictory aspect is shown: the system does not materialize as **uni**versity, but uses the socially valued image of university. Denying this would mean despising Lessa's serious advice:

> The exercise of self criticism is mandatory; at the same time, the perception of University as a non-Euclidian mirror of the Brazilian society (...) University internalizes, enlarges and sometimes distorts general problems of Brazilian life. The academy reproduces nation's virtues, potentials, blemishes, limitations, idiosyncrasies, and vices. We need to stop saying we are good, misunderstood, and victims of injustice; that our problems come from lack of resources. There is more than a grain of truth here, however we must admit there is no reason for us to be an island of happiness (Lessa, 1999, p. 29).

What seems more serious, in this case, comes as a final question: how much of this inequality is daily nurtured by higher education institutions? How long will the academy hold inside it so deep inequalities of treatment, investment and care among careers?

It is true that these inequalities will not be overcome except by means of **revaluation of the teaching career** at political, symbolic, salary and professional levels.

FINAL CONSIDERATIONS

The investigation concluded that there is an internal hierarchy among careers in Brazil, revealing its effects in symbolic, intra institutional, employment, salary, and corporate terms. This scenario has persisted over time, without the entry of new profiles in teaching careers, traditionally addressed to low-income students. The study also showed how this profile is still regarded as inferior compared to those of other careers; it is necessary to bring value back to teaching careers at political, symbolic, salary and professional levels as a way to break this vicious circle. A question remains: would this picture repeat itself in other countries? What can we learn with them?

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312 - Teachers-researchers: Between what they think and what they do

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Abstract: Regardless of the educational policies of each country, there are good teachers in every continent. There are reports of successful practices in various countries and viable means to share experiences among teachers, although there might be problems in each educational system. However, the qualitative improvement of professional work in Education seems to go further when there are collective actions by the teachers. Public policies can encourage such actions, but it depends on teachers who in fact understand the idiosyncrasies of their own work. Teachers need to organize themselves in the social-cultural context dynamics in which they work and thereby continuously develop their professional competence. Thus, the most common challenges for teachers are breaking the individualism of their own actions and collectively enhance the conditions of professional practice. And if good teachers are breaking the individualism of their actions and working together, the expectation is that the very understanding of their collective work is likely to provide a path for advanced practices. Therefore, the objective of this study is to identify the knowledge produced by teachers who share a collective perspective of pedagogical work, and research their own professional practice. It is an assumption that these teachers research their own everyday problems and treat knowledge as being social. This Doctoral project has been developed with teachers who work with Physical Education (PE) in schools located in São Paulo, Brazil, opting for research in a collaborative manner. This path was chosen considering the history of PE in Brazil that brings out a main problem for teachers: the gap between theory and everyday practices. The expectation is that the qualitative methodological procedures of humanities approach both teachers and researchers as subjects who perceive themselves as peers, as Education workers. As a result, it would be necessary to value the concrete actions of teachers and to assert their professionalism. The methods in this field would be the ethnographic studies and collaborative research. It also deserves note the studies based on the reflective teacher or teacher-researcher concepts. It is considered that the comprehension of pedagogical practice could be enhanced with the research being conducted with the teachers. The themes addressed in this study relies on such a possibility, which would be the own teachers, who work effectively in school Education, conduct research collaboratively as subjects and partners. Thus, the focus of this research lies in the social knowledge recognized as valid for teachers in their own permanent process of professional development. Towards that direction, the purpose is to understand, investigate, and identify how these teachers work daily to produce their own knowledge and organize the curricular principles that underlie their practices. The procedures involve interview with focus groups, observation bound to teachers' know-how, as well as consultation to documental sources (material production) and content analysis of the collected data.
Key-words: Teachers' development; Teachers' work; Professional knowledge; Physical Education

THE CONTEXT OF INVESTIGATION

Regardless of the educational policies of each country, there are good teachers in every continent. There are reports of successful practices in various countries and viable means to share experiences among teachers, although there might be problems in each educational system. However, the qualitative improvement of professional work in Education seems to go further when there are collective actions by the teachers. Public policies can encourage such actions, but it depends on teachers who in fact understand the idiosyncrasies of their own work. Teachers need to organize themselves in the social-cultural context dynamics in which they work and thereby continuously develop their professional competence.

Advances could occur with the valuation of qualified research through methodological rigor and conducted by the school teachers about their pedagogical practice, beyond the strictly academic sense given to the term "teacher-researcher." In the academic sense, only the professor/researcher would qualify him/herself as "teacher-researcher" (Geraldi, Fiorentini, & Pereira, 1998).

The themes addressed in this research relates precisely with this possibility, which would be the own teachers, who works effectively in school education, conduct research collaboratively with methodological rigor and about their teaching. Thus, the focus of research lies in the knowledge valid for teachers in their own permanent educational process.

Specifically, the research takes place within the collective effort of a group of teachers in the area of Physical Education (PE). Hence, the centrality of this research is the analysis of the pedagogical work of such group.

For the development of the research problem, the initial question of this Doctoral thesis project is: What worries a PE teacher? Overall, the provisional answer is that a good teacher worries about being an even better teacher in order to do their work every time better.

Then, what it means to be a "good teacher" and "do the work better" with PE? And how this work could be improved? In Cunha's (1989) relevant research some characteristics attributed to good teachers are detailed in categories, although the author point out that the idea of "good teacher" is variable and descriptive data from her research did not enable generalizations:

- History of life: implies the recognition of one teacher's own life story, especially as a student, and critical analysis of his/her relationship with former teachers, in order to repeat conducts taken as positive and to refute the negative;
- Knowledge of teaching: it refers to knowledge that build on their own experience as teachers, and the possibility of learning from colleagues, with students and through reflection on their work;
- Teacher education: it is a differential form with respect to curricular principles and axiology. The more answers the pedagogic preparation provide to the needs of teachers when they realize it, the more they value it;
- Social practice: it indicates the clarity of wider political dimension of their own teaching, seen as the path chosen to achieve social change;
- Modeling of conduct: focuses on highly competent professionals in the intervention area, so it appears that there would be a tendency to repeat practices of people who teachers admire;
- Insight into the socio-cultural reality and work in school education: the ability to analyze the Brazilian reality, linking it to the model of schooling in the country, and comprehensive analysis of educational issues in the Brazilian social context.

The starting point for the notion of project, the author notes, would be the idea that teachers are choosing alternatives for life, as they reported what was happening in their daily lives, in a deliberate attempt to give meaning and coherence to the fragmented social and educational experiences. When we consider that the educational institution, with its collective project, permeates the work of teachers, Cunha (1989) realized that the teacher's project was stronger than the institutional, with its values, traits and expressions.

So there would be a risk, although it represents freedom and autonomy of teachers, on the other hand can be detrimental because it may mean a total reliance on the teacher's individuality and their level of commitment and competence.

Recently, during a conference focusing on autobiographical research procedures, Cunha (2010) mentioned that the categories were organized into what students thought about the teachers, i.e., the students determined "who were the good teachers." On that occasion, Cunha said it would be worthwhile to investigate how good teachers work specifically in today's education. The question would remain the same: How do the "good teachers" work?

And in the perspective that the consistency of school work is done in collective terms, according to Resende (2010), a "good teacher" has to be sure to share his/her lessons with colleagues.

So, we sought to answer the same question collectively with other teachers who worked in different schools and with whom I shared similar expectations about the consistency of teaching practice. In 2005, after telephone contacts, by e-mail, and informal conversations, we decided to meet to talk, reflect and start the possibility of systematizing our actions on a collective basis.

That was the beginning of what would become the focus of the collective work of research from the problems of daily practice by the group called "teachers-researchers". Teachers participating in the group, since then, share the purpose of researching their own practice more accurately, with the intention of enhancing the comprehension about everyday problems treated in teaching and the broader dynamics of pedagogical work.

This path has apparently been validated by teachers in developing their own knowledge and matches the evidence recommended in contemporary educational theories, i.e, it seems that teachers have been doing what the theory indicates as coherent. The bibliographical production of the group is partially supported by reports of their own experiences in scientific events. However, teachers noticed the need for greater methodological rigor in their intellectual productions, since they remind the accuracy of their own school work.

My experience with the group of "teachers-researchers" was deepened during this period, once I found peers to talk without having an academic affiliation restricted to the assumptions of any institutionalized research

group. Like me, other teachers of the group sought to find issues that affect their teaching since the initial preparation, or were raised from these concrete practices, continuing what had been treated in academic preparation for teaching.

Therefore, it seems that we agree with Resende (2010), asserting that it is probably necessary to have continuous preparation. The agreement goes even further, because to the author, teachers must understand that the return to the initial knowledge which is the basis of their preparation must be *permanent*. There is no possibility of being a competent teacher, or a "good teacher", if the person is not predisposed to have his/her own knowledge under test.

Although admittedly Resende does not have references about the Brazilian context, his notes seem to assign importance to teachers who seek validation of their collective work. Also in other countries in Latin America, would be allocated to certain naivety "insistence" of these teachers to share their practices and qualifying, for the pedagogical work in adversity occurs frequently and would be related to ongoing changes in the workplace, according to Celman (1999).

But what about teachers who understand the context of adversity and remain searching for the collective work? Minimally, these teachers further qualify their actions because they realize they need to understand the context of the school they are working, as pointed out by Freire (1996). The need to break this kind of "vicious cycle" for the education of teachers and in their intervention with PE was clarified by Crum (1993).

Other issues could be taken: Why questioning the teaching work today? What is the logic of teaching work that prevents its consistency in terms of collective? Or, secondly, Why recommending that the work at school based on the collective may be more consistent, rigorous or critical? Perhaps these questions can be clarified in addressing this distinguished group of teachers.

So what can be seen with the group of "teachers-researchers" over five years of activity, with respect to the relevance of the actions that were undertaken since 2005? What are the signs of the collective or collaborative pedagogical intervention present in this format of independent research group, which will propose other ways of articulating the collective work in Basic Education? Or more specifically, to propose ways to systematize the work as teacher-researcher in school PE?

Moreover, in recent decades, it was noticed a distinct concern with the teaching practice in Brazil, especially with regard to how teachers organize and systematize their pedagogical daily work. This concern can be linked to the current demands of the teaching profession and even the quality of educational processes in schooling.

Studies that investigate the characteristics of teachers-researchers in the sense of an epistemology of teaching practice (Geraldi, Fiorentini, & Pereira, 1998) or that are in the course of an ethnography of teaching practice (Borges, 2005) are depicting this concern. Foreign authors as Fenstermacher and Sanger (1998), dealing with the philosophy of education, seem to worry about the relationship between the epistemological field and the idiosyncrasies of teaching practice, proposing four categories for shared analysis of the teachers' pedagogical work: judicial, probation, experiential and situational.

In the judicative category, teachers assume the premises of value in associating their actions or intentions to act with respect to human development. They treat it as a duty statement or declaratively in the form of principles, according to Fenstermacher and Richardson (1994).

The same authors refer to the explanations from teachers about their work based in learning theories, as the conditional premise of practical argument. And when teachers seek to verify them in reality in which they work, the authors indicate that is an experiential or empirical premise, because in this direction the teachers use scientific methods for investigation.

Fenstermacher and Richardson (1994) also show that the arguments of the teachers about their own work may take the form of a situational premise, when examining their actions within the context in which they occur. However, the authors indicate that it is irrelevant to the debate on the concrete conditions of work set to conclude the practical argument is an action or an intention to act as they say the main focus of research on teachers' work should be about forwarding action.

It is advocated that teachers are responsible for their own practice, need to establish and understand the needs of the contemporary world, must be concerned with the establishment of collaborative partnerships, to demand better wages and working conditions appropriate to the functions performed, not counting the essential reason for their work in school: education. Works that show the limits and contradictions of the process of professionalization of teaching are alluding to this observation, such as Veiga and Cunha (1999).

However, it is clear also that the academic discourses transmitted by Higher Education institutions, evidenced by publications on the subject in books and periodicals (FACCI, 2004), while they criticize the teacher's know-how working in basic education, care little to know why teachers working in the school environment "work the way they work," or "teach the way they teach."

Why is there little research on the effective practice of teachers in the daily work in basic education? This questioning was done by André (2005) to defend the relevance of case studies and methodological procedures for the investigation of teaching practice. Note that the "teacher-researchers'" methodological approach that sought to register and talk about their practices, categorizing them to research them so together (Venâncio *et al.*, 2010a).

Is there lack of understanding of the dynamics, complexity and unique and diverse realities that characterize the teaching profession? As questioning by Franco (2008): What is behind the logic of preparation that involves the logic of practices? To what extent the realities of teacher education overlap, and how the discursive reality of Higher Education influence or undermines the deepening of understanding of the pragmatic reality of Basic Education?

There is a need to discover, identify, analyze and interpret how and why PE teachers organize and systematize their work in the school environment. It is understood that toward the realities that are established in everyday, something about this know-how must be interpreted, not to inconsistent, abstract, and lacking in methodological rigor generalizations, but rather to point out possibilities for criticism from concrete realities.

INVESTIGATIVE PROBLEM

Thus, the most common challenges for teachers are breaking the individualism of their own actions and collectively enhance the conditions of professional practice. And if good teachers are breaking the individualism of their actions and working together, the expectation is that the very understanding of their collective work is likely to provide a path for advanced practices.

In this research project, then, the concern is to attend to the collective process of development by an experienced group of teachers, which is intrinsically linked to the pedagogical work of each "teacher-researcher" and that is performed autonomously. Therefore, investigation is supported by methodological assumptions of collaborative research.

The problem is to investigate how the "teachers-researchers" organize and systematize their work in pedagogical practice, with criteria for validation of their collective knowledge and teaching conducts. It is investigating how these teachers think about their daily work and make it based on contemporary educational theories that already point out to what is consistent for practicing of "good teachers".

The focus is therefore on the collaboration established with each teacher and dealing with his/her daily problems to research his/her own practice. It is noteworthy that it is not a search of the researcher to foster any kind of research desire on the teacher who is working in basic education, but as the researcher can work with teachers who apparently already do it for themselves and require a deeper exploration of methodological rigor in their research.

The deal is that the researcher is also interested in increasing rigor in its own research and collaborative research takes on a dialogical sense of readiness for dialogue as proposed by Freire (1996). It is the collaboration between concrete subjects that share common assumptions about the relevance of PE at school and who are worried about closer relationships or minimize the distance between the university and the everyday routines of basic education.

GENERAL OBJECTIVE OF THE INVESTIGATION

It is intended to contribute for research on teachers' work in the field of PE. In Brazil there are few studies that focus it, according to a survey of dissertations and theses held by Duarte (2010), covering the period between 1987 and 2007. The author located less than five monographs on this topic from a total of 467 academic papers.

The work of teachers is complex and its focus is on teaching rigorously specific contents to schooling. To improve their work, especially the quality of education, teachers themselves need to find the central elements of their teaching, which includes the specific knowledge of teaching principles and systematization of curriculum for teaching and school learning.

With this premise, the "teachers-researchers" looked for more rigorous analysis of their teaching. Initially they made it in the light of the methodology of action-research in education (Pimenta, 2005), seeking steps to link their teaching situations in PE (Betti, 2009).

The possibilities of action-research were discussed in the group, in order to explain and interpret how the "teachers-researchers" organized and systematized curriculum principles in their work with PE. As the issues raised by teachers were varied, the method of action-research led to progress in order to reveal their assumptions about teaching, with common aspects and outliers (Venâncio *et al.*, 2010b).

This twist from the action-research prompted the update of the issue treated by the group, extending it to the collective analysis on other parameters. There was also the linking of several teachers to Graduate programs since the beginning of activities.

SPECIFIC OBJECTIVE OF THE INVESTIGATION

Therefore, the objective of this study is to identify the knowledge produced by teachers who share a collective perspective of pedagogical work, and research their own professional practice. It is an assumption that these teachers research their own everyday problems and treat knowledge as being social.

It is to describe and interpret the knowledge produced by teachers researching their own teaching practice. Therefore, it aims to investigate how these teachers work daily to produce their own knowledge and principles to organize the curriculum.

It is questionable as well: How do the "teachers-researchers" systematize their work? How they work daily in teaching and research?

INVESTIGATIVE METHOD AND RESEARCH PROCEDURES

This Doctoral project has been developed with teachers who work with PE in schools located in São Paulo, Brazil, opting for research in a collaborative manner. This path was chosen considering the history of PE in Brazil that brings out a main problem for teachers: the gap between theory and everyday practices.

The expectation is that the qualitative methodological procedures of humanities approach both teachers and researchers as subjects who perceive themselves as peers, as Education workers. As a result, it would be necessary to value the concrete actions of teachers and to assert their professionalism.

The methods in this field would be the ethnographic studies and collaborative research. It also deserves note the studies based on the reflective teacher or teacher-researcher concepts. It is considered that the comprehension of pedagogical practice could be enhanced with the research being conducted with the teachers.

The themes addressed in this study relies on such a possibility, which would be the own teachers, who work effectively in school Education, conduct research collaboratively as subjects and partners. Thus, the focus of this research lies in the social knowledge recognized as valid for teachers in their own permanent process of professional development.

Towards that direction, the purpose is to understand, investigate, and identify how these teachers work daily to produce their own knowledge and organize the curricular principles that underlie their practices.

The procedures involve interview with focus groups, observation bound to teachers' know-how, as well as consultation to documental sources (material production) and content analysis of the collected data.

As a methodological way we chose the qualitative research, collaborative, choosing as techniques: semi-structured interviews, focus groups, documentary sources, observation and content analysis.

According to Tardif (2002) and Contreras Domingo (2001) there are two essential aspects that involve the investigation of teachers' work. In addition to teaching knowledge, Tardif proposes an epistemology of practice, among other themes central to the study of knowledge of teachers.

While Contreras Domingo points to the issue of professional teaching, critiquing the ideology of professionalism and indicating a counterpoint to the sense of unrestricted exploitation of professional practice. These two theoretical categories, taken together, are providing subsidies to understand and analyze the work of "teachers-researchers."

On the notion of epistemology in the teaching knowledge, Fenstermacher (1994) explains that it is peculiar the growth of scientific literature on the knowledge that teachers produce as a result of their work, contrasting with the knowledge produced by specialists on educational research about teaching.

For the author, the research focus should be placed on the epistemological aspects of knowledge production and the expansion of teacher knowledge about teaching, involving itself in the genesis of knowledge about teaching.

The mentioned authors situate their research in the educational context and fall within the more extended field of qualitative research. Similarly, this project seeks to sustain itself with the design of a qualitative educational research.

But the collaborative character of this investigation is effective in the sense of linking the production of knowledge of teachers through the ongoing dialogue between those involved, including the "teacher-researcher" author of the research project and the "teachers-researchers" as participants in this research.

From the studies coordinated by Pimenta (2008), some issues justify theoretical development in the area of teacher education, and serve to delimit this research:

- The importance of research to be done in concrete situations, verifying its possibilities and limitations in school contexts;
- The paths from action-research to collaborative research;
- The epistemology of practice and the processes of building knowledge of the teacher;
- The knowledge and the identity of the teacher, with professionalism as a field of research;
- The possibilities and limitations of the conception of "reflective teacher", analyzing the indiscriminate use of this perspective in the literature;
- The controversy from the perspective of "teacher-researcher", investigating the implications in the design of reflective teacher to critical intellectual.

The research procedures involve structured and semi-structured interviews, written transcripts of audio recordings and video productions, and autobiographical records produced by the "teachers-researchers" such as : lesson planning issues within the workplace and in format of teaching laboratory shared with the group, outlines of planning and projects for professional teaching career, reflections on the history of life and profession, notes and minutes of regular meetings, papers and other literature production compiled since 2005.

The data also include files and messages logged in a website. The page was created in 2006 and monthly more than one hundred (100) messages on average are shared among teachers in the group, now totaling more than two hundred (200) "teacher-researchers".

There are records of teachers working in all five Brazilian regions, including some teachers from other areas, although the page is originally directed at teachers of PE.

Predominantly, most teachers are working in the metropolitan region of São Paulo – the area of "Greater São Paulo", near the State capital, including the surrounding municipalities – both at public and private schools attending from Kindergarten to High School, and that some teachers also accumulate teaching in Higher Education.

Besides the interaction from distance, some teachers also meet monthly in public spaces in São Paulo, and occasionally for scientific and cultural events in Brazil and other countries.

Thus, the sample was selected intentionally and effective participation of each teacher will be made upon informed consent. For research groups will be formed with equal amount of participants, constituting a kind of control to compare the data obtained.

Twelve (12) teachers were invited because they have participated in monthly meetings, characterized as "teachers-researchers" with the condition to share experiences among themselves on a collective basis for at least two years. The focus is to examine how these teachers work and how they deal with specific problems to systematize their work.

We also intend to examine other variables that may influence the production of systematic knowledge about the curriculum, such as aspects of initial preparation and several attributes that imply in the pedagogical work due to contact with institutionalized groups of academic research and Graduate programs.

Data will be confronted by the procedures of "triangulation" with random selection (with "double blind" procedure) of half of the sample (six teachers) for detailed analysis of their pedagogical work and an interview about the findings of the analysis, sharing comments. The other half of the sample (six other teachers) will be up to read the main findings and conclusions (after incorporating the interviews), being held a later interview with them too. Following with the work, points of view of these teachers will be incorporated in the conclusions.

The initial script for the interview has three axes for analysis, with an instrument adapted from Correia and Ferraz (2010): description of the pedagogical work, interpretation of the pedagogical work, and proposition (authorship) of the pedagogical work. Thus, it is intended that the descriptive and interpretive analysis is contextualized with the propositions of each teacher, and so shared in dialogue.

The main issues of the three axes, respectively, refer to the centrality of the theme: How teachers work? How to face everyday problems that could compromise the quality of your work? How to research issues related to their work and whether they are able to improve it through such research?

And, looking to the perspective of teachers' collective work, especially one question must be asked: Whether the involvement with a group of "teachers-researchers" does have some impact on their pedagogical work?

According to Contreras Domingo (1994), we should bear in mind that if a problem is defined in the practical field of action, insofar as we intend to improve our practice, this problem has to do with *what we do ourselves*. Understand a situation in which we intervened requires understanding the way in which we intervene, and what it implies and means for the subjects involved in this action.

Beyond the need to share experiences on practical issues, the arguments of Mizukami *et al.* (2006) appears to be consistent in the sense that the learning of teaching has methodological specificities that need to be

elucidated in the process of collaborative research. For the authors, the collaborative work carried out in collective contexts at school and outside of them, as is the case of this research, both require validation and support of the teachers themselves as participants.

In this sense, Araújo and Moura (2008), Franco and Lisita (2008), Oliveira and Anastasiou (2008), Leite (2008), and Oliveira-Formosinho (2008) offer insightful clues to the development of collaborative research, whose procedures are in for this investigation. There is emphasis on the recovery of the narratives of the teachers themselves, the treatment of their autobiographies in a perspective that leads to autonomy.

According to Oliveira e Anastasiou (2008), we seek to enable teachers to research their own educational pathways, tacking meanings and reinterpretations, which can generate changes both in our conceptions and teaching practices. The authors explain that the investigation focused on the history of life lies in a matrix of qualitative research that when faced with the problems in teacher education, helps to clarify them.

With this, they agree with Tardif *et al.* (1991) and criticize the application model in the preparation of teachers. And they invoke Nóvoa (1992) by stating that because it does not separate the personal, professional, and organizational dimensions out from the teaching development, that the methodological work with the autobiographies stands out.

STAGES OF RESEARCH

The research is intended to cover three phases for data organization, inspired by the methodology adopted by Souza Neto (1999) when researching a particular *métier* qualitatively for the preparation of PE teachers. The phases have predominant features: exploratory, focused and interpretive.

The exploratory phase includes the analysis of documentary sources produced by the teachers selected for the study and semi-structured interviews. Chosen topics to mark the semi-structured dialogue refers to the work on the "investigative stance", by Cochran-Smith and Lytle (1999). The script for structured interviews includes theoretical assumptions by Shulman (1986, 1987) and Smyth (1992) on the teachers' *knowledge base* about their own work.

Two central questions constitute that stage of initial diagnosis: What constitutes the professional profile of each "teacher-researcher"? And how each teacher works his/her teaching professionalism? In this context there is the theoretical contributions by Contreras Domingo (2001), Garcia (1999), Fenstermacher and Richardson (1994), and Freire (1996).

Questions allow the following categories, according to (a) Smyth (1992): the forms of action in the reflective process involving the description, information, confrontation, and reconstruction; (b) Shulman (1986, 1987): knowledge of content pedagogical knowledge, self-knowledge, knowledge about the students, curricular issues, the educational context and the educational objectives; (c) Contreras Domingo (2001): the autonomy of teachers; (d) García (1999): the professionalism of teachers; (e) Fenstermacher and Richardson (1994): the form of practical arguments with assumptions of value, conditional, empirical, and situational, (f) Freire (1996): the dialogical sense of pedagogical work.

The focused phase includes the collection of data on a collective basis with the teachers, using the methodological procedures related to the focus groups (Gatti, 2005). Szymanski (2010) highlights the need to point focalizing issues that bring the speech to the desired focus on research and avoid lengthy digressions.

The interpretive phase, in its turn, highlights the criteria for assessing the reliability of research: "staying on the field" and "triangulation of data." Both were used by Souza Neto (1999) in his study, from the parameters proposed by Lüdke and André (1986), and Alves-Mazzotti and Gewandsznajder (1998).

According to the author, staying on the field increases the possibility of accurate inferences, interpretations and conclusions accurate, because there is time to correct false interpretations, review the course of the inferences and reorient the focus of attention (Lüdke & André *apud* Souza Neto, 1999, p.207).

Still, the triangulation generally refers to the comparison of data collected by qualitative and quantitative methods, but it can also refer to the comparison of data from interviews with other sources (Alves-Mazzotti and Gewandsznajder *apud* Souza Neto, 1999, p.208). Thus, to ensure rigor in the interpretation of collected data the cross-analysis of sources and methods will be used.

In summary, the research phases are:

> 1st phase – analysis of documental data, and semi-structured interviews with the twelve (12) participants. After the first interviews will be conducted structured interviews with all participants and organizing groups for the next phase;
>
> 2nd phase – focus groups: it is planned the composition of two (2) groups with six (6) teachers each. The first group teachers examine their own work and findings from the interviews. The second group teachers also do the same kind of analysis, supplemented by the

considerations of the first group. It is expected one observer to attend in each group, according to a common criterion of such methodological strategy.

3rd phase – interviews with the twelve (12) participants and triangulation of data.

PARTICIPANTS

The twelve (12) participating teachers previously agreed to disclose their names and professional connections.

However, only the first names of the teachers will be used to identify them throughout this study as well as the date of his/her registration on the "teachers-researchers" group's website:

André (28 October, 2007), Angela (10 September, 2006), Carla (9 November, 2006 – cofounder of the group), Jéssica (2 January, 2007), Leandro (11 December 2006), Luciana (3 November, 2006 – cofounder of the group), Luciano (11 April, 2007), Marcelo (9 September, 2007), Rosângela (8 July, 2007), Tatiana (9 June, 2007), Tiemi (5 November 2006 – cofounder of the group), and William (11 February, 2007).

PRELIMINARY FINDINGS AND NOTATIONS

So far, the study is in its first phase, consisting of the analysis of data from documentary sources and the organization of interviews with teachers.

The source with the greatest amount of information for analysis seems to be the set of minutes of all meetings of the "teachers-researchers" group with records since 2005. It has already occurred almost one hundred (100) encounters among teachers, considering their monthly meetings and participation in scientific and cultural events.

The following is a *Table* with examples of descriptive analysis of the first three meetings, including date, number of participants, location and summary of activities:

	Date	Summary of Activities
1	28/12/2005 (w/4 teachers)	First contact among teachers and exchange of experiences on lessons at school; the meeting occurred inside a mall in downtown São Paulo, Brazil.
2	4/2/2006 (w/3 teachers)	Exchange of experiences about the school lessons; the meeting occurred in a cultural center in downtown São Paulo.
3	18/2/2006 (w/5 teachers)	Exchange of experiences about the school lessons; opportunities for collective planning of PE classes; beginning of the contents' joint planning; the meeting occurred in a cultural center in downtown São Paulo.

In addition to the meetings, teachers share their records with files and messages on a website. All messages are archived on the page, so consultation is possible for any participants. The following *Table* shows the distribution of communications, containing the number of messages exchanged among the teachers in each month. As updated in April 30th, there are 225 teachers registered on the website (http://br.groups.yahoo.com/group/professorespesquisadores):

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2011	67	65	102	54								
2010	112	166	138	118	77	115	154	137	95	82	61	52
2009	127	99	126	154	181	122	94	97	84	91	94	110
2008	21	12	43	41	116	45	101	93	78	54	56	88
2007	32	46	38	21	37	81	20	45	24	29	17	28
2006											19	40

Since 2008 teachers have agreed between themselves that the circulation of some messages would be restricted, by private e-mail addresses, to protect bibliography of their intellectual property still under

development. This decision reduced the number of messages shared by the page, but established the criterion that only the productions already published would be filed for consultation.

To identify and analyze the teachers' intellectual production, concerning to the possible influence of the group in research on their teaching, bibliographic information has been sought in the academic curriculum (*resumé*) of each participant. Data collection started from each teacher's registration date in the group, and the databases consisted in the *Lattes* Platform of the National Council for Scientific Research (CNPq), covering all Brazilian scholars and researchers. We could note that not all participants have updated information at the platform.

The following *Table* presents indicators for the participants' bibliographical production and the date of the latest update of their academic *resumé* records:

	Events	Presentations	Papers	Chapters/Books
André (Mar. 2010)	1	1	-	-
Angela (Jun. 2003)	-	-	-	-
Carla (Oct. 2010)	25	44	1	1
Jéssica (Jan. 2009)	4	7	-	-
Leandro (Dec. 2010)	20	15	4	-
Luciana (Feb. 2011)	55	45	6	10
Luciano (Dec. 2010)	16	5	-	-
Marcelo (Jan. 2011)	-	1	-	-
Rosângela (Jul. 2010)	2	12	1	2
Tatiana (Apr. 2010)	-	6	-	-
Tiemi (Dec. 2010)	21	30	-	1
Willian (Mar. 2011)	26	15	2	-

Throughout the period in which the group established, teachers have produced different materials depicting their work with PE in Basic Education. Amidst their productions and records there is an emphasis on the (auto)biographies, since the treatment of life history is often pointed as a means of contextualizing each teacher's insights about everyday teaching practices, as well as his/her peers.

The criteria mentioned by teachers in preparing their (auto)biographical records permeate family, school, academic, labor relationships, and socio-cultural linkages. Apparently there is emphasis on the connection between life history and each teacher's project for his/her teaching career (Sanches Neto & Venâncio, 2010).

About the script and questionnaire for initial interviews, and organizing focus groups there are the following provisional routing:

In the first interview, with semi-structured character, dialogue is expected to occur as an agenda based on five axes highlighted in the work of Cochran-Smith and Lytle (1999): (a) relations between knowledge and practice; (b) images of what is the knowledge; (c) images of teachers, teaching, and professional practice; (d) images of teaching learning and teachers' functions in educational change; and (e) current initiatives in teacher education, professional development and/or teacher assessment. The intention is to talk with teachers, sharing at least one of their lesson plans according to their own choice and any materials selected by them, which are alluding to their pedagogical work, such as records of images in photographs and/or videos.

In the following structured interview, we intend to use a questionnaire based on proposals from researchers who excel in dealing with theories about the teacher's knowledge. From the data of the previous interview, the intention is to analyze in detail the lesson plan selected along with each teacher, as well as remarks about any other material discussed in the first meeting.

After this period, we intend to establish two focus groups among participating teachers, so that both groups could discuss their own pedagogical work, and the second group would also review the considerations elaborated by the first. Possibly, two observers are going to be asked to collaborate in the study at that stage.

Finally, the third interview has the purpose of reviewing all the work in the perspective of sharing the considerations of each teacher and to assess the reliability of the data.

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328 - New Teachers in Collaborative Work: Physical or Virtual?

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Abstract: Our aim in this poster was to analyse the application of new educational practices in the subject of Classroom Organisation in Early Childhood Education 0-6 years in the Infant School Teacher Degree at the University of Alicante (UA).

We live in a society where it has become essential to know how to use the information and communication technologies in teachers' life (Barab y Roth, 2006), and there is especially a need for team work to play a relevant role developing collaboration processes in physical as well as virtual environments that can boost the social construction of knowledge (Martínez, Lozano & Sauleda, 2008).

This methodological innovation experience took place during the first semester of the 2010/2011 academic year in the subject Classroom Organisation in Early Childhood Education 0-6 years, imparted in the first year of the Infant Education Teacher Degree at the University of Alicante (Spain), with a group of 98 students (only 5 males). Seeking to fulfil the objectives proposed in the subject syllabus, a number of activities were designed which had in common collaborative work and Problem-based project (PBP) along with the utilisation of communication technologies, communication and productivity tools and the so-called Web 2.0. The main objective was to undertake a project that would lead to the creation of a School Kindergarten at the University of Alicante. Groups of 4 people were formed for the project execution, each group being given computers so that they could work in the physical (classroom) practical sessions. In addition to the classical office automation applications, the main tools used on the Internet have been Wordpress.org and google.doc, along with social networks. Each group had to develop a project (about the School Kindergarten) using google.doc. The document was shared and prepared online by the group members. The teacher could leave comments about the evolution of work in a formative evaluation at all times.

At the end of the year, the students enrolled in this subject completed an anonymous, voluntary questionnaire (thirty closed and four open-ended questions, by google.doc) that included items about collaborative work and about their perception of learning in the project and PBP methodology. The questionnaire was completed by 63 students.

Summing up, the results show that clear benefits are obtained thanks to collaborative work and also because this is a good methodology for the right development of the project. On the other hand, the results reveal that collaborative work helps achieve a better and deeper learning of subject contents. We equally observe that the relationships between all these members are mostly excellent (32.37%, Agree). However, the overall assessment of this experience is highly negative regarding collaborative work and the utilisation of social networks and communication technologies (31.75%, Indifferent) and students prefer working physically (66.67%, Strongly Agree) rather than virtually (11.11%, Strongly Agree).

Keywords: digital literacy, ICTs, teacher training.

INTRODUCTION

The European university's mission is to provide education so that the future citizens can acquire the ability to build social networks, connected thanks to the existing communication media (wikis, blogs, Twitter, etc.), especially in a moment when social networks are increasing their size and speed as quickly as we press the keys on our computers (Christakis & Fowler, 2010).

Today's citizens must be able to use the new technologies. In this sense, every training initiative addressed to new teachers must create opportunities to keep alive in each person the desire to rise into the virtual cosmos and help them assimilate the importance that the phenomenon of digital social networks has in our present and our future.

If we want to understand how society functions, we need to recover the links lost between individuals. We need to understand in what way the interconnections and interactions between

people give rise to totally new aspects of human nature which are not present in an individual. If we do not understand social networks, there is no hope for us to fully understand how we are and how the world we inhabit is (Christakis & Fowler, 2010, p. 45).

In this respect, Carol Lee (2009) argues that there are multiple ways towards learning. In tune with Moss (Moss *et al.*, 2009), we would particularly like to stress that it is ethically very appropriate to revise also the paradigm which opposes the one we assume. In short, we believe that a strong emphasis must now be placed on proposals similar to the one formulated by Barab & Roth (2006), which stresses the importance of social networks.

In general terms, we agree with Putnam & Borko (2000) that teachers' learning and methodology change must be based on some of the aspects present in their teaching practice. For instance, in one of the following environments:

- ✓ In their own classrooms where new strategies can be developed.
- ✓ In collective spaces where participants' practice is at the heart of the discussion.
- ✓ And in a combination of both orientations situated in a variety of contexts, which tends to become a very appropriate way to promote multidimensional reshaping processes in teachers' thinking and practice.

The interpretation offered by Carol Lee (2009) encourages us to assume an emergent consensus regarding the plurality of ways that lead to knowledge (emotional dimension, cognitive dimension and relevance; social relationships; technological resources, etc.). Below can be found the dimensions we are referring to:

- ✓ The socio-emotional dimension: the way to knowledge may include the matters related to social knowledge, as well as the emotional knowledge that refers to knowledge about the social systems where young people have to coexist and operate.
- ✓ The cognitive dimension: the literature has distinguished between conceptual and declarative knowledge, procedural knowledge, generative knowledge (linked to the 'learning-to-learn' competence and as investigating knowledge), the knowledge of problem resolution, knowledge by mimetisation, environmental knowledge (based on the situation or on the learning context) and critical knowledge (based on critical assessments).
- ✓ The relational dimension: social networks, tutorial relationship, academic relationship (teacher-students-teacher) or informal relationships (typical of the university institution, for example, a university hall of residence).
- ✓ The resources dimension: the relevance of artefacts or devices that can help build knowledge such as, for instance, the new technologies, the Internet, etc., or those resources which are community-based.

In the cognitive domain (Perkins, cited by Lee, 2009) there are many approaches to reasoning depending on the methodologies applied in each one of the disciplines; in mathematical science, methodologies based on problem resolution are developed; in the context of sciences, research and large databases; and in historical science, the critical assessment of the past history becomes essential.

Anyway, McAfee (2009), in his work Enterprise 2.0, has highlighted the new work culture based on new forms of collaboration made possible by information technology (wikis, blogs, Twitter, etc.). It all has generated a diversity of problems with the creation and operation dynamics of social networks (Martínez, Lozano & Sauleda, 2008).

OBJECTIVES, METHODOLOGY AND PARTICIPANTS

The objectives we set ourselves were the following:

1. To identify and analyse the benefits and difficulties associated with project-based collaborative learning.
2. To analyse and assess physical and online collaborative work.
3. To detect formative needs regarding online collaborative work.
4. To identify the use of digital tools in collaborative work, as well as the electronic sources of information in project-based learning.
5. To detect the strengths and weaknesses in the development of the project-based methodology among university studies in the Teacher Degree.

In order to achieve the objectives sought, we suggested the design of a working project for the creation of a School Kindergarten [Infant Education School] for the University of Alicante staff. It must be highlighted that the UA does not have a School Kindergarten at the moment, which is why students had to design a school with characteristics corresponding to the UA context. On the other hand, the project had in common

collaborative work (with groups of 4 or 5 people) and the utilisation of communication technologies, communication and productivity tools and the so-called Web 2.0. Emphasis was laid on the use of digital tools, especially social networks (google.doc in particular), since the time available for physical (in-class) sessions was very limited (100 minutes per week) and, therefore, they demanded both collaborative work and the discussion of the objectives achieved. Finally, the groups presented their projects before the large group. The assessment of this experience was carried out using an anonymous questionnaire with 30 closed questions based on physical and online collaborative work. Each one of the items included five Likert-scale-type answers (1-Totally Disagree; 2-Disagree; 3-Indifferent; 4- Agree; and 5-Strongly Disagree). Four open questions about the methodology developed were posed at the end of the questionnaire which assessed the improvement of learning through this methodology along with its positive and negative aspects. The questionnaire was completed through google.doc when the teaching of the subject under study came to an end.

This methodological innovation experience took place during the first semester of the 2010/2011 academic year in the subject Classroom Organisation in Early Childhood Education 0-6 years, imparted in first year of the Infant Education Teacher Degree at the University of Alicante (Spain), with a group of 98 students (95% of whom were women, and only 5% men) distributed across 24 groups of 4 people (there were only two groups with 5 members). The questionnaire was completed by a total of 63 students (94% women and 6% men).

RESULTS

This poster shows the partial results of this study. Firstly, we present those referred to the assessment of the benefits and difficulties associated with collaborative work in the project-based methodology, which contains the students' perceptions about this methodology and collaborative work analysed from a qualitative perspective, the results of which are shown in absolute frequency percentages (Figures 1 and 2). Secondly, we present the partial results referred to the closed questionnaire analysed from a quantitative point of view, the results of which are shown in percentages depending on the items answered (Figures 3, 4 and 5).
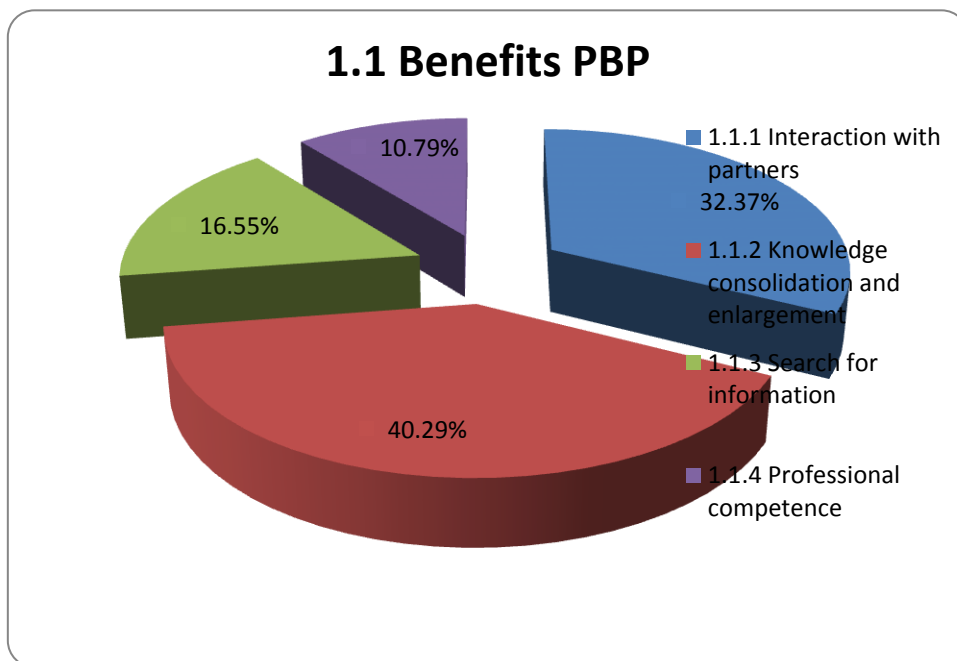
Figure 1. Benefits of collaborative work- PBP methodology.

We can observe that the project-based methodology consolidates the knowledge developed in the subject (40.29%). Furthermore, it not only boosts interactions between group members (32.37%) but also enlarges knowledge. On the other hand, it is worth highlighting that the findings permit to verify that this type of methodology encourages search for information (16.55%) and improves knowledge and professional competences in the degree under analysis (10.79%). In short, the results show that students consider this methodology beneficial to the understanding and assimilation of subject contents.
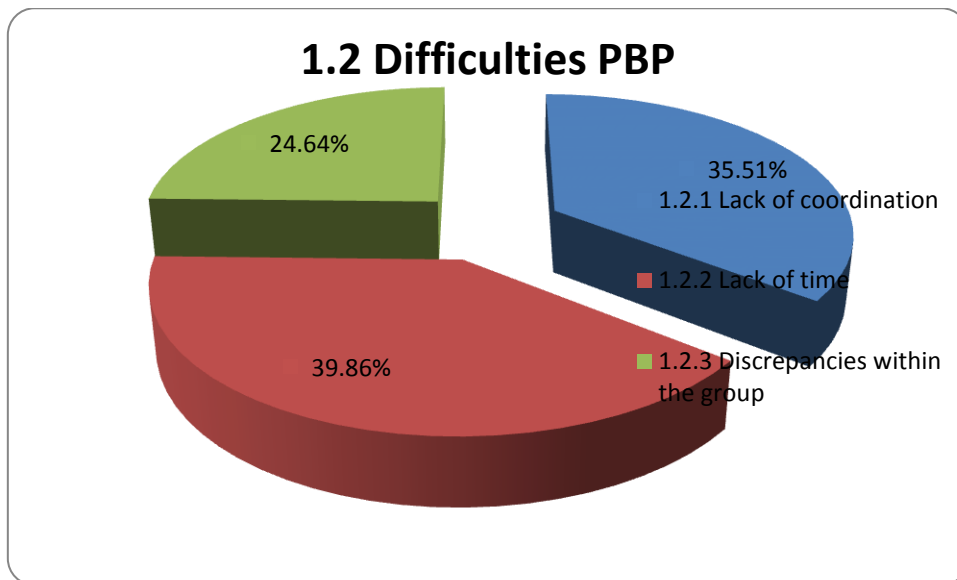
Figure 2. Difficulties in collaborative work-PBP methodology

Seeking to improve this educational proposal, we asked students to reflect on the potential difficulties or obstacles that they detect in the development of this methodology. The results with the highest frequencies (see Figure 2) highlight time (39.86%) for activity development and, especially at physical meetings, for the discussion of the objectives reached and the establishment of new tasks; absence of coordination among group members (35.51%); and finally, lack of consensus among group members regarding the different opinions expressed (24.64%). In short, the results reveal difficulties in the relationship with the other members, especially regarding consensus on the specific tasks that need to be performed.

On the other hand, we have included a questionnaire with closed questions for the purpose of analysing the presence of digital tools both in collaborative work and in the development of the project-based methodology. The results offer three distinct codes.
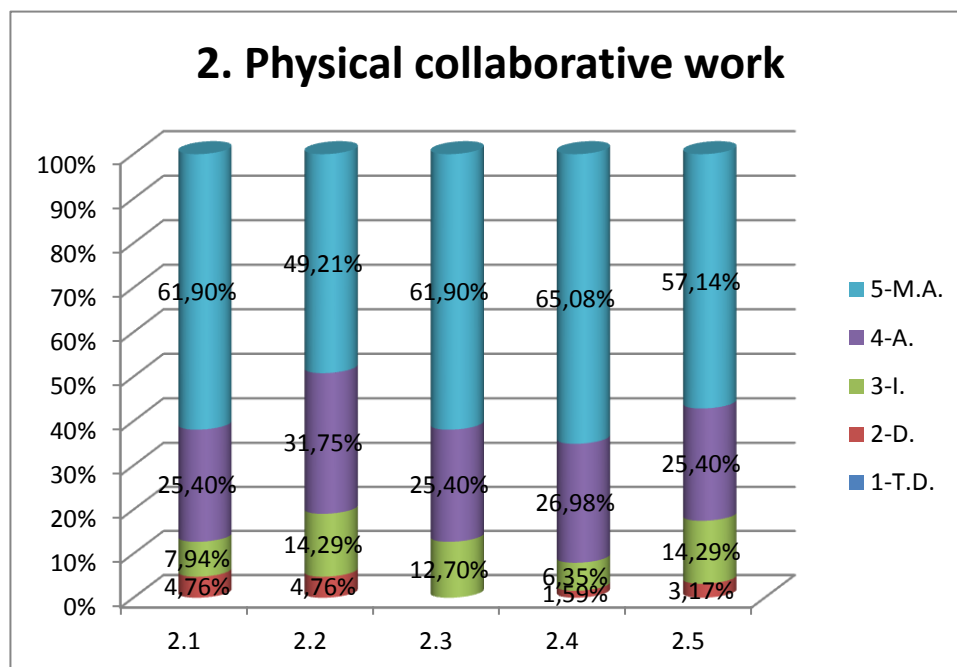
Figure 3. Physical collaborative work

We can see that this code is formed by five sub-codes: 2.1. Roles established; 2.2 Most significant collaboration; 2.3 Effectiveness in communication; 2.4 Effectiveness in planning and organisation; 2.5 Agreements on project content and presentation. Students mostly agree that work in the classroom is very

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significant when it comes to work collaboratively. It also becomes evident that there is a high level of agreement on the five codes mentioned, exceeding 60% in most cases, with the exception of sub-codes 2.2 and 2.5. We detect that the result corresponding to agreements on project content and presentation is not very high. This might be due to the fact that they used google.doc for their presentation.
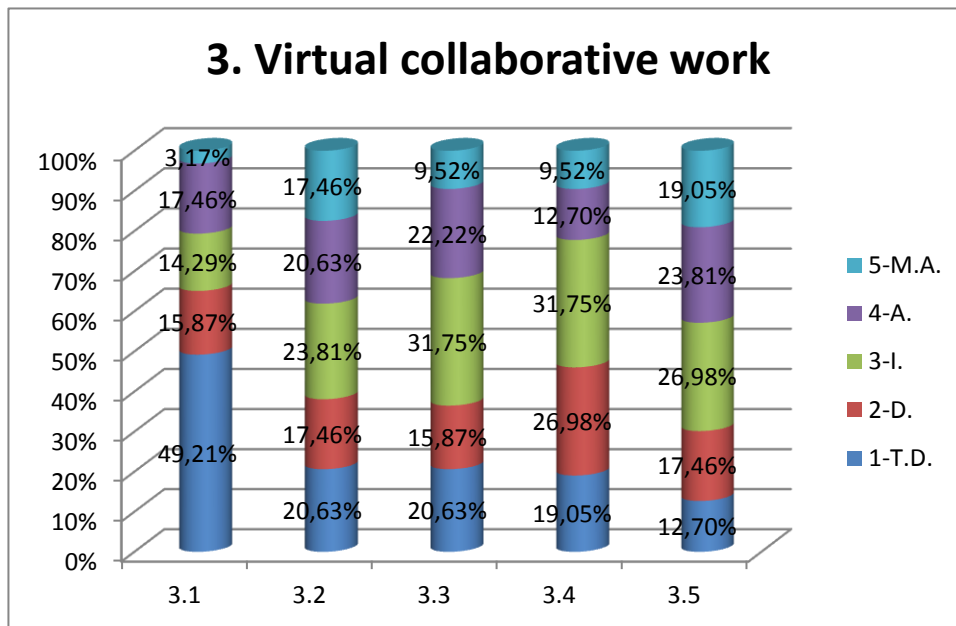
Figure 4. Virtual collaborative work

Figure 4 contains the following sub-codes linked to the use of digital networks: 3.1. Roles established; 3.2 Most significant collaboration; 3.3 Effectiveness in communication; 3.4 Effectiveness in planning and organisation; 3.5 Agreements on project content and presentation.

The results tell us that students prefer establishing roles in a non-virtual way (49.21%). They tend to be indifferent to the use of digital tools and the development of online instruments in collaborative work. Thus, we observe that students apparently do not mind if communication is more or less effective (31.75%) and are also uninterested in the planning and organisation of the work that has to be developed (31.75%) and, besides, they do not mind either if collaboration is more or less significant (23.81%) or if the conditions are ideal for the presentation of the contents prepared (26.98%).
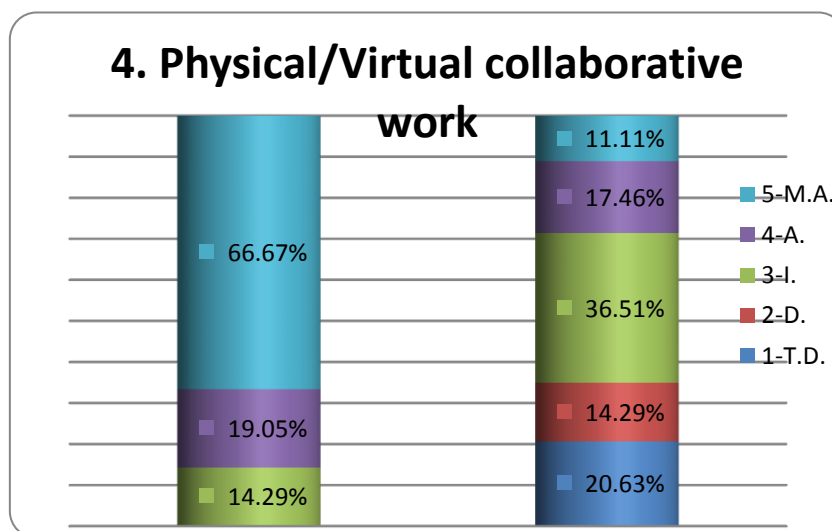
Figure 5. Physical or virtual collaborative work

As a final result, we must highlight that students prefer working physically (66.67% of them Strongly Agree) as opposed to 11.11% of students who express their wish to work virtually.

CONCLUSIONS

The results obtained demonstrate that the digital socialisation function clearly prevails over the professional one. As a matter of fact, the evidence attests that there is not a real virtual collaborative virtual among university students (they prefer working physically). In short, it becomes urgent to establish a collaborative culture among students articulated around social networks and work teams, as this will most probably generate effective results in their future teaching practice (Putnam & Borko, 2000).

All in all, we are still far from regarding communication technologies as a natural element in teaching-learning activities. This experience confirms that it is still difficult to integrate them within a virtual institutional environment. However, the overall assessment of this experience is highly positive, both in terms of students' academic results and regarding the degree of satisfaction among those students and among their teachers as well. However, we want to insist on the fact that there is still a propensity to refer to ICTs focusing our attention on technological development and their possibilities of expansion as an educational offer; however, scholars hardly ever analyse the social transformation potential that these technologies entail, as has been highlighted in similar experiences (Fourcade *et al.,* 2009).

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338 - How Do We Define and Evaluate Preschool Quality? Swedish Preschool Teachers in a Discoursive Crossfire

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Abstract: Swedish preschools are welfare institutions required to achieve and demonstrate high quality. The preschool teachers are responsible not only for the quality of the daily activities at the preschool, but also for the evaluation and development of these activities. The latter can be problematic especially in times of diminishing financial resources. This raises question on how quality is defined and evaluated.

An analysis of the national and local steering documents showed two coexisting discourses concerning quality and quality work in preschools: I) a *relational discourse* within which quality was closely related to relations and reflections, and II) a *new public management (NPM) discourse* within which quality was related to measurability and effectiveness.

The here presented study aimed to explore discursive expressions of quality and quality work among preschool teachers. The methodological frame of reference was inspired by critical discourse analysis, which enables the study of discourses and their relations to socio cultural practices, hereby allowing a critical perspective on society. Data was collected during a seminar where 38 preschool teachers discussed the themes: 1) What is quality in preschool? 2) How/where/when does quality become visible? 3) How can quality be achieved? 4) How can quality be evaluated?

The results show that the participants' statements to a high extent correspond with the *relational discourse* found in the national steering documents. This was evident in statements stressing the importance of *vocational dedication*, a *positive attitude*, *good relations* and that *everyone (children, staff members, and parents) wanted to go to the preschool*, and noticeable in statements addressing the difficulty to define and evaluate quality. The teachers regarded themselves responsible for maintain good relations to the children and their parents, and to their colleagues. In this respect time is considered a crucial factor. The preschool teachers need time to meet each child and each parent, and time to facilitate the children's development. Within the *relational discourse* evaluations are performed by pedagogical documentation and collegial reflection. The *relational discourse* is to some extent challenged by the *NPM discourse*. This discourse was found in statements stressing a correspondence between activities and curriculum, and the local guiding principle: *perform, evaluate, and develop*. Evaluations are made by mandatory reports to the municipal administration and locally produced inquiry forms to the parents.

Our study indicates the coexistence of two differing quality discourses regarding Swedish preschools: I) The r*elational* discourse, closely related to the quality of the daily interactions between individuals (the preschool teacher, the children and their parents), and predominant in the national documents and in the participants' statements, and II) the *new public management discourse*, predominant in the local steering documents and detectable in the nationals documents and in the participants' statements. The results raise questions on how preschool teachers can handle the intangible nature of quality in relation to the demands for measurability and effectiveness raised by local politicians. Are preschool teachers required to quantify and measure the immeasurable? How will this affect the children, the preschool teachers, and the quality of the activities performed in the preschools?

INTRODUCTION

Historically conceptions of quality in preschools and other human service organizations have been formulated and maintained by the professional groups working in these organisations (Abbott, 1988). Quality has been closely related to the nature of the daily interactions between the professionals and the receivers of services produced in these organisations (Lipsky, 1980; Hasenfeld, 1983). The above implies that quality in preschools is created and maintained in the daily interactions between the preschool teacher or childminder and the children, which could be described as a relational discourse. However during the last decades a new concept of quality, emanating from market oriented organizational ideals often called New Public Management, has gained ground in human service organisations to such extent that it can be regarded a doctrine (Bejerot & Hasselbladh, 2002). In this new managerial quality discourse the professionals' conceptions of quality are often subordinate to market economic principles such as standardization, measurement and goal fulfilment. This discourse has influenced the formulation and evaluation of the human

sector organisations' objectives in such a way that is likely to bring about drastically changed working conditions for the professionals working in these organisations (Hasselbladh, 2002).

Swedish preschools are welfare institutions required to achieve and demonstrate high quality. The preschool teachers are responsible not only for the quality of the daily activities at the preschool, but also for the evaluation and development of these activities. The latter can be problematic especially in times of diminishing financial resources. This raises question on how quality is defined, maintained and evaluated in Swedish preschools.

The here presented study aims to explore *discursive expressions of quality and quality work among Swedish preschool teachers.*

BACKGROUND

The Swedish preschool originates from sociopolitical action plans formed during the formation of the welfare state in the mid 20th century. At the time the preschool's main function was to provide childcare in order to make facilitate women's accessibility to the labor market. Developmental and educational objectives were introduced several decades later (Tallberg Broman, 2010). Today preschool is a part of the educational system, whit its own curriculum, providing children in ages one to five years education and care.

Preschool quality in the national steering documents

The Swedish National Agency for Education (2005) underline the importance of developing municipal and local systems for monitoring and evaluating the effectiveness and quality, and thereby determine whether and how the activity meets the national provisions of the Education Act and the curriculum. The preschool staff (preschool teachers and child minders) are expected to participate in and have good knowledge the evaluation and assessment of improvements, to use various tools and methods to evaluate the activity's effectiveness, and to use the results of evaluations in the continuous improvements expected. This document also stress the difficulty to find methods appropriate for the evaluation of the complex educational processes in preschools (Swedish National Agency for Education, 2005).

The revised preschool curriculum Lpfö98 (Swedish National Agency for Education, 2010) dictate that the preschools are to provide opportunities for the children to develop competences in areas such as basic understanding of mathematical concepts, whereas content or didactics are not specified. Fulfillment of objectives, documentation and evaluation are further emphasized. These evaluations are to be focused on the preschool programme and the preschool teachers' performances, rather than the children's individual achievements. However research (Pramling Samuelsson & Sheridan, 2010) shows that contradictory to the curriculum, children's individual performances are measured and evaluated in a number of Swedish preschools. This suggests the existence of contradictions and ambiguities in the concept of preschool quality which indicates the need of further research.

Coexisting discourses in the national steering documents

An analysis of three contemporary national steering documents for the Swedish preschool: *The government proposal for a new education act* (Prop. 2009/2010:165) where the chapter concerning pre-school is analysed in particular; *Quality in pre-school*, which forms guidelines for pre-school activities (Swedish National Agency for Education, 2005); and *Proposal for clarification of the curriculum for pre-school* (Swedish National Agency for Education, 2009) (Tullgren & Österlind, 2010).

Communal for the analysed documents was the strong enforcement of goal fulfilment, evaluation and documentation, and the pre-school teachers' general significance to and responsibility for the quality of the activities performed in the local pre-schools. However the analysis reviled a shift in the prevailing discourses of quality work in pre-schools in general and the pre-school teacher's role and responsibility in particular. In the documents from 2005 and 2009 the pre-school teachers are construed along with the ideas of Schöns reflective practitioner (Schön, 1983), quality is to be achieved and ensured through collegial discussions and reflection, and quality work is construed as a mutual concern for the pre-school teachers and other professional groups. Whereas in the document from 2010 the pre-school teacher is re-construed into someone who can be described as a New Public Manger (Denhardt & Denhardt, 2007) ascribed responsibility for planning, execution, evaluation and development of the activities in relation to the goals set in the curriculum, facilitating parent and child influence on and participation in the quality work.

In summary our analysis of the curriculum and other national steering documents showed two coexisting discourses concerning quality and quality work in Swedish preschools: I) a *relational discourse* within which quality was closely related to relations and reflections, and II) a *new public management (NPM) discourse* within which quality was related to measurability and effectiveness.

Preschool quality in earlier research

According to Haugs (2003) overview of Swedish research on quality in preschool the field is dominated by contradictions between different approaches where the main features is to coexisting discourses- quality as objective and quality as subjective.

Coexisting discourses in research

In an objective discourse quality is considered unambiguous and possible to measure and to achieve. Within this discourse tools for measuring is an issue, whit the right tools quality could be detected and achieved. An example on such tool is Early Childhood Environment Rating Scale (ECERS), an instrument for observing and forming an estimate of certain content in relation to goals for the preschool program. Sheridan (2001, 2009) is one example on a study where quality was evaluated using this scale (ECERS). The results shows that staff in preschools whit low quality on the rating scale tended to overestimate them self, while staff in preschools whit high quality tended to estimate them self lower.

An example on the subjective discourse is the research of Moss and Pence (1994) Here quality is considered as related to the situation and the context in which it is used. Quality is, so to speak, "in the eye of the beholder" (Moss & Pence, 1994, p. 172). This discourse has its origin in social constructivism and preschool context is considered as constructed by teachers and children and thereby quality is depending on the individual preschool and how it is constructed. By pedagogical documentation (Dahlberg, Moss & Pence, 1999) where the teachers document and analysis of a certain activity, leads to a common point of departure for (self) reflection and for construction of the preschool.

METHODOLOGY AND METHOD

Earlier studies have contributed whit definitions of quality and have given purposes on how quality could be achieved and measured. I this paper we focus on such expressions and study how this discourses express them selves, in i.e. statements of preschool teachers claiming, to be true (Foucault, 2002). For that purpose we use the methodological framework is inspired by Foucault's theories of discourse and knowledge relations (Foucault, 1982; 1993), in which discourses are regarded as more or less systematic statements about how we should think about the world (Foucault, 1993). According to Foucault discourses are related to (scientific) knowledge production, and it is the knowledge considered as the truth that forms discourses. Discourses lead to mechanisms that control individuals by construing some manners of speaking and behaving as approvable, true and good, while others are construed as false, untrue and reprehensible (Foucault, 1993). Hereby the study of discourses is closely related to the study of power relations, focusing on how these relations are operating in how people talk (Foucault, 2002).

Data was collected during a seminar where 38 preschool teachers discussed the questions: 1) What is quality in preschool? 2) How/where/when does quality become visible? 3) How can quality be achieved? 4) How can quality be evaluated? The preschool teachers where given the questions one at the time. Each question was discussed in pairs for a few minutes, where after these answers were ventilated in the lager group. Tullgren and Österlind were present during these discussions. Tullgren led the discussion and Österlind took notes on the white-board. These notations form the data of the here presented study. This perspective is used to illuminate the discourses that operate when the preschool teachers discuss quality in preschool.

The analysis showed that the *relational discourse* was predominant in the preschool teachers' answers to question 1 [What **is** quality in preschool?], and ... in their answers to question 2 [How, when and where is quality attained?]. The relational discourse is also present in their answers to question 3 [How can quality be achieved?]. While the in question 4 and 5 the manage discourse appears parallel to the relation discourse.

RESULTS – PRESCHOOL TEACHERS' TALK ABOUT PRESCHOOL QUALITY

The analysis show that the preschool teacher participating in this study express a relational discourse in which he children's wellbeing and security forms the basis of the preschool teachers' work and conceptions of quality. Within the relational discourse preschool quality is closely associated to interpersonal relations. Quality, in its widest sense, is achieved when all parties (parents, staff and children) are "feeling fine" and "want to go to the preschool". The preschool teachers make themselves responsible for the wellbeing of all parties. They also make themselves responsible for creating and maintaining the good relations (to children, parents and colleagues), which are regarded essential to the quality in their respective preschools. This relational discourse is to some extent challenged by a coexisting discourse.

Preschool quality within the relational discourse

The relation discourse was evident in statements stressing the importance of *vocational dedication*, a *positive attitude*, *good relations* and that *everyone (children, staff members, and parents) wanted to go to the preschool* and *awareness of the importance of relations and the relationship* are mentioned by the preschool teachers as important for quality in preschool.

Initially the preschool teachers state that quality is difficult to define and measure, however the correspondence between activities and curriculum is highlighted. Quality is also considered relative in the sense that conceptions of quality can vary between individuals and/or interested parties such as children, staff, parents, local government officers and politicians. However the following statements show that the preschool teachers have clear conceptions of preschool quality.

According to the statements the preschool teachers' relations to the children are crucial for the teachers' possibilities to support the thriving and development of each child in accordance with her or his individual needs and requirements. Quality is manifested in the children's positive reactions and joy, but also in their individual development which is denominated developmental steps. The preschool teachers make themselves responsible for forming an opinion of and meeting each child in accordance with his or her conditions and provide appropriate challenges. In this respect time is considered a crucial factor. The preschool teachers stress the necessity of having sufficient time to follow the development of the children. Quality is attained in the relation between the preschool teachers and the children, when the different activities and skills contribute to the children's development. In this sence, the preschool teachers' personal attitude was considered of outmost importance. The preschool teachers' relations to the parents are considered essential for the children's wellbeing. The preschool teachers find it necessary to cooperate with the parents in order to prevent the children from being caught in the middle between preschool and home. In this respect it is also important that the parents feel confident in leaving their children at the preschool.

The preschool teachers' relations to their colleagues are considered vital since quality is evaluated through collegial reflection at the team meetings. Personalen som arbetar på förskolan skall ha för ändamålet adekvat utbildning. Professional harmony among the teachers was very important and influenced the recruitment of new colleagues. Good collegial relations are also important to the preschool teachers' personal wellbeing.

Quality is evaluated through pedagogic documentation and by the preschool teachers' collegial reflections at the staff meetings. The child's development is to be highlighted in the pedagogic documentation. Child interviews can form the basis for further evaluations. Evaluations are performed by pedagogical documentations and collegial reflections. The children's expressions of *pleasure and joy* are seen as quality parameters and are reported as well as their development. It is desired that both the children and their parents participate in the evaluation process for examples through child observations and questionnaires to the parents.

The relational discourse is challenged by a management discourse

The analysis shows that the relational discourse to some extent is challenged by a management discourse. These challenges were evident in the preschool teachers' statements regarding quality audits, evaluations and other comprehensive reports induced by the national and local authorities. These pose a threat to the prevailing concept of preschool quality within the relational discourse, since they represent a market oriented concepts of quality. These threats are handled by the production of local questionnaires to the parents in addition to the mandatory ones.

The challenges to the relational discourse are also evident in the preschool teachers' statements regarding staff cuts and increased numbers of children induced by financial cutbacks.

These posed a threat to quality by adding to the preschool teachers' time shortage and hereby obstructing them from giving every child the attention vital to his or her development and wellbeing. The statements imply that this threat is more difficult to handle within the quality discourse. However the preschool teachers try to carry out necessary actions in such a way that the negative implications for the children, and the preschool teachers, are minimised.

DISCUSSION – ARE THE SWEDISH PRESCHOOL TEACHERS IN A DISCOURSIVE CROSSFIRE?

This study indicates the coexistence of two differing quality discourses regarding Swedish preschools:

    I)   The r*elational* discourse, closely related to the quality of the daily interactions between individuals (the preschool teacher, the children and their parents), and predominant in the national documents and in the participants' statements, and

II) the *management discourse*, detectable in the nationals documents and in the participants' statements.

The discourses visible in this study both have their origin in ideas about how quality could be achieved in welfare institution. The *relation discourse* however could be described as a traditional welfare discourse whit it's origin in the professionals definitions of quality as something which is to be observed in the good meeting(-s) between individuals (Lipsky, 19xx; Hasenfelt, 19xx). This two discourses are visible on a society level, not least in national steering documents (Tullgren & Österlind, 2010). *The Management Discourse* is to a minor extent present in the talk of the preschool teachers in this study. Only when it comes to measuring quality they show awareness of it's existence. They mention that evaluations of the work in preschool are seen as comprehensive reports to the municipality and often follow local, regional or national evaluation plans or schemas. Evaluations are made by mandatory reports to the municipal administration but do not maintain the discourse. The preschool teachers express strategies to cope whit such external demands at the same time continue the quality work in a relation orientated way, on a local level.

The results indicate that the two discourses operates in the same time and that the preschool teachers have to handle them both. They do that by adopting the relation discourse and by when the preschool teachers meet the management discourse, they handle those challenges so that the relation discourse not will be threaten.

The results also indicate that the preschool teachers in this study have experienced diminished financial resources in their local preschools, together whit impressions of the management discourse could forces the preschool teachers to modify their way of working in accordance with the new financial situation in such a way that it could have effects on the quality in the local preschool (Hasselblad, 2002). This could be seen as adjustment to circumstances rather than countermeasures (counterfire). It could also be understood as a strategy to be left alone and do the work as good as they can under the circumstances being. Left alone in the meaning of being allowed to work in the same way as they have done in "the good old days" although it is hardly impossible .

The results raise questions on how preschool teachers can handle the intangible nature of quality in relation to the demands for measurability and effectiveness raised by local politicians. Are preschool teachers required to quantify and measure the immeasurable? How will this affect the children, the preschool teachers, and the quality of the activities performed in the preschools?

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341 - The Teaching Practice, The School as *locus* of Training and the Mentors of the Teacher Training in Initial Pedagogy Training.

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Abstract: This research aims to analyze the trajectory of Teaching Practice, Teacher Training, ascertain the routines established in the guidance training process and indicate the challenges that emerge of guidance process in training and initiation to teaching, considering the manifestations by teachers, trainees. The research is qualitative and techniques are: research literature, semi-structured interviews and content analysis. Initial results show: the Teaching Practice and Teacher Training were understood as discipline and activity with emphasis in activity. Trainees has insecurity in first contact with children – how to act in the classroom; concern with a school team without guidance about the learning profession process and questioning of supervision received in school. The mentors have the trainees as helpers, not how to future teachers, present challenges in relation to procedures used in supervision. In this first stage of the study we proved the necessity of to value school as a locus of training.

Keywords: teacher education, teacher training, school, Pedagogy.

INTRODUCTION

The concern with teacher education began in Brazil after the Reform of Primary Education (1890), adding events such as the incorporation of the Didactic Course (1939) Subjects Pedagogical (Brazil, 1962, 1969) until the proposal of a Body of Knowledge and Teaching Practices (Brazil, 1939, 1962, 1969, 2002a; Minister of Education and Culture, 1996) and Magisterium Universitarization (Minister of Education and Culture, 1996).

In this context, the Teaching Practice and Supervised Training gained ground in the training process. Transiting between challenges to be understood as an activity and / or as a discipline, currently, has distinct roles in which the first was transformed into practice as a Curricular Component, while the other was restricted to Supervised Training. However, the issue of training has a dual interpretation: of one side it is seen only as an activity, testing or training, while the other it is intended as a discipline, field of knowledge (Brazil, 1997, 2002a, 2002b; São Paulo, 1997), having the first understand as hegemony.

Thus, in initial teacher education, Pedagogy course, you find some battles with regard to the Teaching Practice and pre-service training, for example, the national policy for training of trainers which not expected formally a responsibility of schools in didactic and pedagogic training of future teachers neither the preparation or orientation of the experienced practitioner (mentors) who guide these trainees (Brazil, 1946, 1962, 1969, 1977, 1982, 1984, 1993, 1994, 1997, 2001, 2002; Minister of Education and Culture, 1996).

In this context, the training law (Brazil, 2008, 1994, 1984, 1982, 1977) have been presented general and limited about teacher undergraduate courses, because despite of advances presented, there are emphasis at the compulsory training (or curricular), and not compulsory, at legal regulation in the field of labor in industry, factories, etc., creation or not of employment leaving the didactic-pedagogical aspects background.

In the case of teacher undergraduate courses, not it enters into the perspective of valuing of school environment, mentors preparation, the professional insertion and monitoring of new teachers in the first year out of university. Therefore, there are gaps in the constitution of professional teaching, leaving to be desired with regard to "the qualities of teachers professional practice according to the educational work requires" (Contreras, 2002, p. 74), as well as of own process of training when refers pre-service training with in Pedagogy courses:

> What was seen in the analysis of projects and descriptions of courses, it is that there is no plain specification about how they are conducted, supervised and monitored. About the validity or validation of these stages also did not find any reference. The aims are not comprehensible, neither the requirements, forms of validation and documentation, monitoring, partnerships with schools etc. This absence in the projects and discipline program may signal that are either considered completely

separate from the curriculum, which is a issue, as it should be integrated with the training disciplines and aspects of education and teaching, or its implementation is considered as merely formal aspects. A more detailed study, location, about the teacher training should be conducted (Gatti & Nunes, 2009, p. 21)[90].

In this context, what is the pre-service training and teaching practice? What role the responsibility of the university and the school? What makes mentor's Elementary School which receives and monitors the trainees? How are they selected? How do they guide the trainees?

Therefore, considering the issues raised and the issues presented, this study investigates how to develop the Teaching Practice in pre-service training in a Pedagogy course, public university of São Paulo state, using as participants the trainees and mentors. How specific aims the research analyzed the trajectory of Teaching Practice, Teacher Training, ascertain the routines established in the guidance training process and indicated the challenges that emerge of guidance process in training and initiation to teaching, considering the manifestations by teachers, teacher students and school in this process.

In this exploratory study, it was decided to for qualitative research (social constructivism) having as techniques the research literature, semi-structured interviews and content analysis. Selected arbitrarily 20 participants: 10 trainees with compliance all obligatory practical training, and 10 mentors experienced practitioner (mentors) who received trainees in their classroom. All participants signed a consent form approved by the Ethics Committee. The results were organized into two major blocks, one related to primary and secondary sources and the other linked to field work.

THE TEACHING PRACTICE AND SUPERVISED TRAINING

The Teaching Practice and Pre-service Training in Brazil

The issue of internships in Brazil, gained emphasis during the XIX century with the reforms of primary and secondary education (1890 and 1946), which revealed gaps in the preparation of teachers and presented as alternative an practice-oriented teaching to trainees in Normal Courses (1939) and in Application Gymnasiums (1946). Therefore, in the XX century begins with a critique of Didactics, questioning the Teacher Education.

From this moment, between critics of didactic and school, the training was restricted to point, just, the gaps of the school, teachers, principals etc., and they are no longer welcome at school. In this process, it created a gap between university and schools, conferring to the Secretary of Education's role to force them to receive trainees (Pimenta & Lima, 2004).

On this journey, other changes occurred as the Parecer 292/62 (Minister of Education and Culture, 1962) that established a teacher education oriented "what to teach" and "how to teach" and the inclusion of Teaching Practice as a pedagogical discipline in predisposed LDB 4024/61 (Brazil, 1961).

Hence, the term Teaching Practice (Brazil, 1962) from the ancient Special Didactics (Brazil, 1939; Bicudo, 1995), was established by public policy, aiming to approach the reality the student to the pedagogical reality of schools with respect to the experiences of teaching, going to be done within the template observation, participation and conducting.

Observation was understood as a period in which the student-teacher watched the class teacher. Participation was seen as a moment when the trainee aided in didactic activities in classroom and Conducting was restricted the time that the trainee gave the class, taking the classroom (Faria Jr, Corrêa & Bressane, 1982). Besides those roles or strategies, there were other possibilities involving monitoring arrangements like a refresher classes or students with learning difficulties; minicourses, internship proposals from emerging themes, etc. The internships could be developed individually or in groups of two or three trainees. In this context, there was also the idea the supervision be performed by a qualified teacher, with the aim to avoid some gaps that trainees committed during the process.

Thus, this kind of Teaching Practice / Supervised Training has incorporated their understanding of two concepts: discipline and activity. As *discipline* dated back to ancient Special Didactics, performing as "Teaching Practice" may incorporate both the Methodology of Teaching and Supervised Training, while as *activity* was restricted to the planning and implementation of the "Supervised Training" (Faria Jr, Corrêa & Bressane, 1982).

With these thoughts, Pimenta & Lima (2004) accentuate that the internship model presented to the trainees gave priority to the concept the Teaching Practice as an imitation of existing theoretical models and efficient

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[90] All citations in this paper are free translation.

to teach only those children who had the appropriate conditions for learning, starting to be understood by some Elementary and Secondary Schools with mistake because "the practice was only a theoretical application" (Oliveira, 2006). Therefore,

> The absence of an course project integrator caused situations from the underestimation of the presence of the trainee in school, as the destination of him to comply only manual tasks and bureaucratic, including: sharpening pencils, play in mimeograph copies of tests, follow students to the bathroom ... (Oliveira, 2006, p. 19).

With the new LDB[91] 9394/96 reaffirmed the importance of internship proposing for all the Teacher undergraduate courses the Teaching Practice with at least 300 hours, being changed in 2002[92] with the proposal 400 hours of Supervised Curricular Training, from the second half of course, with the mandate to be a learning period the profession to be exercised in the future (Brazil, 2002a, 2002b).

In this new format, thought about teacher education from a body of knowledge: knowledge, skills and abilities, teaching practices, bringing as innovation the displacement of the axis of the qualification for professional certification and with regard to "Teaching Practice" this has been thought from the perspective the "Practice as a Curricular Component".

This way the Resolutions CNE/CP nº 1 e 2 (2002a, 2002b) brought changes to the courses, having as a final proposal for an undergraduate curriculum of at least 2800 hours, including the possibility of a alternance training with 800 hours, divided in 400 hours of Supervised Curricular Training and 400 hours of Practice as a Curricular Component. In this direction, the Teaching Practice was seen as teaching practices or pedagogical practices of the Practice as a Curricular Component, because it is "a practice that produces something in teaching".

Regarding Supervised Curricular Training, this came to be guided by Law # 11.788/2008 proposing in Article 1º that the internship is "the educational school supervised (...) which aims to prepare for the job " and in paragraph 2º that it aims to own learning skills of professional activity (Brazil, 2008), introducing a higher organization between the educational institution and part of the conceding internship.

However, for some researchers on this subject, the internship is to: (a) purpose - to approach the reality in which the trainee will work, can also be seen as a place of reflection on the construction and strengthening the teacher identity (Pimenta & Lima, 2004); (b) aim - to smooth out the shock of transition the student life to the life of teacher-beginner, seeking to benefit a better assimilation of the subjects in the curriculum (Menezes & Santos, 2002) and; (c) goal - "bringing the student closer to reality in which to act, taking care not to situate the training as a practical moment of course, but as an approach to practice" (Costa, Guarnieri, Monteiro & Ribeiro, 2007, p. 86).

Thereby the training is part as a building of teacher education connecting and keeping the unity of theory and practice developed not only by student teachers, but also with the participation of professors (university) and mentors.

The mentors as a teacher trainer

In today's society, the teacher is seen as responsible for the construction the "Society of the Future" (Nóvoa, 1999), placing expectations on the projection of an ideal teacher, or in what, that…

> should know your subject, your discipline and your program, in addition to having some knowledge of science education and pedagogy and develop a practical knowledge based in their daily experience with students (Tardif, 2002, p. 39).

In fact, the school teacher is seen as a trainer of students, but forgets that he also receives trainees in your classroom and becomes a teacher trainer. Therefore, the teacher carries the daily practice being of great importance in transmission of knowledge to teach trainees, because the more significant is the guidance given to the trainee, and the relationship between them, the better their development as future professional.

Borges (2008) reflects this possibility when explain the experience with mentors in Quebec / Canada, noting that these are seen as associated teachers, taking on responsibilities for the training of trainees in the process internship and awakening in students a greater involvement with teaching.

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[91] LDBEN - National Education Bases and guidelines Law (Minister of Education and Culture, 1996)
[92] Resolutions CNE/CP #1 and # 2/2002.

In Spain, Garcia (1999b), to elaborate on the procedures for monitoring the internships, from the studies of Pérez Gómez (1992a), emphasizes two aspects with regard to guidance given by mentors: one traditional and one focused on reflection on practice. In the first,

> teaching practices are conceived as an initiation process whereby the mentor teaches to the student a set of skills attitudes, personality traits and, in definitive, his own teaching style, which is assimilated by the students through observation, imitation and practice directed (p. 40).

For the author, this conception guidance, do not permit the trainee that the perspective of teaching goes beyond that observed, being a passive learning of teaching, because for teacher "their 'know-how' is enough to consider that 'knows how to teach'" (p.41). With respect to guidance on reflective practice, the author indicates the need to train reflective teachers, or, to have practice guidelines and know how to relate between the universe of school and university, avoiding to the reproduction and / or passivity.

In Brazil, there is no national policy for training of mentors, only local initiatives and tacit agreements, guided by a social-affective dimension that tries to meet the needs linked to the internship process. However, it does include the issue the traditional guide or reflective, or, several behaviors that can be witnessed at moment of the internship, such as the relationship between trainees and teachers in this study.

The Elementary School as a locus the Initial Training

The Elementary School is conceived as an education area for students aged between six and 17 years, comprised of three steps Childhood Education, Elementary and Secondary Schools (Minister of Education and Culture, 1996). It provides full education to these individuals, with the aims: "develop the students, give them the common education indispensable for the citizenship and provide him with the means to progress in work and studies." (Minister of Education and Culture, 1996).

The school is a place for exchanging experiences between students, teachers, directors, employees, and in this environment there is the possibility for all who participate in learning (Tardif, 2002). In this context the Elementary and Secondary Schools is a scenario of teacher training, however, this training will be significantly enhanced in the in-service training.

However, while initial teacher education, usually the school is not viewed the same way, although there are perspectives that recognize it as a place of contributions to the trainees as noted in Fontana (2000) mentioned by Ferreira (2005) to affirm that although the schools deal with teaching, do not teach who work in them (especially teachers in beginning of career) (p.36). These need the school environment to learn and understand the teaching profession.

From the development of curricular internship not only the trainees are in the process of education, but also the mentors are part of this action with the exchange of knowledge and experiences that happen in this practice. In this way, it is worth mentioning that besides the school give place to the realization of stage, should also contribute to the education of this trainee.

However, the school formally is "pulling" for the training of trainees, which will be their probable future professionals (Kist, 2007, p. 34). Thus, it is necessary that the training institutions and primary schools have clarity about the profile of teacher wishing train. (Terrazzan, 2000 *apud* Kist, 2007).

THE TEACHING PRACTICE AND SUPERVISED TRAINING IN SCHOOLS: TEACHING IN THE PERSPECTIVE OF THE MENTORS AND THE TRAINEES

The transcriptions achieved from interviews with 20 participants, 10 trainees - student-teacher (AMs) of the Faculty of Education in 2009 - and 10 mentors (PCs) - experienced practitioner, of the municipal schools - were organized in themes and developed the following topics.

Participants

The AMs constitute a diverse universe in which: three work in education as school monitors (AM-I, AM-V, AM-IX); two trainees work (AM-II, AM-III) at university projects related to education for youths and adults, youth, sexuality and violence in suburbs; two (AM-II and AM-X) teach at an institution of non-formal education; one (AM-VII) teaches foreign language at a particular institution of formal education and two (AM-VI, AM-VIII) do not work in education.

The PCs were differentiated in the time of teaching: six (PC-I, PC-II, PC-IV, PC-V e PC-VII e PC-VIII) have 20 years of teaching and one (PC-VI) teaches for 11 years, all they have gone through the normal course and pedagogy and they are at the stage of diversification of the teaching career (Huberman, 1995); other PC (PC-III) has four years of teaching, went through the same path of training of their colleagues and

is on stabilization stage of the teaching career (Huberman, 1995). However, the last two, PC-IX e PC-X, did not comment about the issue.

The stages of the teaching profession give indications of the trajectory of professional life, should not be seen as something static and unchangeable, because it is flexible in its configuration proposed by Huberman (1995), and it is worth this group, three (PC-I, PC-IV e PC-VIII), in their 20 years of teaching, had a training at the university to receive trainees, conducted by professor linked to the discipline of Teaching Practice.

In mentors' look about teaching in the present and past
In reviews performed about the internship process, the PC indicated some elements that they considered necessary for the development of the internship: contact with students in the class and the routine; the participation of trainees in class; to know reality of school and interaction with the classroom teacher; the trainee must question and feel as a teacher; learning each other, other words, exchange of experiences; to analyze the practice of another teacher and integration between university and school for the training process happens so successful.

Among the comments shown on guidance to the trainee was noted:

> *so that we can help trainee as classroom teacher, (...) this trainee will need to be able to ask your doubts and also to do her part. (...) I see as an indispensable this **link between the school teacher and the trainee**, and in this environment of cooperation, collaboration, mutual learning* (PC-I).
> *I guess indispensable for the trainee to actively participate in class, integrating with the teaching process, with students, because the experience comes with practice. In theory it is easy to lead a classroom but in day to day is that you really perceive the difficulty of the work* (PC-IV).

Therefore, is valued the interdependence at the same time it shows the knowledge of experience. However, it was also registered that in the context of these guidance given by the PCs, the AMs could be seen more as auxiliary of class or be guided only when they need *"I talked a lot with her (...) she helped me (...) brought the her little class prepared, more or less as it was in my time, I helped her (...) if she needed"* (PC-V); *"(...) I guided very little in reality they were who had more interest (...) the majority already well prepared"* (PC-II). Or…

> *(...) when they ask for opinion, I guide (...) and when they do not ask, they are just sitting there in the background, I come in and say: 'You do not want to help me here (...) you do not want to give him a little help here'* (PC-V).

We can observe a guidance perspective that resembles one of the aspects presented by Garcia (1999a), the traditional, saved in due proportion, because the tonic is to learn by observation and experience. However, there was some guidance more reflective (Garcia, 1999b), pointing to the dialogue, experience in the classroom, exchange of experiences, integration between teacher and student-teacher in the accounts of PCs (PC-I e PC-IV, PC-VI, PC-VII e PC-VIII): *"had this moment of integration the trainee with class (...) we would take away the doubts (...) always talking, exchanging what we thought, what we felt, then, always talking"* (PC-I); *"First they need to experience a classroom (...) guidance comes from the doubts and questions which emerging during this training and the harmonious relations among teacher and trainee"* (PC-IV); and *"it is more talk colleague to colleague (...)it is an exchange of experiences. (...) she came with one thing and I exchanged experience with other"* (PC-VII).

With regarding the perspective of training, how these teachers were trained or how they tried to train the trainees, the accounts showed the issue of teaching and way of conceiving the profession.

In opinion of these teachers, the teaching profession has many challenges (PC-VI), because there is the needs to have love for what you do and not think about the salary (PC-II, PC-III e PC-VII); to be patient (PC-I e PC-II), to be calm, to do research before making a decision (PC-I); know how to work with diversity and to be human (PC-VI); be "strong with the students", but also to do the role of educator, mentor and friend (PC-V); concluding with the view that this practice is viewed as a rewarding experience, requiring planning, action and reflection (PC-III).

The accounts show the characteristics that are present in the socialization of the professional world with the school, valuing the knowledge of experience, morals of good customs, the affective dimension of educational act, finally, the humanization process which involves education. In this way, Sarti (2009) makes a counterpoint with university noted that it is not offered by the training institution, because this type of learning does not take a "significant place inside the training instances as the university" (p. 140).

> (...) from one side by the specificities that distinguish the university teaching and teaching profession in the early years of schooling and, from the other side, the student position from which students understand the teaching profession during this period of institutional training (Sarti, 2009, p. 140).

Thus begins at the moment the training, the transition of student to teacher, merging the rites of students, the representations of the office of student and artifacts of the teaching profession. In this transition, the PCs look to the AMs with a double eyes that includes someone who is in training and that has in her genesis of be a teacher: *"(...) they are also teachers (...) they are still studying (...) the teacher and the trainee are on equal footing " (PC-I).*

Therefore, in the list of experiences which were considered important in the transition of student to teacher, the PCs mentioned as significant aspects: have empathy, respect, kindness and sharing of experiences (PC-IV); learn with other (PC-VII) and merge the concepts of practice and theory (PC-VI). Thus, the PCs, in the guidance to AMs, rely on the knowledge of experience (Pimenta, 2002; Tardif, 2002) as the source of their social knowledge which follows one prescription invisible related with the exercise of professional teaching (Contreras, 2002), but without the density which this requires. Are mentors which love what they do, but who tend to follow a "tradition" and can teach or guide the same way they have been taught (Goc-karp & Zakrajsek, 1987).

Regarding the issue of the formation of AMs in the training process, the PCs indicated as a limiting factor of their work, lack of the teacher time (PC and PC-I-VI). About to receive training to guide this process, they demonstrated to be unnecessary to do preparatory courses (PC-I, PC-V, PC-VI e PC-VIII), but there was recognition of the need to have a initial meeting to explain the objectives of the student training (PC-I e PC-VI), as well as the teacher to be notified before receiving the trainee (PC-V e PC-VI). Unusual occurrence was a teacher to admit the need to have a course to extract the fear of getting trainees (PC-VIII).

It is observed by the teachers that they view this process in a personal manner, explaining, "your way", how to be a teacher, and consider what is more appropriate for this moment, having prerogative about your the workday and mention the lack of time, being the addition of any extra activity can mean more work.

The questions and the perspectives of Trainees about the Teaching Practice in Supervised Training

In the notes of AMs about the internship, have been identified the need and fear of being exposed towards the students of the school to say that the training involves:

> *to coordinate children (...) to put me as a teacher (...) to get children's attention, respect (...) I believe that the difficulties were more in the classroom in order of to be the first time we can see in front of children as a teacher* (AM-I).

This fact is also evidenced by Freire (1994) to admit that in the first days of conducting there is insecurity, shyness and fear of not to be able lead the planned activities. On other side there is the recognize that "[the teacher] *she has this ability of predict what will happen, unlike of us that enter just thinking that everything will be right and that does not always give*" (AM-V).

In this way, it points the school as a place that the reality "presents itself", because "*There is the strongest experiences (...) is the contact with people, (...) is not just things on paper (...) there has the emotions, (...) the events, there we go through the things, indeed*" (AM-IV).

In this way, it points the school as a locus of training, a place where there is the improvisation of acting in emergency, decide on the uncertainty, finally a place that allows review of previous knowledge linked with the exercise of autonomy (Perrenoud, 1997, as cited in Benites, 2007). In this place, Borges (2004) indicates that the teaching practice "will be certainly, a more natural experimental situation, close to real (...)" (p. 150). Although there is it understanding, there is need to put that depending on the conception of training, teaching practice or teaching profession to PCs, this moment can walk to negative experiences due to lack of understanding of this process: "*The difficult internship was relationship with the teacher (...) I was there to learn from her (...) the Internship conception of her was different, because I was always the listener, the (...) helper*" (AM-II).

In this way AM-V pointed out that "*no contact with the university professor with the other teachers (...) for mentor to receive trainee, she has to be prepared, and I felt that missed this preparation on my teacher*"

From this perspective, the training of the teacher was seen as crucial by AMs (AM-V, AM-VI e AM-X) with regard to preparing trainees to receive and they insist (AM-I e AM-VIII) in indicating the participation of teacher in a training course. In the same way AM-II and AM-V showed to they felt the lack of a teacher preparation, AM-IV stressed that it would be essential that the teachers had another understanding of the training process.

For trainees, the school's management team created some dissatisfaction about the orientation process of the future profession (AM-IV), still reporting that it was bad (AM-III). The AM-I told that *"management it is quite impartial (...) the trainee is a teacher's problem"* (AM-I).

This issue it is a problem that remains unresolved on the new Law Internship (Brazil, 2008), or on guidelines of the National Council of Education. There is no guidance for schools and teacher with regard to training of their future professional and co-workers respectively, covering the didactic and pedagogic aspects of learning the profession. The training of basic education in schools as it appears established, reflects more than a tacit agreement of good will, favor, fellowship, among other things, than a professional activity.

From the perspective of teaching as they were taught (Goc-karp & Zakrajsek, 1987), break or not with the conception of education, teaching profession (Tardif & Raymond, 2000), or even get stuck to the images and representations of school and teacher coming of primary socialization, there is the need to assume the role of teacher, to see himself as a teacher and not as a student; the same way that it becomes essential the mediation which the professor (university) makes with school and vice versa. This is a double track road, but that has persisted in following the one way.

CONCLUSION

In the study presented, it was found that the legislation leaves no forwarding features about training and / or teacher preparation to receive trainees. Concerns about the training of future teachers are in charge only of the university, leaving elementary school and the state itself without a formal responsibility. There is the Law Internship, but it only better organizes the issue of structural internships, there are progresses in this process but not in the case of Bachelor, because this context does not change substantially.

The study identified in the analysis of reports from students, the conception that they had to training and teaching, as well as understanding of the difficulties found during this process. It was observed that students, when they come into contact with professional practice feel insecurity and difficulties in relation to the pedagogical procedures. The fear of the new is present on the beginning teaching as well as the insecurity due to of not know the practice and the school reality from the perspective professional.

Therefore the discursive reality of the university, based on the theories and fundamentals, clashes with the pragmatic reality of the school expressed in "act urgently and decide on the uncertainty" (Perrenoud, 2001), leading these students to have to reframe their conceptions and practices.

From the reports of students and teachers, we found two types of forwards with respect to the teacher trainer: the first being that train the student from the model "trial error" (Garcia, 1999a), while the second works from a reflective perspective, with the support of experiential knowledge.

Among the PCs, only three had the understanding that the internship is a learning space for the future teachers, being that from these, two said they had done preparatory course to receive the trainees, indicating that it is something that cannot be ignored. Therefore, the initial teacher training requires a reformulation of the adequacy of the Teaching Practice / Supervised Internship in particular, and the Law Internship regarding to teacher training.

As a perspective, Borges (2008), based on studies by Tardif (2000) and Bourdoncle & Lessard (2003), suggests us the professional training model centered on the epistemology of professional practice on which appreciates the knowledge of experience. In this proposal, the school becomes the center of the future teachers' education, involving not only the mentor but also a university professor and trainees, as well as principals, educational coordinators, supervisor of education, etc.

We conclude that there is need to value the school as a locus of training, taking to school the responsibility for education of future teachers concurrently with the university.

ACKNOWLEDGEMENTS

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348 - Self-Efficacy Beliefs of Brazilian Student Teachers of Physical Education in Situations of Teaching Practice

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Abstract: Teacher self-efficacy is the judgment about teacher capabilities to achieve, within the teaching domain, determined learning outcomes and students' engagement (Tschannen-Moran & Woolfolk Hoy, 2001), and it is constituted by four sources: mastery experiences, vicarious experiences, social persuasion and physiological and affective states. This study aimed to measure and analyze the strength of self-efficacy for teaching and the sources of this belief. 114 students in final grade (fourth year) of undergraduate courses participated. Data was collected by two Likert-type scales of six points – *Physical Education Teacher Self-Efficacy Scale,* and *Teacher Self-Efficacy Scale Sources*, and a questionnaire of characterization of the participants. Student teachers presented moderate self-efficacy belief (M=6.69) for teaching. Vicarious experiences (M=4.73) and social persuasion (M=4.61) were the highest scores to constitute this belief. The results provide directions for reflection about the teaching practices during undergraduate courses, and practices of physical education teachers in service.

Keywords: Teacher self-efficacy, Teaching practice, Physical Education

INTRODUCTION

Teaching, as pointed out by Gibbs (2003) is a task that requires specific knowledge, skills, and beliefs. It is closely related to the context, to the characteristics of teachers, students, school, family, etc. With greater or lesser intensity and frequency, it is mainly in teaching activities that teachers are driven to rethink their practices and their knowledge about their own ability to deal with the context in which they work, confronting and managing these claims.

When looking at the work of the physical education teacher at the school in recent years, the challenges are neither few, nor even simple. Teaching Physical Education carries some peculiarities and challenges in relation to other subjects in the curriculum, as the physical space, the dynamics of classes and the students' exposure. In the Brazilian school scenario, there are some of them like changes in curriculum content, new government policies, increased rates of absenteeism of students, especially in high school, lack of students´ motivation to participate in classes, limited support of the government bodies, of the administrative board of the school, low status among peers from other areas, etc. (Bracht et al. 2002; Darido, 2004). This seems to be no different in other countries as demonstrated by the studies of Marshall & Hardman (2000) and Martin & Kulinna (2003).

When contextualizing the teaching practice in physical education, it is important to note that his process implies to reflect critically, to discuss, to make choices, and to support the decisions made in the uncertainty of the complexity of the teaching process considering the context and the possibility of developing autonomy. Therefore, it is essential that teachers have clarity of the multiple contributions of Physical Education as school subject. Also, they must see themselves able to turn into reality such contributions, considering a set of factors on various levels: physical, political, administrative, professional, and the difficulties they face in the daily actions at school.

Given the complexity that permeates education, it is essential to search for theoretical frameworks that contribute to the understanding of which variables, how they relate and affect the judgments that teachers make about their abilities and skills to manage such demands. Besides, it appears to be equally important the choices to be made, the decisions to be taken, as well as the consequences of these actions in the school.

In this direction, this study is on the framework of Social Cognitive Theory, specifically the construct of self-efficacy proposed by Albert Bandura (1986, 1997), offering contributions to the pedagogical practice of the physical education teacher at school. Self-efficacy is, according to Bandura (1997), the main mechanism that enables this operation and refers "to beliefs in one´s capabilities to organize and execute courses of action required to produce given attainments" (p.3). The studies that deal with self-efficacy beliefs have been gaining ground in the academia for over three decades, and their insertion has occurred in contexts related to education, health, high-competitiveness sports, among others.

Once recognizing the role of the beliefs in human functioning, especially in the context of teaching, it seems possible to consider that, as important as acquiring the skills, competencies and knowledge needed for teaching, teachers need to believe they will be able to exercise their roles with some success.

About this issue, Bandura (1997) states that self-efficacy beliefs "operate as a key factor in a generative system of human competence" (p.37). He adds that an effective operation requires skills and self-efficacy beliefs to use well the skills one possesses. According to him, "perceived self-efficacy is not a belief about the skills one has, but on the belief of what one can do under different conditions with the skills he possesses." It is in this direction that knowing and understanding the construction of self-efficacy beliefs of teachers can generate knowledge for planning situations that promote high self-efficacy beliefs, especially by higher education institutions in the process of educating future teachers.

Bandura (1997) postulated the existence of four sources that constitute the self-efficacy beliefs, they are: a) enactive mastery experience, b) vicarious experience, c) verbal persuasion and d) physiological and affective states related to the activity performed. In the context of teaching practices, the experiences directly lived by the student teachers in everyday teaching practice constitute the most effective way to create a strong sense of efficacy. One important aspect of this type of source, and that goes beyond the results achieved in fulfilling the task, is to provide information about his ability, not just about the performance achieved.

According to Bandura (1997), performance by itself does not provide enough information to judge the level of one's capabilities. When people experience the success easily, they are unlikely to persist when failure occurs. On the other hand, when someone succeeds in an activity and this result is assessed as positive and derived from one´s own effort to overcome obstacles present in the activity and / or the environment, this often increases the belief in one´s capability to perform this activity or similar ones (Bandura, 1997).

A second way of building this belief is through the experiences learned via observation of social models. Observing other teachers teaching classes, watch movies and videos related to teaching are examples of how this type of source can contribute to construct teacher self-efficacy. Bandura (1997) points out that "[...] competent models transmit knowledge and teach observers effective skills and strategies for managing environmental demands" (p. 88). To Tschannen-Moran, Woolfolk Hoy & Hoy (1998), teachers regarded as models of success are the foundations to show that teaching can be a task able to be handled, and the personal and the context resources may be appropriate.

The verbal persuasion works insofar as it seeks to persuade another, usually verbally. The constant dialogue between supervisors, student teachers and teachers with the goal of providing feedback, guidelines, praises, etc., may facilitate the beliefs of self-assertion so that they create self-incentives for the development of the skill level, of self-efficacy beliefs and this dialogue can provide information about the performance through feedback (Bandura, 1997). It also affirms that the impact that persuasion can cause in the construction of the belief, depends on the credibility, knowledge and experience of the persuasive source on the activity.

The fourth source of information of self-efficacy belief is called physiological and affective states. Level of activation (arousal), fatigue, stress, anxiety, tension, pain, mood states are manifestations that can alter the perception of self-efficacy, because they directly affect the judgment that people make about their own capability to accomplish a given task. When student teachers are teaching, especially those who consider themselves insecure, they may trigger different psychophysiological reactions - excessive sweating, falling blood pressure, heart beat and mood changes etc. The interpretation given to these reactions tend to influence the mobilization of efforts to carry out a given task (Mulholland & Wallace, 2001; Tschannen-Moran, Woolfolk Hoy & Hoy, 1998).

Considering these issues, it is possible to think of initial training courses in order to make them offer these grounds so that future teachers can add new knowledge about the teaching profession from a perspective that considers the teacher as a pro-active subject that, in the interaction with the context, can see himself capable to cause changes in the reality of the classroom, of the school and of the community around it. The necessary subjects for the formation of a physical education teacher in the Brazilian reality are related to educational knowledge and, among these, the Teaching Practice occupies a privileged place. The Brazilian legislation in the area of teacher education determines 800 hours of practice as a curricular component, and supervised internship. The objective is to promote the articulation of different knowledge that had been developed over the course within an interdisciplinary perspective.

Thus, this research is related to situations of teaching practices in physical education and aimed to identify and analyze the strength of self-efficacy for teaching, and the sources of this belief with student teachers from Vale do Paraíba, São Paulo, Brazil.

METHODOLOGY

Participants

114 senior physical education teacher students participated in this study. 54.4% are male and 45.6% female. The age range of the participants was from 19 to 46 years old, with an average of 24.6 years old and standard deviation of 4.92 years. All of them were bound in undergraduate courses in physical education from three private institutions of higher education in the state of São Paulo, in Vale do Paraíba. The average of weekly trainee hours was 16.01 hours with a standard deviation of 9.6 hours. Students completed this schedule for an average of seven months, approximately, with 56.6% of respondents spending time in public institutions and 43.4% in private ones. The majority (94.7%) of them went as trainees in elementary school. As for the context of the training, 79.8% felt themselves supported by the governing body of the school, 81.6% perceived that there was freedom so they could express their ideas with teachers in schools, and 86.8% felt well prepared to undertake supervised practice in schools.

Instruments

The respondents answered the characterization questionnaire of the participant and of his teaching, which aims to obtain information about the participant such as sex, age, whether future teachers took the internship in public or private institutions, and other information.

For assessing teaching self-efficacy, the Teachers' Sense of Efficacy Scale longer version was used, (Tschannen-Moran & Woolfolk Hoy, 2001) translated into Portuguese by Polydoro et al., 2004. The Portuguese version is a Likert scale with an interval of 6 points, 1 (little) to 6 (very much), comprising 24 items distributed in two dimensions - the intentionality of teaching and classroom management. However, in this study, given the results of factor analysis, it was chosen the dimensionality of the original version, i.e., three factors as proposed by Tschannen-Moran & Woolfolk Hoy (2001). This is a Likert scale with an interval from 1 to 9, with the meaning of graduation in a continuum from 1 (nothing) and 9 (a great deal). This scale consists of 24 items distributed in dimensions: Efficacy for Student Engagement (ESE), i.e., the belief in the capability to mediate and promote the mobilization of the student in order to perform the activities ($\alpha = .91$); Effectiveness for Instructional Strategies (EIS), that is, the belief in the capability to develop strategies to promote thinking and learning for students ($\alpha = .90$), and Efficacy for Classroom Management (ECM), .ie., the belief in the capability to manage the development of teaching activities ($\alpha = .86$).

In order to investigate the sources of teacher self-efficacy, it was used the Sources of Self-Efficacy Scale. It is a Likert scale consisting of a set of 16 statements related to items on the four sources of self-efficacy (Iaochite, 2007). The scale was developed based on the recommendations proposed by Bandura (1997, 2006). The original version was submitted to analysis of two expert judges in the theoretical analysis and the construction of psychological assessment instruments. It was assessed the relevance of the items about the clarity, theoretical precision, language, simplicity and suitability, according to the methodological procedures undertaken by such instruments. The final configuration of the instrument was made after the convergence of opinions and the final acceptance of both judges. The instrument considers a continuum from 1 (completely false) to 6 (completely true) points and tries to analyze the degree of agreement of the respondent to the content described in each item. The factor analysis of the main components with varimax rotation showed that only four factors had eigenvalues greater than or equal to 1.0 and responded to 57.37% of total variance. The scale consists of four dimensions ($\alpha = .81$) corresponding to the postulates of Bandura (1997), and Enactive Mastery Experience ($\alpha = .58$), Vicarious Experience ($\alpha = .58$), Verbal Persuasion ($\alpha = .75$) and Physiological and Affective States ($\alpha = .78$) Data from the first exploratory analysis of the instrument are contained in the study of Iaochite & Azzi (in press).

Data Collection and Analysis

After choosing the set of instruments, Physical Education college professors were contacted. Their selection was done by convenience, through emails and meetings. Professors of three private institutions of higher education in Physical Education in Vale do Paraíba, State of São Paulo, were contacted. During the initial contact with these professors they were informed the study objectives and were asked to grant permission to collect information from the students. Data were collectively collected, in only one meeting in the classroom during the class period and after the permission of the professor. Initially, the study purpose was explained and the invitation for voluntary participation in the study was made. The data collection was made by the author of the study and the instruments were distributed after the participants signed the Term of Consent.

The study was approved by the Ethics in Research Committee (UNITAU # 312/08). Data were analyzed with the help of SPSS (Statistical Package of Social Sciences).

RESULTS

Table 1 shows the results. Participants acknowledged a moderate level of teaching self-efficacy, with an average of 6.78 points for the Efficacy for Instructional Strategies subscale (EIS), then the average of 6.73 points for the Efficacy Student Engagement subscale (ESE), and finally, the subscale Efficacy for Classroom Management (ECM) obtained 6.58 points in a nine-point scale.

According to the statistical analysis of the level of self-efficacy of participants for each item of the scale, the results show that for the EIS factor, the scale items with the highest and the lowest values were, respectively, "How well can you provide appropriate challenges for very capable students? "(M = 7.26, SD = 1.57) and "How much can you adjust your lessons to the proper level for individual students?" (M = 6.49, SD = 1.78).

To the dimension ECM, the item "How much can you get children to follow classroom rules?" was the most scored one (M = 6.91, SD = 1.71), whereas the item "How much can you do to control disruptive behavior of in the classroom?" received the lowest score (M = 6.15, SD = 1.71). The items "How much can you do to get students to believe they can do well in schoolwork?" (M = 7.12, SD = 1.56) and "How much can you do to get through to the most difficult students?" (M = 5.70, SD = 1.74) received respectively, higher and lower scores on ESE factor.

Table 1

Mean scores, standard deviations on student teachers'ratings on the Teachers' Sense of Self-Efficacy Scale *(N=114)*

Item	M	SD
Efficacy for instructional strategies	6.78	0.04
24. How well can you provide appropriate challenges for very capable students?	7.26	1.57
20. To what extent can you provide an alternative explanation or example when students are confused?	7.06	1.66
11. To what extent can you craft good questions for your students?	6.88	1.75
18. How much can you use a variety of assessment strategies?	6.75	1.75
23. How well can you implement alternative strategies in your classroom?	6.75	1.74
7. How well can you respond to difficult questions from your students ?	6.60	1.38
10. How much can you gauge student comprehension of what you have taught?	6.60	1.81
17. How much can you do to adjust your lessons to the proper level for individual students?	6.49	1.78
Efficacy for classroom management	6.58	0.04
13. How much can you do to get children to follow classroom rules?	6.91	1.71
19. How well can you keep a few problem students form ruining an entire lesson?	6.85	1.60
21. How well can you respond to defiant students?	6.79	1.80
5. To what extent can you make your expectations clear about student behavior?	6.60	1.59
8. How well can you establish routines to keep activities running smoothly?	6.60	1.62
15. How much can you do to calm a student who is disruptive or noisy?	6.55	1.56
16. How well can you establish a classroom management system with each group of students?	6.39	1.80
3. How much can you do to control disruptive behavior in the classroom?	6.15	1.71
Efficacy for students engagement	6.73	0.09
6. How much can you do to get students to believe they can do well in schoolwork?	7.12	1.56

Table 1

Mean scores, standard deviations on student teachers'ratings on the Teachers' Sense of Self-Efficacy Scale *(N=114)*

		(Cont.)
12. How much can you do to foster student creativity?	7.02	1.68
9. How much can you do to help your students value learning?	6.93	1.62
4. How much can you do to motivate students who show low interest in schoolwork?	6.91	1.84
14. How much can you do to improve the understanding of a student who is failing?	6.81	1.72
2. How much can you do to help your students think critically?	6.55	1.81
22. How much can you assist families in helping their children do well in school?	6.48	1.98
1. How much can you do to get through to the most difficult students?	5.70	1.74

Moreover, the data of the scale on teacher self-efficacy sources were analyzed. As shown in Table 2, data demonstrated that the source which the participants attributed the highest score was Vicarious Experience (mean = 4.73, SD = 0.54). Then it was followed by Verbal Persuasion source (M = 4.61, SD = 0.66). The sources named Physiological and Affective States (M = 4.25, SD = 0.38) and Enactive Mastery Experience (M = 4.07, SD = 0.67) were those which received lower scores.

Finally, Table 3 presents an exploration of potential relationships between: perceptions of self-efficacy for teaching of the student teachers, sources of self-efficacy, and the variable related to the context where the trainee was performed. This variable was composed by the items "type of institution where the internship happened - public / private)", "conditions of the infrastructure of the space of classes", "support of the administrative board", "freedom to express ideas with teacher-employee", "feeling prepared to perform the job". The correlations were mostly highly significant (p ≤ .001) among nearly all variables, especially between the factors of the teacher self-efficacy scale (r = .84 = .89). Moderate correlations were found among the sources of teacher self-efficacy (r = .33 = .57), between the factors of the teacher self-efficacy scale and sources (r = .22 = .29). Regarding the association among the teacher self-efficacy, the context, and the sources of self-efficacy, both Verbal Persuasion and Mastery Experience sources (r = .29 and r =.21), as well as the ESE factor (r = .26) were weakly associated with the context.

Table 2

Mean scores, standard deviations on student teachers'ratings on the Sources of Teacher Self-Efficacy Scale *(N=114)*

Item	*M*	*SD*
Enactive Mastery Experience	4,07	0,67
13. Facing challenging situations and they spend more effort as a teacher is contributing to what I think about my ability to teach.	4,96	1,06
1.What I think about my ability to teach concerns and experiences that were important to me.	4,49	1,28
5. The mastery experiences of my teaching practice affect what I think about my ability to teach.	3,74	1,63
9. When I make mistakes, it affects what I think about my ability to teach.	3,10	1,38
Vicarious Experience	4,73	0,54
14. Note explaining competent teachers on teaching practice - what they do, how they do so – Influence what I think about my ability to teach.	4,97	1,15
2. Observe skilled teachers teaching contributes to what I think about my ability to teach.	4,91	1,21
10. When I mentally visualize successful experiences in my teaching practice, this contributes to what I think about my ability to teach.	4,61	1,21
6. Watching movies or videos of competent teachers contributes to what I think about my ability to teach.	4,42	1,41
Verbal Persuasion	4,61	0,66
15. Hear comments from people who admire recognizing my progress as a teacher affects what I think about my ability to teach.	5,31	,085
3. Hear comments about my work as a teacher made by teachers that I admire, influences what I think about my ability to teach.	5,08	1,11
11. Receiving feedback from my students evaluate my teaching practice influences what I think about my ability to teach.	4,60	1,22
7. Comments that depreciate my teaching practice affect what I think about my ability to teach.	3,47	1,62
Physiological and Affective States	4,25	0,38
12. The perception of positive feelings during my teaching practice helps when I think about my ability to teach.	5,18	0,85
4. When I realize that I'm looking forward, it affects what I think about my ability to teach.	4,04	1,47
16. Changes in my mood during my practice as a teacher affect what I think about my ability to teach.	3,95	1,59
8. Symptoms such as fatigue, pain, irritation, are indicative that affect what I think about my ability to teach.	3,85	1,58

Tabel 3

Person coefficients on the factors of Teachers' Sense of Self-Efficacy Scale and Sources of Teacher Self-Efficacy Scale *(N=114)*

	Variable	1	2	3	4	5	6	7	8
1.	EIS	1	.88**	.84**	.22*	.23*	.05	.26*	.05
2.	ECM		1	.89**	.22*	.29**	.14	.28**	.19
3.	ESE			1	.13	.26*	.10	.23*	.26*
4.	EME				1	.33**	.57**	.54**	.21*
5.	VE					1	.48**	.33**	.10
6.	VP						1	.45**	.29**
7.	PAS							1	.43
8.	CONT								1

Note. 1. EIS= Efficacy for Instructional Strategies 2. ECM=Efficacy for Classroom Management 3.
ESE= Efficacy for Student Engagement 4. EME= Enactive Mastery Experience
5. VE= Vicarious Experience 6. VP= Verbal Persuasion
7. PAS= Physiological and Affective States 8. CONT=Contextual.

* p ≤.05.
** p ≤.001.

DISCUSSION

The study aimed to identify and analyze the strength of self-efficacy for teaching and the sources of this belief with student teachers of physical education. This started from the assumption that identifying self-efficacy for teaching and its sources in teacher education students is the first step to suggest adjustments and changes in the perception of confidence to teach.

The results presented a moderate level of self-efficacy for teaching with the Brazilian student teachers participating in this study. These results agree with literature, to the extent that other studies show student teachers with self-efficacy beliefs for teaching above average. Yilmaz & Cavas (2008) when investigated the effect of the practice of teaching science on self-efficacy for teaching, and for classroom management of Turkish pre-service elementary teachers, they found that nearly all (n = 185) had from moderate to high self-efficacy for teaching. Similar results were found in the study by Poulou (2007) with 198 fourth-year students from primary education departments in Greece, these students obtained higher scores for the ESE and similar scores for EIS and ECM. Bakar et al. (2008) in a study with science student teachers in Malaysia reported that the highest level of self-efficacy for teaching was linked to the ESE and that all dimensions of teacher self-efficacy were positively correlated with the preparation course.

Harlin et al. (2007),when they were studying the development of teaching self-efficacy belief over time of American agricultural science student teachers, found high self-efficacy beliefs at the beginning of the semester (with no teaching experience). Throughout the teaching experience, the scores decreased, and increased again at the end of teaching practice. Studies in the context of physical education in different institutions of higher education, have found similar results as this investigation. In general, the scores range from "some influence" and "quite a bit" (5-7 points). Silva, Iaochite and Azzi (2010) conducted a study with student teachers from four private institutions resulting in a mean score slightly higher for the dimensions of instructional strategies and student engagement in relation to classroom management.

Specifically in the area of teaching in physical education, or studies that include in-service teachers of this subject had scores for moderate and high perceived efficacy related to teaching (Onofre, Carreiro da Costa & Marcellus, 2001; Iaochite, 2007, Martin & Kulinna, 2005, Nix 1998).

Similarly or more important than identifying the strength of teaching self-efficacy in teachers, it is to know how this belief is built. Reports from teachers indicate that the perceived capability to teach is built from information gathered from various sources, such as the experiences of success and failure related to the role of being a teacher, and perceived feelings from these experiments. Also, from the feedback received from students and directors, the possibility of observing other colleagues teaching classes and by combining these and other information related to the teaching task and to the context where the teaching occurs. Bandura (1997) argues that self-efficacy beliefs "are the product of cognitive processing of diverse sources of efficacy information conveyed enactively, vicariously, socially, and physiologically. Once formed, efficacy beliefs contribute to the quality of human functioning in diverse ways"(p.115).

The results showed that among the sources postulated by Bandura (1997), the situations related to vicarious experience and verbal persuasion are the ones which had the highest averages, respectively, contradicting the results obtained by Poulou (2007). One hypothesis that is raised on these results is that the student teachers had few opportunities to practice teaching directly, since most schools did not allow student teachers to conduct the classes. This could even justify the low score obtained by the set of situations related to enactive

mastery experience. Thus, among the opportunities that the internship program can offer, observation and dialogue with the teachers at school were the most commonly performed. It is a fact that observing good teachers, especially the ones with similar characteristics as the observer, contributes to increase teaching self-efficacy (Bandura, 1997; Tschannen-Moran & McMaster, 2009). However, the observation of actions which are not appropriate for teaching, with the proper reflection of how these could be associated with different pedagogical knowledge, can serve as sources for the determination of how much one is capable to act in another direction other than that of the observed model. According to Schunk (1987, in Usher & Pajares, 2009) "they (students) are most likely to alter their beliefs following the model's success or failure to the degree that they feel similar to the model in the area in question" (p .89). She adds that, self-comparison of current performances with past ones is another type of vicarious experience that can alter one´s self-efficacy.

In this investigation, among the items displayed in the scale about the sources of teacher self-efficacy, "Listening to comments from people who I admire recognizing my progress as a teacher affects what I think about my ability to teach" was the highest score obtained (M = 5.31). Verbal persuasion was the source with the highest score and was positively associated with teaching self-efficacy, like the studies made by Lonney (2003) and Gür (2008) with the aim of examining the predicting variables of self-efficacy of science teachers in elementary schools in Turkey, they found that for beginning teachers, verbal persuasion was also a predictor of teaching self-efficacy beliefs. Since the school in its social nature, is one of the most significant spaces for the construction and development of knowledge, beliefs, abilities and personal skills, communication and social interaction can be boosting this construction.

Although one of the items with higher scores are linked to physiological and affective states, namely, "The perception of positive feelings during my teaching practice helps when I think my about my ability to teach" (M = 5.31), the scores from this source and the enactive mastery experience had the lowest averages. These results partially agree with data from other investigations (Mullholand & Wallace, 2001; Poulou, 2007). As for the source of enactive mastery experience, the fact that the student teachers, mostly, could not directly experience teaching at the school may have contributed to the low score of this source in this investigation.

Finally, the correlations found between the variables, especially between teacher self-efficacy and the sources of information, albeit weakly associated, encourage the search for future investigations that might better explain these relationships. Moreover, through these associations, it is possible to confirm the theoretical postulations that the constitution of the belief occur by different pathways, since it depends on the assessment that the teacher makes on both the task of teaching and on the skills one has to perform it under the existing conditions (Tschannen-Moran, Woolfolk Hoy, Hoy, 1998). This means to say that the way each source relates (impacts) on self-efficacy depends on the cognitive processing of this information, that is, of what is remembered and the value (meaning) that they pose to the teacher. Bandura (1997) explains that the sources that carry some amount of efficacy vary as to the degree of information, interaction and complexity of the self-efficacy judgment. He said the relationship may be linear (the higher the contribution of a factor, the higher the self-efficacy) and curvilinear (the moderate level is more adequate than low or high levels). For example, given the contribution of direct experiences as a source of information of capability, it is likely that the more meaningful and positive experiences the teacher has, the higher his self-efficacy is. The same does not seem to be true when it comes to the physiological and affective states, because in lower or higher levels, the physiological activation will depend on how the teacher judges such reactions, which may cause anxiety states or even apathy.

CONCLUSION

This study aimed to measure and analyze self-efficacy beliefs for teaching and the sources of these beliefs. The knowledge, the possibilities and manner of acting that student teachers adopt during their education are mediated by what they think and believe, and in the axis of mediation, there are the self-beliefs of these student teachers, especially self-efficacy (Gibbs, 2003). To this author, the teacher training programs must provide inputs for teachers to exercise self-control over their thoughts, emotions and actions during the teaching process, thus giving special attention to the development and the exercise of self-efficacy in their teaching activities.

However, it is important to consider that direct experience as an information source of self-efficacy should be seen not as something done, but it must be understood as a behavior that is dynamic, multidimensional, constructed, organized and controlled by the cognitive processing of a series of information that are within in this action and through the sub-cognitive and self-regulatory skills, which tend to strengthen as this action is successful over time. Teacher education courses should encourage in their disciplines the practice of teaching in situations that increase the complexity, to the extent that student teachers master the task and express confidence to continue to learn to be a teacher.

According to Bandura (1997) to building high self-efficacy scores, it is important the acquisition of cognitive, behavioral and self-regulatory tools in order to create and perform the necessary actions to manage the changes that occur. He reaffirms the complexity of this process, stating that "[...] having knowledge and skills does not produce high attainments if people lack the self-assurance to use them well"(p.80). As previously mentioned, the moments of academic internship can become - depending on how the teacher in college select, organize and manage the multiple factors involved in the teaching-learning process - excellent opportunities to go beyond these conditions, to build high self-efficacy beliefs in these future teachers.

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364 - World Bank, IMF and WTO and the Interference in the Brazilian Educational Policies at the end of the Twentieth Century and in the First Decade of The Twentieth Century

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Abstract: This article discusses the role of the World Bank, IMF and WTO in the Brazilian educational policies in the late twentieth and early twenty-first century. Inheritances of post-World War II, these international bodies were established in order to establish interventions and treaties in various fields, among them the educational ones. Until the late 1970s, several of their programs were focused on industrialization policies, using the argument that poverty in the peripheral countries would dissipate the effect of economic growth. However, as of the nineties to the twentieth century, these interferences have affected consubstantially the educational policies of various countries, including Brazil, where an area is noteworthy in different levels of education: evaluation of the effectiveness of investments financed by such bodies in this country. Another point which this article addresses is the merchant issue which settled in the educational field in Brazil, because of the design of the documents placed in these international bodies, in which education becomes a service. This situation becomes clear when analyzing the texts of policies for the Brazilian education at different levels, as well as some reports from these entities, including "Knowledge and Innovation for Competitiveness", published in 2008, which brings an opinion obtained by data from the PISA assessments as to justify the close relationship between economic development and "production" of Brazil's human capital through education.

Keywords: public policies, international organizations, commoditization of education.

This article discusses the role of the World Bank, IMF and WTO in the Brazilian educational policies in the late twentieth and early twenty-first century. Another point that is worked is merchant issue which settled in the educational field in Brazil, because of the design documents placed by these international bodies, in which education becomes a service. In the early twentieth century and especially after the Second World War, around the world, the vision of progress was closely tied to the idea of expanding markets by creating the jobs and the accumulation of capital. The development of poorer countries occurs mainly with technical and financial support of countries that hold more capital. By this historical point, it was believed that the development of peripheral countries depended far more on developing a rational, global and comprehensive model of development than the actions that the countries could take individually.

So, to give "body" to this development ideals, the international organizations were created with the function to assist technically and financially the peripheral countries, including the IMF (International Monetary Fund) and WB[93] (World Bank), which was created in the conference of Bretton Woods in 1944 and which currently has 176 borrowing countries, including Brazil, five countries define the political strategies of action of the bank - Japan, Germany, France, UK and USA, and the last one holds the presidency of the Bank, besides having veto power for the policies and proposed actions.

In the 40's, the resources of the IMF and WB gave priority to the reconstruction of the countries devastated by the war, later they turned their interests to third World development. According to Haddad (2008:7) "Such multilateral financial institutions (IFIs) began to operate in a coordinated manner in the globalized international economy in the deepening and implementation of policies that favor the reproduction of global capital."

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[93] The World Bank today is composed of a set of organisms, among which the main organism is the IBRD (International Bank for Reconstruction and Development), which includes five other agencies: the IDA (International Development Association), IFC (International Finance Cooperation), ICSID (International Centre for Settlement of Investment Disputes), MIGA (Multilateral Investment Guarantee Agency) and GEF (Global Environment Fund).

Thus, from the mid 50's to early '70s of the twentieth century, around 70% of World Bank loans were intended for industrialization policies in the third World, in order to include the countries of this bloc in the international trade system.

However even with such a policy of financial incentives under the aegis of economic progress in the following decades, something drew the attention of those bodies: the matter of the increasing birth rate and growing poverty and widening gap between social classes in countries served by the programs in place. (Haddad, 2008)

In 1968, Robert McNamara starts in the management of the World Bank, the same period in which the previously dominant view that poverty would be extinct as a consequence of economic growth had already weakened. At that historic moment, according to Tommasi (2007):

> The World Bank began imposing a series of conditions for the granting of new loans. Through these conditions, the World Bank (as the IMF) started to intervene directly in the formulation of domestic policy and to influence even countries' laws. Thus, as of the 80s, the character of the relationship between the World Bank and the developing borrower countries profoundly changed. Overcoming the traditional influence that it already used to have on the sector policies of developing countries, the World Bank came to exercise extensive control over the set of domestic policies being a key part in the restructuring process in these countries over the past fifteen years. (p. 21)

In the late eighties of the twentieth century, the world was immersed in the Neoliberal ideology, which was stamped on the world public policy and introduced itself as the only way of action for the developing countries so that they could be inserted in the context of modernity. However, it is known that it did not. Instead, national governments, including Brazil, have found themselves constrained to meet the political and economic demands that contribute even higher dependence and vulnerability to decisions made internationally.

The neoliberal ideology finds support in the design of the minimal state, which implies an inversion / resizing of the powers of the state, directing their actions to minimum services such as policing, for example. The regulation of services, including education, must be made by the market, so words such as competition, efficiency, total quality and rational use of resources gain strength in that context.

> The current neoconservative policies recommend to gradually reduce public investment in education, and eventually to their complete elimination. It considers that the state monopolized functions which belonged to private companies and advises reversion of this relationship, especially in poor countries. (World Bank, as cited inPuiggrós, 1997, p.224)

At that moment in history, education, knowledge and science gained a key role in the global scenario, marked by extremely technical and the new production and development paradigm once they are seen as a driving force for productive transformation and economic development of societies. Therefore, the connection between education and knowledge-development-economic performance is evident, and the education is pointed, in the neo-liberal perspective, as a problem closely linked to economic bases. Here there is no room for unqualified workers, who is unable to abstract new technologies and who do not have autonomy in carrying out their activities (Oliveira, 2009).

In order to have a coalition of forces between the national economic and educational objectives, according to Haddad (2007),

> The mechanisms of influence from the WB reached the guidelines of educational policy always in complement to the educational macroeconomic guidelines established by Brazil in its agreements with the IMF. Thus, for example, while the macroeconomic guidelines determined the spending cuts and structural adjustment, the guidelines of the WB in education, to be coherent, focused resources in elementary school, they were more concerned with efficiency than with the system increased spending, operating under the logic of cost-effectiveness. They bet on the idea of expanding the service with the same amount of resources. (p.11)

This communion of actions demonstrates the magnitude of interference in the decisions of these bodies on national public policies, once education is now seen as a strong component related to the economy; the project must be united so that conditions can be generally and totally met, at least in quantitative terms.

Oxfam apud Silva, Azzi and Bock (2008:21) notes that "despite the Bank and the Fund play different roles, one cannot have one without the other. (...) Studies have stipulated that the Bank-financed projects bring an average of 114 conditions, if one computes the IMF ones which are automatically linked to them."

A clear example of this relationship education / economy is found in the document "Knowledge and Innovation for Competitiveness", published by the World Bank in 2008 where, in 334 pages that compose it, Brazil is mapped and the obstacles faced by it to become competitive globally are considered, having education as one of the bases of the project to leverage the country economically in the international arena.

In order to justify their "concern" about the development of Brazil, the report points out the rating of Brazil in Global Competitiveness Index (GCI) in 2006, pointing out some key items for the consolidation of the ideals of high worldwide competitiveness of Brazil. They are: Institutions, (79) Infrastructure (70), Macroeconomics (91), Health and Elementary Education (52), stimulation of efficiency (51), Sup Education Training (50), Market Efficiency (55), Technological capacity (51), factors of innovation (36), business sophistication (33) and innovation (39). With rates ranging from zero to one hundred, the country at that point is targeted with index 57 in the global level, and throughout the text it points the intimate relationship between low levels for education and those related to innovation[94], presenting a relation of cause and effect. (World Bank, 2008)

According to that document, such low rates of innovation in development are tied to the issues of education inefficiency in Brazil since

> The ability of a nation to create new knowledge and technology is closely related to technical and advanced capability and a higher education system particularly strong in science, engineering and technology application. Brazil has emphasized on the humanities and social sciences at the expense of the physical sciences and engineering. Despite slow but steady growth in the latter disciplines, higher education in Brazil still has very limited capacity to train high-level innovators who can work on the frontier of global knowledge creation. (World Bank, 2008, p.33)

Thus education and the economy eventually are deemed to be linked. The Bank and other agencies end up using the economic analysis as a methodology for an effective and efficient diagnosis and for establishing priorities in both respects.

INTERNATIONAL ORGANIZATIONS AND THE BRAZILIAN EDUCATION: EDUCATION AS A SERVICE

Brazil[95], in the 90's, attended the World Conference on Education for All, held in Jontiem, Thailand, in 1990, it was funded by UNESCO (United Nations Educational, Scientific and Cultural Organization), UNICEF (United Nations Children's Fund), UNDP (United Nations Development Program) and World Bank, with the participation of several governments, international agencies, counting in the end with the signature of 155 governments that are committed to ensuring the effective implementation of the goals outlined here for the following years, as follows (Shiroma, Moraes & Evangelista, 2007):
   • Expansion of assistance and activities that serve to support the early childhood development;
   • Universal access to basic education until 2000; improvement of learning outcomes, reduction of illiteracy rates until 2000 and reduction of inequality of these rates between men and women
   • Expansion of basic education services and training in other essential skills for young people and adults (i.e., programs that would bring impacts in their conduction, in the area of health, employment rates and productivity of the country);
   • Increase, by individuals and families of the knowledge, values, and skills required for better living and for rational sustainable development through channels of education – included in the modern media, besides other forms of traditional and modern communication, and social action - evaluating the effectiveness of these interventions by the modification of conduction.

In addition to the pacts signed in Jontiem, the documents prepared by ECLAC (Economic Commission for Latin America and the Caribbean) during the decade in question also forms a profile of the agreed guidelines

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[2] The report proposes a typology consisting of three aspects of innovation - (a) creation and commercialization of new knowledge and technology; (b) acquisition of knowledge and technology from abroad for local use; and (c) dissemination and effective application of knowledge and technology (created internally or abroad) that are already available in the country, although not widely used. (World Bank, 2008:32).

[95] During the meeting, Brazil was appointed as a member of E9, listing the nine countries with the highest illiteracy rate in the world: Bangladesh, Brazil, China, Egypt, India, Indonesia, Mexico, Nigeria and Pakistan.

and policies that would guide the actions of Brazil in the late twentieth century. "The strategy of ECLAC was articulated around common objectives (citizenship and competitiveness), the principles underlying policies (equity and efficiency) and guidelines for institutional reform (decentralization and national integration)." (Shiroma, Moraes, & Evangelista, 2007, p. 53)

With the same significance of the agreements Jontiem and ECLAC, one can point the International Commission on Education for the XXI century, which developed in the period 1993 to 1996, the report Jacques Delors, which indicates new urgency to the education of the new millennium and that interfered with his ideals posted there in educational policy to be implemented in Brazil. Among the pressing matters pointed out - the fundamental role of distance education and the need for international cooperation and, regarding the resources for education, the possibility of "mixed funding systems, combining public and private funds in variable proportions according to the levels of education (...)" (UNESCO, 2003:182)

In agreement with the ideals put into Jontiem and in the Delors report, the IBRD (International Bank for Reconstruction and Development) lists a series of elements that compounded the educational reform that took place in several countries of Latin America in the 90's in the twentieth century, among them Brazil (Torres, 1996):

a) *Priority on basic education* - and why basic education? According to World Bank "Education, especially primary and secondary (basic education), helps reduce poverty by increasing labor productivity of the poor, reducing fertility, improving health, and it endows people with attitudes they need to participate fully in the economy and society."(Shiroma, 2007:63)

b) *Improvement in quality (and efficiency) of education as a focus of educational reform*. The quality lies in the results obtained via academic performance. Some input would be crucial for effective learning: In order of priority: libraries, instructional time, homework, textbooks, teacher's knowledge and experience, laboratories, teacher pay, class size. Taking into account the costs and benefits of these investments, the World Bank recommends investing primarily in increased instructional time, the supply of textbooks (seen as an expression of operational curriculum) It is recommended that the production and distribution of these is allocated to the private sector and it directs that providers empower teachers and provide them with guidelines for the use of such material. It also highlights the need for investment in improving teachers' knowledge (favoring in-service training at the expense of training and stimulating modalities at distance).

c) *Priority on financial and administrative aspects of educational reform.*

d) *Decentralization and autonomous school institutions which are accountable for their results*. Governments should maintain only four functions centralized: (1) standards setting, (2) facilitation of the inputs that influence school performance, (3) adoption of flexible strategies for the acquisition and use of such inputs, and (4) monitoring of the academic performance.

e) *Call for greater involvement of parents and community in school affairs.*

f) *Encouragement for the private sector and nongovernmental organizations as active agents in the field of education* (both in decisions and in implementation).

g) *The mobilization and effective allocation of additional resources to education* as the main themes of dialogue and negotiation with governments.

h) *A sector focus*.

i) *Establishment of policies and strategies based on economic analysis.*

These recommendations point to another point strongly emphasized by the World Bank which is the market opening for private enterprise, in other words, the state's role in relation to education is gradually left in large national or international hands, and this must focus its efforts on primary education, justifying its position by stating that other levels of education "are used to meet the needs of the elite." (World Bank, 2003)

The country then has reinforced its position of agreement with the external conditions with the publication of the Ten-year Education Plan for All in 1993 under President Itamar Franco, who took over after the impeachment of Fernando Collor de Mello, a document which "traced the local targets from the agreement signed in Jontiem and indicated to multilateral bodies that the education project they prescribed would be deployed here." (Shiroma, Moraes, & Evangelista, 2007, p.52)

By observing also the Law of Directives and Bases of Education (LDB), Law 9394/96, a view of acceptance of the dictates posted above can be conceived, especially in regard to decentralization. According to Cury (1996), there is a change in the conception of the law; it presents a more flexible planning and centralization of the assessment. With the new law, the control ceases to be exerted from the base - via minimum curriculum, establishment of specific working hours, etc. - Going to be done in the output, via assessment.

This can be seen in Article 9 of the referred legislation, when it points out that the Union is responsible for:

IV - establish, in collaboration with States, the Federal District and Municipalities, skills and guidelines for early childhood education, elementary school and high school, which will guide the curriculum and its minimum contents, to ensure a common basic education;

VI - to ensure a national process to evaluate the academic performance in primary, secondary and higher education, in collaboration with education systems aiming the setting of priorities and improving the quality of teaching. (Brazil, 1998)

The elaboration, by the federal government, of the National Curriculum dates back from the same period, which aimed to establish a baseline for the national curriculum education. Another important point herein is the relaxation of the proposal, allowing autonomy to schools in order that they could themselves, with the involvement of the school community, develop their pedagogical goals and meet their local needs.

Another international interference, which changed the look about education in Brazil in recent years has been the inclusion of education on the agenda of the occupations of the WTO - World Trade Organization, which was established in 1995 and that currently has the participation of 151 countries, confirming the view we have about the world education: one more service offered along with others that predict consume, customers, clients, the law of supply and demand, etc.

This attitude ends up hurting the famous motto "Education, right of all and duty of the State and the Family" which can be found in the Constitution of Brazil, 1988, article 205, the same right that is guaranteed by the Law of Directives and Bases of National Education (9394/96):

Article 2 The education, duty of the family and state, inspired by the principles of freedom and the ideals of human solidarity, aims the full development of the student, his preparation for the exercise of citizenship and his qualification for the job.

Reinforcing this position, Oliveira (2009:238) notes that:

(...) education should be understood, therefore, as a basic universal right and a public social property. It is thus a condition for social emancipation and should be designed on a democratic and quality perspective in the context of a wider social inclusion project.

Thus, by "losing its strength as a right guaranteed by law", Education interferes with other rights of the citizen, since only conscious, trained reflective about his actions, the man can fight for the right to decent housing, or a healthy diet, a work that does not explore him, among others.

Our attention is also drawn, in this market logics, to the inclusion of education on the agenda of work of the GATS[96], an agreement that discusses on the Education (General Agreement on Trade in Services), was signed in 1994, but negotiations started only in 2002, and "represents the first attempt to draw up international rules for the liberalization of trade in services." (Silva, Gonzales, & Brugier, 2008, p.91)

Brazil, along with 6 other countries, did not opt for liberalization of education in agreement with GATS proposals, seeking to preserve their national identity, but "that does not mean that there are no important processes of privatization and commercialization of education underway in the country." (Silva, Gonzales, & Brugier, 2008, p.124)

In the logic of trade in services, they are seen as commodities and the liberalization for foreign capital is seen as a way to maximize profits by reducing the student to a client. This is evident when one realizes the high spending in recent years in marketing done by education companies, to establish their brand and image in order to attract the market, their potential customers. However, in this perspective of trade, education ceases to be a key category, making room for others as cost-benefit, efficiency, competitiveness, etc. In Torres words (2007)

Education is summed up into a set of inputs which intervene in the *black box* of the classroom - the teacher being one more input - and the learning is seen as the predictable result of the presence (and eventual combination) of these inputs (p. 140).

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[96] GATS divides the services into twelve sectors: Commerce, Communication, Construction and Engineering, Distribution, Education, Environment, Financial Services, Health, Tourism and Trips; Leisure, Culture and Sports, Transportation; "Other". (Silva, Gonzales, & Brugier, 2008, p.91)

The opening of the educational market to private groups happened in Brazil consubstantially in the late twentieth century and continues in the beginning of this century in Latin America, especially in the field of higher education in Brazil. Recent mappings show that the policy was strongly enforced, thus contributing to a considerable growth in offering higher education in Brazil.

According to data from two censuses carried out by NIS (National Institute of Studies and Educational Research Anísio Teixeira) in 1995 and 2009, respectively, while in the late twentieth century Brazil had **894** institutions of higher education at different levels (public universities - 72; private - 63 / 10 public integrated colleges, 101 private institutions; Public Isolated institutes – 128; 520 private ones, for a total of 894 higher education institutions in the country - **with 210 public and 684 private institutions**) in 2009, Brazil already had **2,314** institutions of higher education and of these **245 public and 2,069 private** institutions. The census also shows that there were 186 universities, 127 university centers, 1,966 colleges and 35 public federal institutions of professional and technological education.

So in this market logic, consumers' opinions about the service offered render great significance, thus justifying the need to have teachers and students evaluated for their efficiency and for their productivity, receiving prizes and awards for their performance in pursuit of total quality. (Haddad, 2008)

So, the various initiatives of evaluation proposed in the national public policies since the beginning of the XXI century are necessary. One such initiative was launched by the then president, Luis Inácio Lula da Silva in 2007, the EDP[97] - Education Development Plan, incorporating nearly fifty programs to improve the rates of national education, including the assessment of student performance, called Brazil Exam.

> Aiming to identify the problems affecting the quality of Brazilian education, the PDE has promoted a change in the national assessment of basic education with the creation of "Brazil Exam." Based on this, MEC sought to cross the results of school performance (Brazil Exam) and school efficiency results (flow determined by school census) into a single indicator of quality: the Index of Basic Education Development (IBED). (Ferreira, 2009, p.262)

Other mechanisms that stand out in this context are the evaluative Saeb System (Basic Education Assessment System) established by Decree No. 931 of March, 21st 2005, which is composed of two processes: the National Assessment of Basic Education (NABE) and National Assessment of Educational Achievement (NAEA). HENAS[98] (Higher Education National Assessment System), which was created by Law No. 10,861, on April 14th 2004 and evaluates the institutions, courses and student performance, this being done through the NESP (National Examination of Students Performance). There is also the HSNE (High School National Exam), taken when leaving high school, which was established in 1998 and aims to obtain an overview of the graduating students' training from high school nationwide, as well as, from 2010 on, replacing the mandatory entrance examination for admission to higher education in Brazil, where many universities have already replaced their regular screening tests by grades obtained by the students in HSNE.

Here we can make a questioning about the real purpose of many evaluation processes. First, are they actually being used so that data are listed and faulty data are corrected, seeking a quality education or are they just following protocols for the demands of international organizations? What would be the evaluation design that guides such assessments? What are the real motivations for these assessments to occur?

According to Hochman (2007):

> (...) in the 60's, the assessment was marked by the mechanistic fallacy of the top-down planning, i.e., we expected an automatic use of their results, in an exclusively instrumental perspective, as a beacon of the decision making and as a tool for rational problem-solving. (...)A second type (...) is the one called "conceptual", usually associated with local managers of public programs, which, even at times when they are prevented from making instrumental use of the evaluation report, can from it, change

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[97] The EDP includes a set of programs to give organization to the national education system, mobilizing the whole society to improve the quality of education; it is an executive plan, consisting of programs divided into four guiding principles: basic education, higher education, professional education and literacy. (Ferreira, 2009:261)

[98] Sinaes evaluates all aspects that revolve around these three areas: teaching, research, extension, social responsibility, student performance, management of the institution, body of professors, facilities and various other aspects. The information obtained from the Sinaes are used by IES for the guidance of its institutional effectiveness and academic and social effectiveness; by the government to guide public policies and for the students, parents, academic institutions and the general public, to guide their decisions regarding the reality of courses and institutions. Quote taken from http://www.inep.gov.br/superior/sinaes/, site consulted on March, 12th 2011 at 5:00 pm.

their program design and its operation and impact, acquiring new ideas and insights. It is about highlighting an "educational" function of the evaluation. A third type of use would be what we call "persuasive." Aware of the inefficiency of the program and the most feasible changes, managers and operators can use the assessment to legitimize their position and rally support. (p. 331)

It is known that constant evaluation in search of total quality in education is one of the measures proposed by international bodies like the World Bank. In the words of Horn, Wolff & Vélez as cited in Faria (2007) assessments should be used according to the protocol of the World Bank's suggestions:

(...) To obtain public support for improving the quality of education, to improve the design of instruction and teacher training, use of "spillover effects" of an evaluation (beckwash effects), for diagnosis and treatment of learning problems, for the offer of "a reward for good deeds", for the assessing of the progress made by different regions, municipalities, schools or school districts; for research and educational development (p. 339).

This policy of evaluation presented mainly in the early years too unsatisfactory results to be presented in international reports. Thus, according to Puiggrós (1997)

(...) the World Bank encouraged all countries to establish the Common Basic Contents of compulsory education in public and private places (...) with it the educational model neoconservative is completed: It sends the state away from education and puts the market in place, easing all the economic controls and establishing, soon after, strict controls on ideology. The freedom of the market is combined, then, with ideological conservatism. (p. 234)

In the aforementioned document "Knowledge and Innovation for Competitiveness", published in 2008, the Bank presents its assessment about the whys of Brazil did not climb the most significant spaces in the global economy. Below, we have an overview of the Bank's vision on basic education in Brazil, indicating the priority focus of this multilateral organization.

Table 1 - The system of basic education: level of training of students for the growth spurred by innovation

Features	Suggestive indicators (international comparisons)	Implications for Growth Fueled by Innovation
Access and scope	The elementary school enrollment is almost "universal" (98% in 2007), after 15 years of continuous efforts. (Brazil is above the Latin American average of 95%.)	The primary education system is still focused on expanding coverage. Now you need to redirect it to quality education, in order to tailor it to the emerging knowledge economy.
Repetition rates and dropout	The repetition rate in primary education is 28% (among the highest in the world). Argentina is 10%, Chile 1%, India 4%, the Philippines 5%, and Mozambique 26%.	The excessive high rates of grade repetition in Brazil are understandably linked to the recent expansion of primary education; however, high levels lead to distortions in age in the learning environments, generally resulting into premature evasion.
Cost of grade repetition	The annual cost of repetition of series for the budget in primary and secondary education in Brazil is U.S. $ 600 million.	The excessive repetition of grade level not only consumes a significant amount of resources, but also leads to distortions of the age gap affecting the quality of secondary education
The typical environment of elementary school	In general, classes in elementary schools emphasize memorization, repetition group, the "correct" answers, rather than conceptual understanding and thinking toward solutions. (Carnoy, Gove and	The current pedagogy adopted in the classroom is not characterized by the dynamics and interactivity that goes beyond reading and arithmetic, in order to provide children with analytical skills and innovative thinking in a future stage of their lives.

	Marshall, 2007)	
Achievement in science and mathematics	In 2003, Brazil was the last place in mathematics and science among junior in 40 countries. Brazil 40th (math), 39th (science); South Korea 3rd, 4th; Mexico 37th, 37th; Russian Federation 29th, 24th; the United States 28th, 22nd.	The exceptional performance of Brazil's inefficiency in math and science probably does not affect an elite minority of young scientists and students from private schools that are eligible to create new knowledge, however, this result affects the national capacity to use, adopt and benefit from the acquired technology.
Assessment of educational quality and student performance	In 2005, the Ministry of Education administered the Brazil Test, an assessment of learning of 3.3 million elementary school students in 42,000 schools at a cost of $ 25 million.	"Brazil test" provides a good basis for expansion and development of performance culture.
Standards	There is a lack of standards for the performance of learning and school functioning. Many schools (especially in rural areas in the poorest regions) still lack adequate classrooms, basic furniture and teaching materials.	Schools and municipal offices have not established goals and standards to streamline the performance expectations and budgetary allocation.
Computers in classroom	Computers are relatively rare or under-utilized in education. The machines tend to be used by teachers and administrators. Brazil has two computers for every one hundred students. *South Korea has 28 computers in schools for 100 pupils.*	Computers are essential to train students with technological skills. The introduction of this practice in the classroom is even more important because the families of middle and low income cannot buy personal computers for the home.

Source: World Bank (2008:176)

For the above table it is clear how much the item international competitiveness with established standards becomes the basis of the educational policy designed to Brazil by the World Bank. Another point that stands out in the review by the Bank on the Brazilian educational scenario in 2008 is the dichotomy between quantity and quality, since the rate of access to education reached most of the population, as pointed out in the first item listed. However, the quality put in subsequent items demonstrates the social fragility of this elementary schools opening of doors, without the thinking of all set of education as a real project of solid construction of a country.

> The Bank also highlights the terrible placement of Brazil in the international assessments carried out, showing thus, throughout the report, the direct relationship between the quality of national education and the projection of Brazil in international economic level. On this issue the report notes that "The Brazilian primary schools is ineffective in teaching basic reading, math, science and computing, i.e., subjects that form the base for a broader social participation in the knowledge economy." (World Bank, 2008, p.178)

FINAL CONSIDERATIONS

Thus, it is clear that international financial organizations, especially the World Bank and IMF, play roles in nuclear stimulation of Brazilian public policies both in the economic field, as in the educational field, with the consent of the national government. By proposing education as a service according to the WTO, which is being fomented and well thought out, some challenges are presented to the entire society, especially for educators: first, under guarantee of law, education is a universal right and inalienable duty of the State, in addition, human values are fundamental for community life and cannot be replaced by trade and marketing guidelines, and finally, public investment should focus not only in primary education as established in the

dictates of the World Bank . In order to develop the country and boost its economy, thus favoring the social conditions of decent living for its population, it is imperative that they direct investments from the public sector to culture, science and technology, through higher education, not leaving them in private investment and external hands.

Therefore, we perceive the web that involves the Brazilian education especially in the last three decades. The decisions, policies implemented, the directions taken, the practices disseminated are thought long before, by the multilateral agencies that hold the dictates of the rules. Would the evaluation system of national education be one of the pillars envisaged to consolidate the foreign policy of valuing competition, lifting of quantitative indexes that aim to fill external statistics? What are the real intentions in the cycle of public policies that are in-between the documents that govern the national education nowadays? What justifies the disastrous results of Brazil in international assessments even having wider access to education in the recent decades?

These and other reflections are present and they bring concerns about the ways and misdirection of the Brazilian education at all levels, especially when thinking about how commercial this right has become, which at times, is called service. Thinking of education with social quality requires much more than vacant openings and ease of access to education (hoisted flag in Brazil during the last 30 years). Education can be a factor to boost the economy of a country, but it cannot be trapped in the dictates of economic agreements, let alone having it considered in the arenas of power that do not have the social quality as a fundamental objective of its lines.

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365 - Teacher Education Policies in Brazil From 1990 to 2010: The Education Course[99] in Question

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Abstract: Since its creation, in 1939, the Education Course in Brazil has always been the target of studies due to its identity that has been seriously criticized by authors such as Saviani (2002, 2005), Pimenta (2002, 2006), Libâneo (1999, 2001), among others. However, this embattled situation has gotten worse because of the promulgation of the law 9394/96, which is the current law of National Education Guidelines and Basis, and the indiscriminate opening of College Education Courses, as well as the possibility of taking the Education Course in a shorter period of time, since it would prepare school administrators and also the ones responsible for the education of teachers in early years (kindergarten and 1st to 4th grades) of the Elementary School. This policy, for many authors, would be a manner to graduate teachers and also school administrators in a faster way. The same way a lot of critics and debates were postulated when the law publication happened in 2006, from The Curricular Guidelines to The Education Course and early years the school administrators, this document guides the cited course of the education of teachers in the entire country until the present moment. This assignment sought to demonstrate the policies posted in different historical moments about the formation of teachers in Brazil.

Keywords: public policies, teacher education in brazil, policies guide

This study has as its focus the teacher's education policy in Brazil from 1990 to 2010, more specifically the education of the pedagogue in Brazil. For this, we analyze the paths taken by the Pedagogy course in Brazil, which, currently, goes through a process of intense arguments, caused by the complexity of the factors that involve the human education in the current context.

This discussion is justified by the analysis made of the identity issue of the education of the pedagogue in Brazil, since its genesis until now, which permitted the realization that in the movement of the Brazilian educational legislation and of the documents resulting from meetings promoted by entities that studied this education that it is possible to indicate that they show a fragmented education of the pedagogue, corroborated by Brzezinski (1996), Saviani (2007, 2008) among others.

An analysis of the past makes it clear that, from specialists to generalists, many changes in the nomenclature, but few actual transformations were completed for the construction of the identity. The dilemma about the identity and actual function of the Pedagogy course in Brazil increased consubstantially in the 80's and, in 2011, almost three decades later, is still present and has not found a single action path, as there are many discussions about the common base of the pedagogue education and the teachers as the basis of the professional identity of all educators.

This proposal points at the search for a professional identity of the Pedagogue announcing a definition of a national curricular proposal for the Pedagogy course, for, as Dubar (1997) says "education has become a component an increasingly more valued for the access to a job and in the abandonment of jobs. If the job is increasingly central for the identity processes, the education is increasingly more connected to it" (p. 112) we cannot forget that the common base has generated innumerous discussions and publications, as in the studies by Saviani (2002, 2005), Pimenta (2002, 2006), Libâneo (2001, 2006, 2007), Aguiar et al. (2006), among others.

Studies as the one by Campos (2009), supported in Dubar (1997), show that the changes in the educational legislation allowed advances in relation to the construction of the Pedagogue's identity. Thus, with the end of the XX century, he stops having an *Inherited Professional Identity* and starts glimpsing the building of an *Aimed Professional Identity* in this first decade of the XXI century.

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[99] In Brazil, we have a high school level teacher's course, which prepares students to teach child education and the first grades of elementary school. The pedagogy course used to be called 'college education course'.

A LITTLE OF THE EDUCATION HISTORY OF THE PEDAGOGUE IN BRAZIL

It is known that in Brazil the teaching profession is discredited, because since the colonization of the country until 1835 there were no spaces for the systematized education of the teachers in the country. At that moment, with the founding of the first Teacher's School in Niterói, there was a concern with the education of lay teachers within the context after the arrival of the Royal family in Brazil, in 1808, and later with the growing Brazilian urbanization, the increasing look for the school and the exacerbated quantity of illiterates.

The education of teachers continued being offered only as a high school level until the end of the 30's in the XX century, when, in 1939, through decree 1190 of April 4, with the formation of the National Philosophy College, the first Pedagogy course appeared to prepare the scientists in education, without clear attributions in the legislation of that time, which did not indicate a role in the school organization. The education of teachers was done in two phases: bachelor in 3 years, and one more year to give the possibility of teaching the basic subjects of the Teaching Schools (scheme 3+1). About this separation, Silva (2003:13) says that there was a "tension focus related to the separation teacher's education-high school teaching degree, reflecting the clear dichotomic conception that oriented the treatment of the two components of the pedagogic process: the content and the method."

At that historical moment there was already a problematic towards the identity of the pedagogue's profession, for the presence of pedagogues in the school was not considered a necessity. They were considered as "intellectual workers for the exercising of the high cultural activities of disinterested or technical order" (article 1, paragraph a). The issues indicated are object of analysis by Freitas (2005) when she outlined the movement by the construction of the pedagogue's education guidelines, in which she retakes an issue approached in the X National Meeting of ANFOPE (2000) and latent until today "The discussion about the pedagogue as a professional, his identity, work and education field, has been going on since the creation of the pedagogy course in 1939".

Brzezinski (1996), analyzing the teacher's education, indicates that it is not anchored only in a lack of definition, but

> allows the interpretation that the higher pedagogical studies were inferior to the other higher studies performed in the traditional teacher's education, as medicine, law or polytechnic. The duration of three years attributed to the course that prepared teachers in college education while the other schools formed their professionals in five or six years reinforced this interpretation. (p. 29)

One can also observe that some questionings followed the course throughout its history: did the pedagogy course have a unique content that could justify its existence since there was no applicability in the Brazilian work market? The "diploma of Bachelor in Pedagogy was not a market requirement, and, even to the Pedagogy graduate, the market situation was not clearly defined." (Silva, 2003, p.50)

Some entities were formed, always having the objective of discussing the identity of the Pedagogy course in Brazil. Among them CONARCFE (1983), which originated ANFOPE (1994), an association that by its studies and meetings has produced documents that serve the basis for several discussions that become opinions of the National Education Council on the Guidelines of the Pedagogy Course. CONARCFE, created in 1983, during the I CBE – Brazilian Education Conference – redefined the relationship between the bachelor's degree and the high school teaching degree, creating the idea of the educational courses, starting from a common nucleus, which would give to the students of different college education courses the understanding of the Brazilian educational problematic, a discussion about the national common nucleus that is the center of many considerations placed nowadays (Brzezinski, 1996). It is important to note, also, that this would be a "historical Mark of the movement for the reformulation of the educator's courses [...] opening the national debate on the Pedagogy Course and the High School Teaching Courses" (Pimenta, 2002, p.12).

This way, as Marques (1992:71) explains,

> The 1980's, generally considered as the lost decade, and certainly were not lost for education, if we take into consideration the emergence of the movements of educators that have, since then, restructured themselves in the country, and, especially, the attention to this relevant question, which is the education of the education professional [...].

Thus, we realize that CONARCFE, currently ANFOPE, in the 80's and 90's, becomes the producer of documents that, in national events, are studied, debated and adopted by different teaching institutions as the

central mot of the educational process of the professional for the basic education, bringing back the old discussion about: Who is the pedagogue? What does it do? What is his real work area? among others.

Libâneo (2001), analyzing the ANFOPE documents, produced in its national meetings, indicates that they contribute to decharacterize the education of the *stricto sensu* pedagogue, when they affirm that the Pedagogy course is a bachelor's degree.

However, even though these meetings and reflections concentrate on the education of the elementary school teacher, with emphasis on the education of the pedagogue, on the common national basis, fragmentation of the offered abilities or teaching as the basis of the education of every educator, different postures in relation to the Pedagogy courses in the universities remained until the 90's, always supported by the Federal Education Council, as it accepted the decisions of universities to offer this or that model (Libâneo, 2001). The decade in question became the scenery of tough discussions based theoretically on the identity posed in the prior years about the pedagogy course in Brazil.

In the political-economical ambit, the country was surrounded by the global context, which required an adjustment of the educational systems to the needs of the new order of the capital and the requirements posed for the democratization of the access to knowledge in all its levels. "The 1990's registered the presence of the international entities that participated in organizational and pedagogical terms, marked by large events[100], technical assistance and a wide production of documents." (Frigotto & Ciavatta, 2003, p.2).

In the same decade, another relevant fact increased the debates about the identity of the Pedagogy course: the promulgation of the National Educational Bases and Guidelines Law of December 20, 1996. In this law, the education of the education professionals is described in seven articles, of which these are relevant to us:

> Art. 4 The Pedagogy course is destined to the education of teachers to exercise teaching functions in the Elementary Education and in the initial years of Fundamental Teaching, in the High School courses, in the modality Education, Professional Education in the service areas and in other areas in which pedagogical knowledge is foreseen.
>
> Art. 62 – The education of teachers to work in the basic education will be done as college education, in a teaching course, in universities and high education institutes; the high school education, in the teaching modality, will be admitted as the minimum education for the teaching of children's education and of the first four grades of the elementary school.
> Art. 63. The college education institutes will keep:
> I – courses forming professionals for the basic education, including the higher teaching course, destined to the education of teachers for the child education and for the first grades of the elementary school;
> II – programs of pedagogical education for holders of college teacher's education diplomas that want to dedicate themselves to the basic education;
> III - programs of continuing education for the education professionals of the different levels
> Art. 64. The formation of the education professionals for administration, planning, inspection, educational supervision and orientation will be done in pedagogy courses or in post-graduation level, at the institution's criterion, guaranteed, in this education, the national common basis.

Even though it is not the objective of this article to analyze Law 9394/96 deeply, nor to discuss its assertions, its promulgation has opened spaces for debates in the academic world, as it brought some unexpected changes in relation to the teacher's education, the location of the education, and, besides this, according to Brzezinski (2002), Saviani (2005) and Aguiar (2002), it left room for different interpretations. Saviani (2005) analyzing articles 62 and 87 of the Law says:

> In 1996, Brazil had "5,276 Teaching Habilitations in high schools, of which 3,420 in state schools, 1,152 in private schools, 701 in municipal schools and 3 federal schools" (TANURI, 2000, p. 85). And, at college education level, there were, in 1994, 337 Pedagogy Courses, with 239 private, 35 federal, 35 state and 28 municipal (Idem, Ibidem). Thus, the education of the child education teachers and of the first four grades of the elementary school was massively done at high school level. (p. 12)

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[100] The first of these events is the "World Conference on Education for All" in Jomtien, Thailand, from March 5 to 9, 1990, which inaugurated a large educational project, at world level, for the decade that was starting, financed by the entities UNESCO, UNICEF and World Bank.

The College Teacher's Education Institutes[101] were created by Law, art. 62, and were supposed to offer teacher's education via Higher Teaching Course to those who wanted to prepare themselves to be child education teachers and to teach in the first grades of the elementary school, which, in ANFOPE's vision, would be attending to the neoliberal market impositions via World Bank, bringing again to the national scenery the education of specialists in the fragmented optics, while leaving to the Higher Teaching Course the teacher's education. According to Freitas (1999), with this, one retakes,

> in a more elaborate level, the figure of the "specialist" pedagogue, opposed to the conception of education Professional, educator of a wider character who has in the teaching, in the pedagogical work, the basis of his education and of his professional identity. This conception of *stricto sensu* pedagogue overcome by the theoretical production of the area as well as by the democratic practice of the organization of the pedagogical work in the public schools, is linked to the conception of the "task" teacher, formed with emphasis in the specific contents. (p.21)
> For the author this conception favors
> The government policies that point to a differentiated education between teachers and the other education professionals, and gives space to the education of professionals for the management positions of the educational system separated from the school ambit, in a hierarchized perspective. In the current circumstances of the basic school, this professional is receives a new meaning from the State, maybe as a professional at its service in the school and in the teaching systems so that, facing teachers prepared with technical and pragmatist bases, may act firmly and decisively to fulfill the objectives of the reform and of the educational policies that form its basis (Freitas, 1999, p.21).

Despite the verification of this rupture in relation to the education *locus* since 1996, it was only with the publication of Decree nr. 3276, on December 6, 1999 that the College education Institutes, together with the College education Courses, would be responsible for the education of the basic education teachers. The function of teacher's education of the starting years of the fundamental teaching of the Pedagogy Course, to speed up the education of those teachers, in shorter courses in the spaces defined by Law[102].

In this path, one more aggravating circumstance to the teacher education in Brazil, the Education Institutes had the autonomy to offer the Higher Teaching course for the education of teachers for the child education and for the initial grades of the elementary education; teacher's education, for the education of teachers of the final grades of the elementary and high school and would be, according to Article 45 of the BGL, responsible for continuing education programs for the updating of elementary school teachers. Besides this, says Saviani (2005) these

> College education Institutes would be an alternative to the Pedagogy and Teacher's Education Courses, being able to do everything they do, but in a faster and cheaper manner, with short courses. This corresponds to the BGL spirit, because it participates in the same logics that had been leading the educational policy that had as one of its characteristics the diversification of the models. This way, wherever possible and there were resources, there would be full duration teacher's and pedagogy courses. However, as an alternative to this model there would be the College education Institutes. (p. 13)

Based on the aspects shown, the question is: Where is the Pedagogy course in this scenario? Since the College education Institutes and the College Teacher's course were destined to the education of teachers for the basic education, besides the BGL proposition, in its article 61 of two alternative instances to the formation of education professionals for the administration, planning, supervision and educational

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[101] For Brzezinski (2002:78) The education colleges, already in their majority under private initiative, would become, besides others that would be created, College education Institutes and, concerned exclusively with this education, released the pressure that otherwise would fall on the public universities. It is also possible to produce less critical and questioning professionals, distant from the dynamics of research and academic debate, avoiding the formation of those who may become, using Perrenoud (1999:8) words, potential contesters, or, at least, inconvenient interlocutors.

[102] A reflection on the Higher Institutes and on the College education Course, in which market and quantitative propositions are evident, to solve government statistics to try reverting the following table, seen in 2001, besides the incentive to a private initiative, helping it to discover a new streak of labor formation: the short college education courses, since the reality in Brazil was "the country has 1,380,000 teachers, of which 779 thousand do not have a college degree; of these, 124 thousand have not finished high school and 63,700 not even elementary school." (Severino, 2001, p.184).

orientation for the elementary education (teacher's education or post-graduation), and that the teacher's training for high school level teacher's education would not have a significant demand because it has been placed in the Law as a possibility, but having the higher education as a preference (justifying the opening of such spaces in the teacher's education), this situation caused anxiety and conjectures about the identity and the disappearance of the Pedagogy course in Brazil (Silva, 2002).

> Confirming this division, article 61 suffers alterations, and, in 2009 by law 12014/2009
> Art. 61. Professionals of the elementary school are those who, exercising the profession and being graduated in acknowledged courses, are:
> I – teachers trained at high school or college level for child education and elementary and high school;
> II – education workers with a pedagogy diploma, qualified for administration, planning, supervision, inspection and educational orientation, as well as with a master's or doctor's in the same areas;
> III – education workers, with a diploma of a technical or college education course in the pedagogical area or similar.

About this legislation that directs the national education for more than a decade, Brzezinski (2002:13) affirms that "the legislation allows the wrong interpretation that the teacher is a Professional of the practice, **as though it required only the transmission of contents and not the production of knowledge through a severe investigation process." (not in bald in the original)**. And complements, **"**(...) the training of the teacher is centered in the development of competences for the Professional technical work. It is a practical, simplistic and prescriptive education, based on the *knowing how to do* for the learning of what He *will teach*" (2002:15).
In the opposite direction of the idea of the education of the pedagogue for the practice, Libâneo (2001) affirms that:

> Pedagogy is, before all, a scientific field, not a course. The course that corresponds to it is the one that forms the investigator of the education and the professional that performs educational tasks, whether a teacher or not directly a teacher. (...) the Pedagogy course can divide itself into multiple professional specializations, one of them teaching, but its specific objective is not only teaching. Thus, the Pedagogy course is not reduced to the education of teachers. (...) A consequence of this is that the basis of the educator's formation is not teaching, by the pedagogical education. Teaching is one of the modalities of the pedagogical work. (p. 60)

About the same subject ANFOPE – National Association for the Formation of the Education Professionals, which has a trajectory of interferences in the decisions about the Pedagogy courses in Brazil, being not only "a mediator of discussions about the proposals made on the education of teachers, but also as a space of curricular production" (Frangella, 2005:2). According to the author, the documents of the ANFOPEs defend for the teacher "a full education, directed to the commitment with the Brazilian education in a moment of social reconstruction, different from the figure of the graduated teacher until then" (2005:10). Complements Frangella (2005:12-13) that, according to the final document of the X ANFOPE Meeting (2000)
The curricular organization of the courses for the preparation of the education professionals must obey the following curricular guidelines:
> - teaching is the basis of the Professional education of those who dedicate themselves to the pedagogical work;
> - having the pedagogical work as the focus of the studies;
> - provide a solid theoretical education in all the curricular activities – in the specific contents to be taught by the school and in the specifically pedagogical contents;
> - provide wide cultural studies;
> - allow the contact of the students with the reality of the schools, since the beginning of the course;
> - incorporate the research as the principle of the studies;
> - create the possibility of the students experiencing ways of democratic administration;
> - develop the social commitment of the teachers;
> - provide a reflection on the teacher's education. (p. 37)

The official legislation defines through the National Curricular Guidelines for the Teacher's Education in Pedagogy (Brazil, 2006), approved by Resolution 01, of May 1, 2006, the education for the teacher's education, emphasizing in article 2 that

> The Curricular Guidelines for the Pedagogy course apply to the **initial teacher's education for the teaching of Child Education and in the initial grades of the Fundamental Education, in the High School courses, in the Teaching modality, and in Professional Education courses** in the area of services and school support, as well as in other areas in which pedagogical knowledge is foreseen. (Our emphasis)
> The current legislation specifies in the first paragraph of article 2 the meaning given to teaching.
> § 1° Teaching is understood as educational action and methodical and intentional pedagogical process, built in social, ethnical-racial and productive relations, which influence concepts, principles and objectives of Pedagogy, developing itself in the articulation between scientific and cultural knowledge, ethical and aesthetical values inherent to the process of learning, socialization and knowledge construction, in the ambit of dialogue among different visions of the world (Brazil, 2006).

Going against the legislation, Pimenta (2006) agrees with the thinking of Libâneo (2007), stressing the importance of the pedagogue professional in the school ambit, understanding that the "pedagogical doing" goes beyond the classroom, acting directly in it, thus, teaching wouldn't be the basis of the pedagogue's education, but he would interfere directly in the teaching action by orientating the practices of the teacher, making him reflect on his praxis.

> According to Libâneo (2006),
> the basis of a Pedagogy course cannot be teaching. The basis of a Pedagogy course is the study of the educative phenomenon, in its complexity, in its magnitude. Thus, we may say: Every teaching work is pedagogical work, but not all pedagogical work is teaching work. Teaching is a modality of pedagogical activity, so that the basis, the support, of teaching is the pedagogical education, not the opposite. That is, the range of Pedagogy is bigger than the one of teaching. A professor is a pedagogue, but not every pedagogue needs to be a teacher. (p. 5)

Franco (2002) reinforces the harm caused to education as a whole when the identity of the Pedagogy course is defined only in the optics of the teaching, reductionist, affirming that

> (...) the decharacterization of Pedagogy as scientific knowledge has contributed to keep it in the role that unfortunately it still has today: that is, to solidify educational practices deeply conservative, disconnected from the social-historical context, of its protagonists as well as the knowledge is transmits. The lack of scientific dialogue between theories and practices reifies, freezes the educational doing (that perpetuates itself as educational knowledge and not as knowing how to do) and this happens by the lack of constructive dialogue between the subject and the object of the action, or by the non-fermentation of the dialectics in the construction of the educative reality. (p. 182)

Thus, some questioning is necessary: If the pedagogue is the one who studies for teaching, who is the professional that will think about and investigate in a critical manner this education? (Franco, 2002). If the education of the pedagogue must be so increased, according to the guidelines (Resolution 1/2006 – Brazil, 2006), how are the High Education Institutions (HEI) are structured to attend to what is determined in the Legislation in question? What is the real interest of the discourse, understood here in the vision of Yeatman (1990, as cited in Mainardes, 2009, p.9) such as a "dispute arena", when it proposes an education of 2800 hours of educational activities and to widen the field of work of the Pedagogue, bringing teaching as the basis of its education, as determined in art. 5 of the Guidelines and presuppose that this education will supply all the needs for initial education.

> Art. 5 The graduate of the Pedagogy course must be apt to:
> I – act with ethics and commitment with the objective of building a just, impartial and equalitarian society;

II – understand, take care of and educate children from zero to five years, to contribute for their development in the physical, psychological, intellectual and social dimensions;

III – strengthen the development and the learning of elementary school children, as well as of those who did not have the opportunity of studying in the appropriate age;

IV – work, in school and non-school spaces, in the promotion of the learning of individuals in different phases of the human development, in several levels and modalities of the educational process;

V – acknowledge and respect the manifestations and physical, cognitive, emotional, affective necessities of the students in their individual and collective relationships;

VI – teach Portuguese, Mathematics, Sciences, History, Geography, Arts, Physical Education in an interdisciplinary manner adequate to the different phases of the human development;

VII – connect the languages of the means of communications to the education, in the didactic-pedagogical processes, demonstrating a domain of the Technologies of information and communication adequate to the development of meaningful learning;

VIII – promote and facilitate cooperation relationships between the educative institution, the family and the community;

IX – identify social-cultural and educational problems with an investigative, integrative and propositive posture facing complex realities, to overcome social, ethnical-racial, economic, cultural, religious, political and other exclusions;

X – demonstrate awareness of the diversity, respecting the differences of environmental-ecological, ethnical-racial, gender, generational bands, social classes, religions, special needs and sexual orientation nature;

XI – develop team work, establishing a dialogue between the educational area and the other areas of knowledge;

XII – participate in the management of the institutions contributing to the preparation, implementation, coordination, follow-up and evaluation of the pedagogical project;

XIII – participate in the management of the institutions, planning, executing, following and evaluating projects and educational programs, in school and non school programs;

XIV – perform research that brings knowledge, among others: about students and the socio-cultural reality in which they develop their non-school experiences;

On teaching and learning processes, in different environmental-ecological areas; about curricular proposals; and about the organization of the educative work and pedagogical practices;

XV – use correctly tools for the construction of pedagogical and scientific knowledge;

XVI – study, apply critically the curricular guidelines and other legal determinations that he has to implement, execute, evaluate and send the result to the competent entities. (Brazil, 2006)

In the same manner, a closer look at the Curricular Guidelines in relation to the time destined to the internships points at another incoherence, for, according to Pimenta (2004)

The internship as a field of knowledge and central curricular axle in the teacher's education courses permits that some aspects indispensable to the construction of the identity, the knowledge and the specific postures for the professional teacher be worked. (p. 61)

This way, the author agrees with Pimenta (2004) that the question of the internships indispensable to the indicial education is defined in a precarious manner by the legislation:

Art. 7º The Pedagogy Course will have a minimum of 3,200 hours of effective academic work, distributed in this manner:

I – 2,800 hours dedicated to educational activities, such as classes, seminars, participation in research, consultation to libraries and documentation centers, visits to educational and cultural institutions, practical activities of a different nature, participation in study groups;

II - 300 hours dedicated to the Supervised Internship in Child Education and in the initial grades of the Elementary School, including specific areas, if necessary, according to the pedagogical project of the institution; (...)

IV – curricular internship to be done throughout the course, to insure to the teachers to be some experience in the profession, in school and non-school environments that increase and strengthen ethical attitudes, knowledge and competences:

a) in the Child Education and in the initial grades of Elementary School, as a priority;

b) in the pedagogical disciplines of the High School Teacher's Education;

c) in the Professional Education in the area of services and school support;

d) in the Youth and Adult Education;

e) in the participation in activities of administration of educative processes, in the planning, implementation, coordination, follow-up and evaluation of educative activities and projects;

f) in meetings of pedagogical education. (Brazil, 2006)

And, as Scheibe and Aguiar (2004) say, in a text they call "Curriculum guidelines for the pedagogy course: long and incomplete", the issues mentioned show the lack of definition of the legislation in relation to the education of the teacher in Brazil. Researchers such as Franco, Libâneo and Pimenta (2007), propose elements for the preparation of curricular guidelines for the pedagogy courses.

Going further, one realizes that the official legislation proposes the education of a polyvalent professional, who has in the teaching his basis of work and education, but that offers priority to internships in teaching, leaving for last the management issues, emphasizing in article 7 that other internships, besides the ones in the initial grades and in child education, will happen in a manner that is conditioned to the pedagogical Project of the HEIs. What are the results of such curricular configuration? How prepared do the graduates feel to act in such an extensive manner? It is know that the initial education is not an end in itself. However, if it proposes an integral education, has it actually happened and has it given sufficient theoretical support for the Pedagogue's work?

Wouldn't offering to the pedagogues an education based mostly in the teaching a way of fragmentizing the teachers' education, instead of offering the HUMBOLDTIAN model of university, which foresees the continuing association among teaching, research and extension? Wouldn't it be a way to retrocede to the mere transmission, without research, without production of new knowledge, without reflection: just a training course?

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379 - The Pedagogical Formation of Postgraduate Students for Higher Education in a Brazilian Public University

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Abstract: The framework which aids construction of the teaching identity of Brazilian postgraduate students is presented here in the context of an Educational Training Program. Data were obtained from postgraduate students' final reports handed in between 2000 and 2008. Two categories emerged in initial step of this investigation: teacher professionalism and teacher-student interaction. Analysis was initiated by considering teachers' attributes, professional development, and teaching conception. Were analyzed 417 replies to the question "What does being a good teacher mean?". Replies evidenced that postgraduate students attribute important elements to the development of innovative pedagogical practices concerning university teaching. Analysis also revealed that (i) conceptions of what being a good teacher is are more related to affective and emotional rather than professional aspects; (ii) the current debate on teacher professional development covers issues related to pedagogical knowledge; and (iii) the formative content must be expanded, although the postgraduation course constitutes an institutional space.

Keywords: higher education, university teaching, pedagogical knowledge.

INTRODUCTION

University has been regarded as a multicultural space with theoretical, practical, technical, political, and ethical intentionality. The processes taking place in this space allow for individuals' participation, research and construction of knowledge from previous knowledge. The experiences that confer University the status of a training place recognize that this space is a *cultural locus* that enables one to conduct intermediations of meanings among individuals under formation, thereby constructing a relations network. These relations, in turn, permit production of meanings that are influenced by the power relations present in the formation space-place (Cunha, 2009).

The production of meanings requires a new teacher profile for higher education. However, formation required for teaching at this level of education in Brazil has focused on the domain of a particular content, no matter whether it is practical (due to professional exercise) or theoretical/epistemological (due to the academic exercise or "academic ethos"), which leads to academic work being fundamentally identified with research (Pimenta, 2002).

It can be verified that universities, mainly the public ones, hire teachers for their skills as researchers. However, despite their specific knowledge, these teachers do not have professional teaching expertise. As a consequence, their teaching practice is more based on the reproduction of their experience as students rather than on the meaning of what being a teacher for Higher Education is. Several authors (Bédard, 2009; Cunha, 2010, 2009; Cunha & Broillo, 2008; Pimenta, 2009; Pimenta & Anastasiou, 2005; Ribeiro, 2009; Tardif & Lessard, 2008) argue that many solutions to the teaching problems encountered in universities lie on the pedagogical nature of teaching. In other words, to face the current challenges regarding teaching at Higher Education level requires that university teachers hold a type of knowledge that is regarded as being of low academic prestige in the scenario of current educational policies.

University teachers recognize themselves by their initial formation. The professional legitimacy of their practice as doctors, engineers, or statisticians, for instance, give rise to knowledge appreciated by the educational institution and has varying degrees of approval, depending on the negotiations and curricular struggles at the core of their respective professional community. Lucarelli (2000) says that power and prestige do not come from university teaching as pedagogical knowledge, but from dominating a determined scientific, technological or humanistic field. Therefore, it is evident that University teachers are met with an

extraordinary challenge, in order to transpose positions oscillating between two poles, namely the pole that sees the academic professional as someone who caters for more than the original disciplines, and the pole that views specific knowledge as determinant of occupational identification.

Teaching is a complex task that demands knowledge of different natures. This knowledge is based on both the culture in which the teacher is produced and the theoretical understanding that enables these professionals to justify their choices. If in the past the teaching profession was based on objective knowledge as in the case of other professions, nowadays control of this knowledge *per se* is insufficient, since the learning context is no longer the same. In *stricto sensu* courses, the fact that attendants will possibly teach in higher education courses is not prioritized. Indeed, *stricto sensu* courses emphasize knowledge about content and investigations in a specific knowledge area. Consequently, the teaching exercise experienced by postgraduate students during their formation is insufficient to form a professional that will have to deal with the "articulation of teaching with research, which makes the so repeated expression about the indissociability between teaching, research, and extension become an empty refrain, decanted without the exercise of criticism"(Gatti, 2004, p.433).

In the view of Tardif and Lessard (2008), knowledge that serves as teaching basis, as seen by teachers, is not limited to the well defined content that depends on specialized knowledge. In fact, such knowledge should cover a variety of objects, issues, and problems related to their work. In this sense, professional knowledge follows an epistemological definition (temporal, plural, heterogeneous, and cognitive); reflects culture and thinkings; and carries the characteristics of the context in which they operate. The authors emphasize that the relation between teachers and knowledge is not merely a function of transmitting knowledge that has already been built, because teachers are continually producing "specific and tacit knowledge from professional formation, courses, curricula, and their experience, which are constantly mobilized, constructed, and reconstructed "(p.81).

In this sense, Cunha (2010) argues that "being a teacher is not a task for neophytes, because the knowledge multiplicity that comes into play during their formation requires a dimension of completeness that departs from the expertise logic (...)." According to this author, teaching practice requires multiple competences that need to be appropriate and understood in their relations. These competences correspond to a matrix related to the educational field and is explained on the basis of specific teaching knowledge. The latter consists of *knowledge related to the context of pedagogical practice*, including knowledge related to the school as a social institution and to the educational and curricular policies in a given space and time; *knowledge related to the relational and collective dimension from the work situations and the formation processes*, which refer to the partnerships that the teacher establishes with their colleagues and other professionals involved in education; *knowledge related to the learning ambience,* which covers aspects related to knowledge about the students' learning conditions and the multiple linkages with social practice; *knowledge related to the students' socio-historical context*, which encompasses the skills as well as the teaching and learning processes that the teacher develops in a particular historical and social context, aiming at student learning; *knowledge related to the planning of teaching activities*, including the delineation of goals, contents, methods, teaching strategies, and proposals for the development of an effective pedagogical practice; *knowledge related to lesson execution in its multiple possibilities*, which involves the conditions that allow teachers to exercise their intellectual leadership among their students since teachers have access to cultural properties, anchored in cultural, affective, and cognitive structures; and *knowledge related to learning evaluation,* which contemplates technical knowledge about tools and evaluation strategies used by the teacher, which in turn enable students to achieve significant learning as well as review their trajectories. (Cunha, 2010).

The University structure almost always revolves around the individual axis (class, research, publications, formation, etc.), thus defining the teaching practice. Therefore, universities' initiative of including pedagogical formation in postgraduation programmes is still considered a timid attempt in view of the problem of University teacher identity construction in a context where research is seen as critical to the teaching exercise. According to Dubar (2005), human identity is not given, but is constructed and reconstructed throughout life. Among the most important events contributing to the construction of an individuals' social identity are leaving the school system and confronting the professional world, which are critical periods for identity construction and are configured as social and professional.

Teacher identity "is the result of complex social interactions in contemporary societies and socio-psychological expression which all affect an individuals' learning, cognitive processes, and actions. It defines an individual´s place in the world at any given time, in any given culture, in any history."(Gatti apud Brzezinski, 2002). This implies that University teachers should have a formation that includes knowledge about scientific research, pedagogy, and constant updating, which demands solid formation not only in terms

of the contents related to their own scientific area, but also in terms of the aspects related to pedagogical knowledge and other dimensions that characterize teaching.

Pimenta (2002) identifies the emergence of the question of knowledge as one of the aspects considered in studies on the identity of the teacher profession. The author argues that identity is constructed from

> "(...) the social significance of the profession, the continuous review of the social meanings of the profession, the revision of traditions. But also from the reaffirmation of culturally based practice that remains meaningful (...) from the confrontation between theory and practice, the systematic analysis of practices in the light of existing theories, the construction of new theories (...)" (Pimenta, 2002, p.19).

In other words, the author recalls the importance of considering the teacher in their own formation, in a self-formation process, in the redesign of their initial knowledge on the basis of their practice, so that their knowledge will be built from a reflection on and about practice.

Bédard (2009) points out three pedagogical trends that currently form the basis for higher education and somehow affect the formative context of the higher education teacher. The first trend, consolidated in North America and underway in Europe, suggests that the undergraduate courses should prepare students to confront the job market and that their future professional role implies job search and career management. The second trend, identified in North American higher education institutions, reconfigures the recognition system of teaching quality in universities and considers that teaching formation and pedagogy are very important for doctoral students interested in a teaching career, apart from providing support to faculty members currently involved with teaching. The third and last trend consists in the movement that aims to establish courses focused on learning and active approach methods. The author stresses that there are studies assessing the impacts of these trends on education and research, in view of the current higher education situation and the teaching staff tradition, characterized by academic freedom. He adds that

> "(…) opening the doors of higher education institutions to the realities of the professional market should not repeat the Trojan Horse story (...) One should not aim only at a contextual teaching for their own benefit, which could conceal important issues related to the University purposes." (Bédard, 2009, p.147).

In view of what has been explained above, the complexity of the teaching profession should be borne in mind when it comes to *stricto sensu* formation courses, in order to aid understanding of the interplay between teaching and research, which are both involved in the exercise of higher education teaching.

METHODOLOGICAL PATHS

The final reports handed in by postgraduate students attending the postgraduate course "University: Formation, Learning and Knowledge Production" offered between 2000 to 2008, were used as corpus for document analysis (Cellard, 2008; Bogdan & Biklen, 1997). This course is part of the Learning Improvement Program (LIP) implemented in a Brazilian state university.

The main aim of the Learning Improvement Program is "to improve the formation of the postgraduate student concerning their teaching stills". This program consists of two phases, namely, pedagogical preparation and supervised teacher training. (Pró Reitoria de Pós-Graduação, Portaria GR 3588). According to the ordinance that regulates this program, the pedagogical preparation step has different characteristics, because the teaching units of the university can organize it in three different ways: by offering course credits, by promoting condensed conferences, or by proposing a core of activities always coordinated by a teacher. The latter activities could involve preparation of pedagogical materials, and discussions about course curriculum and syllabus. As for supervised teacher training stage, students should work six hours per week exclusively teaching to undergraduate courses. The training could be carried out in the form of seminars, lab experiments, guided study and small group discussion, organization of and participation in shifts for the tutoring of undergraduate students, and application of tests and exercises. Note that postgraduate student participation in the LIP Program is optional, but students who have been granted with scholarship from the Coordenação de Aprimoramento de Pessoal de Nível Superior (CAPES, Coordination for the improvement of Higher Education personnel) have to attend it as a compulsory discipline.

Answers to the question "What does being a good teacher mean?" were analyzed in the final reports handend in by postgraduate students who attended the postgraduate course *University: Formation, Learning and Knowledge Production* between 2000 and 2008, using the content analysis approach (Bardin, 2002). It is

difficult, in fact almost impossible, to define a "good teacher" because we can fall into a reductionism based on competences. So it is more appropriate to outline some notes that can help us reflect on the teaching activity. In this sense, Nóvoa (2009) can provide valuable contribution by pointing out five essential features for the definition of teacher professionalism: "(...) knowledge, professional culture, pedagogical tact, teamwork, and social commitment" (p.30-31).

During the first phase of this study, "floating reading" of the reports delineating the formation of the *corpus* was accomplished. In the second phase, the material was explored, and the raw data was encoded in text comprehension nuclei. Two categories emerged from these nuclei, namely teacher professionalism and teacher-student interaction. It is noteworthy that, for the purpose of this text, only the category *teacher professionalism* will be approached.

Cáceres Mesa (2003) conceptualizes *teacher professionalization* as a permanent acquisition, organization and knowledge restructuring process that provides teachers with values for the development of their teaching function. Imbernón (2009) conceives *professionalization* as a complex social and multidimensional concept, based on the cooperation values established among the concretely situated individuals. In Gimeno Sacristán´s view (2002), *teacher professionalism* is a set of knowledge, values and skills developed throughout a learning process.

Given the complexity of the professionalization concept, we chose to analyze it from three dimensions, namely Teachers' Attributes (TA), Professional Development (PD), and Teaching Conceptions (TC). Among the 417 documents selected for analysis between the years 2000 and 2008, 334 belonged to the three mentioned dimensions (TA, PD, and TC).

Reading of the documents and their organization by dimensions brought new perspectives to the issue of teaching, which somehow expresses the conceptions and representations of reports written by the postgraduate students. The TA dimension appears constantly and is addressed in 83 reports, as can be seen in Table 1.

Table 1: Frequency of dimensions for the category "Teacher Professionalization".

dimensions	2000	2001	2002	2003	2004	2005	2006	2007	2008	total
Teachers' attributes	12	15	17	12	7	16	4	-	-	83
Professional development	7	6	6	12	4	20	12	5	7	79
Teaching conceptions	17	20	25	26	24	76	28	19	20	255

These results are consistent with the literature produced on the formation of University teachers. Different researches have shown that most University teachers do not have pedagogical formation, since their academic career emphasizes specific knowledge in their training area as being the most important.

Teaches' Attributes (TA) Dimension

The TA dimension corresponds to individual characteristics, acquired along one's personal and professional trajectory. TA shows the real level of teachers' development as producers and precursors of their potential development, through interactivity. According to the Bioecological Model (Bronfenbrenner & Morris, 1998 apud Morosini, 2006, p. 374), in order to understand this interactivity it is necessary to consider three sets of individual characteristics that form a person's structure throughout their development process: measures, resources, and demands. Some strategies facilitate this action, such as research work, creation of projects of social and cultural interest, access to new technologies, and motivation for development of a partnership between teacher and student. The report below explains the meaning that students attach to the TA dimension:

> *A good teacher is one that arouses the interest in certain points through a stimulation process, guides the path to learning, creates the enthusiasm necessary for learning to take place through their own enthusiasm, shows the importance of the main aspects of knowledge and of the subject's goals. A good teacher is in love with what they do (...) (22/2001)*

This fragment, appointed by the postgraduate student, represents a set of skills, attitudes, and values derived from his/her social representations. In this scenario of complexity, contradictions, and constructed experiences, we illustrate Seddon's contributions, which features the professional action (*capacity-building*)

associated with personal characteristics and refers to "TA" as contextual sensitivity, collective or caring democratic values, community engagement, recognition of public diversity and effort to publish the achievements, organizational orientation, learner-centered pedagogical beliefs, optimism and stimulating good mood, and flexibility to work with students. (Seddon apud Tardif & Lessard, 2008).

The above mentioned features raised by Seddon reinforce the idea that dominating the contents of one's action area, and an enthusiastic and missionary attitude are not enough for teacher professionalization. It is necessary to have someone who acts as protagonist and is always trying to improve their skills, aims at something other than the *status quo*, and is more critical, alert and interactive.

Teaching Conception (TC) Dimension

The TC dimension arises from the fact that teachers are able to perceive themselves as a unit in which the person and professional determines how to be a teacher. In the pedagogical dimension of University teaching must be invested, so that, more time this pedagogical knowledge that teachers need to hold is improved, apart from updating the knowledge concerning their specific area. New pedagogical knowledge that teachers need to acquire concerns the basic principles of the teaching-learning process and of the curriculum. The fragment below corroborates the author's thought, to the extent that it conceptualizes the teacher as a professional who

> (...) presents a reality for the student, challenges them, and arouses in them the desire and interest to learn. The teacher should know and understand the content that they are teaching, identifying arguments for and against the content. The teacher has to start from the students' prior knowledge and then introduce new elements for analysis. The teacher must be able to use their knowledge and experience to develop their current practices. (01/2007)

Student's understanding about the several dimensions of teacher performance in higher education is undeniable. The demand for professionals to acquire knowledge about University teaching in the context of pedagogical knowledge, experience knowledge, and the elements of interpersonal relationships in the teaching and learning process can be noticed. However, although these reports demonstrate the contribution of the Pedagogical Preparation Step of the Learning Improvement Program to the formation of these future University teachers, it is clear that the conceptions of learning how to teach through practice are still deeply entrenched in individuals, and the pedagogical sciences theories are neglected, so that research is prioritized at the expense of teaching practice. These ideas agree with the opinions expressed in the literature, among which the studies of Pimenta (2009) are worthy of mention. According to this author,

> "In most higher education institutions, including universities, teachers have significant experience and even years of study on their specific areas, in contrast with their lack of preparation and scientific ignorance about the teaching and learning process, for which they are responsible from the moment they step into the classroom." (Pimenta, 2009, p. 51)

It appears, therefore, that being recognized as a researcher in the production of significant additions to existing theoretical frameworks is no guarantee of excellence in teaching performance. Research and knowledge generation are the goals of postgraduation. "When they participate in postgraduate study programs, teachers systematize and develop skills typical of research methods." (Pimenta, 2009). Modern society has demanded that this thinking and the conception of what being a University teacher is are changed, so that the University teacher transpasses the specific content domain and a teacher who understands his role as a University lecturer and who knows about the relationships established between students and knowledge emerges.

The current University context no longer regards the teacher as a transmitter of knowledge. Zabalza (2004) points out that today's challenge in the case of University teachers lies on becoming a facilitator of students' learning, since the multiple possibilities of access to knowledge require assistance for decoding assimilation, appropriation, and linking with the professional practice, in a clearly formative dimension. Almeida et al. (2004) highlight that conducting mediation between students and knowledge, responding to the specific needs of the diverse student profiles, and working contexts is at the heart of University teachers' pedagogical actions. Therefore, both models preserved in the representations of teachers as the idea that teaching is an art that is learned with practice are not sufficient to sustain the needs of University teaching. As a consequence, this scenario brings the need to shape a major renovation in the context of the classroom and methodologies of University education.

Rué and Almeida (2009) argue that "the formation of teachers needs to be part of a professional development process, in order to promote articulation between the circumstances of work, the theoretical references arising from pedagogical thinking, and the practical experience of those involved with the educational routine." This personal growth does not occur in an abstract way and requires a well defined and relevant framework of professional competence in order to better target those who are responsible for the formation and the trainees. Difficult tasks are presented to teachers, all of which demand teacher formation programs aimed at providing access to concepts, guidelines and tools that allow teachers to plan, develop and evaluate the teaching-learning process according to the reconfiguration of the social and learning needs.

Professional Development (PD) Dimension
In the current literature about teacher formation processes it is very common to find *Teacher Formation* as a synonym of *Teacher Professional Development* (Pachane, 2003).
Benedito, Ferrer, and Ferreres (1995) understand *professional development* as

> "(…) any systematic attempt to improve the practice, beliefs, and professional knowledge, with the aim of enhancing teaching, researching, and management qualities. This concept includes the diagnosis of current and future needs of an organization and its members, and the development of programs and activities to fulfill these needs." (Benedito et al, 1995, p. 131).

Pimenta and Anastasiou (2004) state that professional development involves initial and continuing formation, articulated with a process of identitary and professional appreciation of teachers. For other authors who treat the subject, like Canário (2005), Rué (2004), and Marcelo (2009), the teacher formation journey is characterized as a continuous process of professional development, which combines basic formation prior to the performance, such as that resulting from other situations of formal specific knowledge acquisition, with the construction and reconstruction of everyday knowledge and the professional act.
It is noteworthy that the PD dimension includes a set of activities aiming to improve the thinking practice, knowledge and professional skills concerning continuous education. These formative activities may be carried out from different perspectives and are pictured in the reports of postgraduate students:

> *A good teacher seeks continuous formation through courses, readings, debates, seminars, and reflection on practice and is not somenone who is only bound to the traditional method, always functional, and gives purely theoretical lessons where the student is a passive individual.(2007/14)*

DP moves through a personal dimension where "formation should encourage a critical and reflective perspective that provides teachers with a means of conducting independent thinking, thus facilitating the self-formation dynamics (...), contributions to professional emancipation and consolidation of a professional that is autonomous in the production of their own knowledge and of their own values "(Nóvoa, 1992).
The analyzed data suggest that professional development is understood by postgraduate students as a constant process of innovation, updating, and discussion. The students also pointed out that a "good teacher" must have a proactive approach in relation to their professional development. Moreover, educational institutions need to offer in-service continuous formation programs that include offering pedagogical formation to teachers, which is necessary for their professional exercise.

CONCLUSION
The initial content analysis, in the three studied dimensions, indicate that students attribute important elements to the development of innovative pedagogical practices regarding University teaching, namely: i) the conceptions of what being a good teacher is are more related to affective and emotional than professional aspects, ii) the current debate on teacher professional development covers issues related to pedagogical knowledge, even though they have not been recognized in the past; iii) the course, although it constitutes a major institutional space for the training of future higher education teachers, needs to expand its formative content because students have a positive representation in relation to University teaching.
Therefore, we propose that courses should include disciplines related to pedagogical formation such as learning programs, pedagogical projects, teaching strategies and new technologies, curricula discussions; as well as criteria and tools for evaluation from the formative perspective. All this can contribute to the construction of the teacher identity in postgraduate students, for which research, extension, and education should play an important role during University teaching practice.

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384 - The Didactic Knowledge of First Cycle Teachers in the Teaching of Geometry

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Abstract: The teaching of geometry has changed its methodological guidelines. For various reasons many primary school teachers do not have an education to respond to current demands. In this study the didactical knowledge of two primary school teachers, Ana and Inês, is analysed concerning geometrical topics and the relationship that exists between this knowledge and their education using a qualitative methodology. Data was collected through four classroom observations of each teacher and two semi-structured interviews.

In relation to curricular knowledge both teachers are aware of the content and the reformulations of the syllabuses but they do not put their knowledge into practice. They have some difficulties in respect of their knowledge of some content of geometry, such as the notion of volume. In respect of instructional knowledge Ana develops strategies that promote the participation of her students, while Inês demonstrates to be an expository teacher. Their didactic knowledge seems to relate to their initial education.

Keywords: Geometry, Didactic Knowledge, Teacher Education.

INTRODUCTION

Current reality indicates a world where actual information of a mathematical nature is ever more obvious in everyday life. Social and professional requirements demand specific competencies and especially knowing how to use mathematical knowledge efficiently. The school, therefore, plays an important role in the education of their students for a responsible, informed and critical citizenship. However, a gap still persists between what is taught and the use of what is taught. This gap is such that the NCTM (1991) defended the teaching of school mathematics - in particular geometry - integrated and taken up in normal life, whereby the students "must develop habits of thinking mathematically and understanding and appreciating the role of mathematics in human life" (p. 6).

The importance that geometry has in the school curriculum results, according to Abrantes (1999), from it being a subject that develops the reasoning capacity of the student, a sensitivity for understanding real world phenomena and the use of geometrical ideas in various situations. Actually, this subject appears in syllabuses at various levels of teaching though successively changed throughout time. In the reformulations of current school syllabuses, the teachers are the "main figures in the changing processes by which mathematics is taught and learnt in schools" (NCTM, 1994, p. 2). However, for various reasons, these reformulations are not always understood in the same way by all teachers. One of these reasons derives from acquired education, which can contribute to the existence of difficulties and gaps in the knowledge of the teachers that do not help with the fulfilling of the actual recommended methods for the teaching of geometry. This idea is reinforced by Monteiro (1992), when she affirms that the past of almost all mathematics teachers in respect of how they developed their learning, indicates and determines the way that they perform their practice of teaching. For Ponte (1999), this practice highlights the didactical knowledge of the teachers that has been developed throughout his education and which plays a crucial role in the course of his practice of teaching. The teacher can develop this knowledge when he takes decisions related to the most appropriate way of establishing the relationship between the student and the mathematical knowledge to be tackled, when he takes advantage of the resources that he has at his disposal and when he draws conclusions from his teaching activity. Considering that this type of knowledge determines the manner in which the teacher deals with the methodological guidance recommended by the school syllabuses, we seek to analyse the didactical knowledge of two primary teachers about the geometric topics of this cycle and the relationship that exists between this knowledge and their education.

GEOMETRY IN THE MATHEMATICS CURRICULUM OF THE FIRST CYCLE

For the origin of geometry it is necessary to go back and "drink" in the sources of ancient civilizations like, for example, the Hellenic and from these far-off times imagine oneself distinguishing between them in the context of every time mathematical knowledge has become deeper and more distinct. Great figures of geometry have spanned history expounding diverse theories, as is the case of Euclidian geometry, which is still in force in present day school syllabuses. However, the teaching of this subject has been developed many times from the point of view of it being a mere abstraction resulting in a logical system, where all the results derive rigorously from definitions and axioms and, at times, given more emphasis to memorisation of definitions and techniques of calculation (Gomes & Ralha, 2005).

During the last century large transformations in the educational approach of geometry occurred, of which one can point to the major reform of mathematics around the sixties, which was helped by the structuralist and constructivist theories of Bruner and Piaget, who influenced the form of conceiving the teaching of Mathematics. For Veloso (1998) the reduction of the importance of geometry in the curriculum owed itself to the 'modern mathematics' movement, which thought geometry was a 'poor parent' of linear algebra. In Portugal, as a consequence of this reform in primary teaching, the aspects related with observation, experimentation and construction almost disappeared. The development of essential competencies, such as a fundamental spatial capacity for future learning that were related to geometrical knowledge, was neglected. From the perspective of this author, generations of students, many of them current teachers of mathematics, "underwent mathematics teaching having contact only with elementary geometry in the form of the Theorem of Pythagoras and some formulas for calculating areas and volumes" (p. 23).

Later - in the seventies - people begin to value school geometry again and - particularly in the last decade - to carry on discussions about a growing coming together between mathematics and reality. Appealing to realisation and visualisation and - in a systematic way - resorting to the manipulation of materials, Abrantes (1999) considered that the learning of geometry fitted into the current process of teaching and learning, which is intended to help in the construction of useful working knowledge through discovery and problem solving from the most elementary school level. Throughout schooling, it is now particularly advised that the teaching of geometry should favour its interpretation and participation in the surrounding world by including the visualisation of objects, the representation and manipulation of these representations, the creation of new objects and the integration of problem solving that relates the application of geometry to daily situations. In the first years of schooling it is recommendable that the teaching and learning of geometry should start from flat surfaces and favour exploration, manipulation and experimentation by using everyday objects and other specific materials (Ministério da Educação, 2007). An opportunity must be given to the students to make observations, write descriptions and draw representations of objects, configurations and routes in order that they are stimulated to act, preview, see and explain what is conveyed in the space that they perceive with the objective of progressively developing their capacity of reasoning about mental representations. Equally important are considered experiences that involve the construction and deconstruction of figures accompanied by descriptions and representations.

DIDACTIC KNOWLEDGE

Nowadays, a growing preoccupation with the importance of the influence of investigation in learning is such that it is noticeable that teachers are accumulating, through the exercise of their educational activities and while integrating these elements into the professional knowledge, influences over what they teach and how it is taught (NCTM, 1994). Serrazina (1999) calls attention to the difficulty of distinguishing the mathematical knowledge of the teacher from the knowledge of mathematics that he teaches owing "to their beliefs and conceptions about mathematics and their teaching" (p. 140). According to Vale (2000), the knowledge of the teacher "is no more than his personal knowledge developed during all formal and informal experiences that have happened throughout his career from initial education to retirement" (p. 104). Nevertheless, this concept of the knowledge of the teacher, which is both general and wide-ranging, can be understood differently and, at the same time, can be sub-divided into different types of knowledge. Shulman (1986) considered that a teacher needs specific knowledge in order to teach. The author have organised this knowledge into content knowledge, curricular knowledge and pedagogical content knowledge.

In relation to curricular knowledge, Shulman (1986) considered it to be knowledge that the teacher possessed in relation to the syllabuses of his disciplinary area, to the variety of materials that can be used in his teaching, as well as the advantages and disadvantages of the use of these syllabuses and materials in his professional activity. The author consider, as relevant factors in curricular knowledge, content knowledge that the students learn in other subjects by way of articulating with the content that is being studied in their

classes (horizontal knowledge) and knowledge of the content of their area at distinctive school levels and of the materials that can be used in teaching this content (vertical knowledge).

Regarding content knowledge, Shulman (1986) said the question of knowledge is that the teacher must have content to teach, as well as knowledge of its organisational structures, which is mostly of a substantial nature, a variety of ways of organising the basic concepts and principles of a subject like its syntax that is a set of rules that determine what is true or false in the field. For Shulman to teach a given subject, besides knowing the facts and concepts that are to be presented, it is not enough to know that 'a given thing is like this' but why it is like this. Content knowledge is a determinant in the selection of the tasks of teaching, in decision-making about how and when to tackle a given topic, in establishing connections between the topics approached, in guiding the activities of the students, in listening to and commenting on their ideas and for determining the validity of a mathematical argument.

Regarding the knowledge that the teacher has of his students or more specifically about the ways that they learn Travers et al. (1977) set out three levels of learning: knowledge, understanding and problem solving, which presuppose an increasing gradation of complexity. It is necessary overall that the teacher has in mind these levels of learning when broaching the content with the students, because, if the knowledge can include memorisation or repetition as facilitating strategies, right away understanding and problem solving require the main attention of the teacher in the selection of appropriate strategies for success in school. In the case of understanding it will be necessary to take account of strategies like interaction, discussion or discovery learning. Regarding the higher level of problem solving the teacher should favour a diversity of problems and allocate sufficient time for each.

Of the various types of professional knowledge, Shulman (1986) pays special attention to pedagogical content knowledge, due to its scope and consequent acceptance of responsibility that falls back on the teachers. This knowledge embraces not only the knowledge that the teachers hold about the mathematical content to teach but also the pedagogical procedures prone to strengthen the process of teaching and the learning of the students, thereby in this way linking together theory and practice.

The work of Shulman about the knowledge of the teacher contributed to research about the greater importance of content knowledge in teaching rather than general knowledge. However, there are authors that offer some criticisms of the importance that Shulman gives to pedagogical content knowledge, which is more attacked for a declarative conception of the knowledge of the teacher than for a conception of knowledge oriented towards action or included in practice. Ponte (1999) considered that the knowledge necessary for the teacher to be able to teach integrates other elements besides content knowledge and pedagogical knowledge. For example, Ponte and Chapman (2006) stress emotion, motivation in teacher activity and the relationship between content knowledge and knowledge about the students and the curriculum.

The didactic knowledge, which the teacher develops throughout his professional path, guides his actions so that the students should be interventional elements in the activities that they carry out in and for the classroom.

THE PROFESSIONAL DEVELOPMENT OF THE TEACHER

The particularity of contemporary society is reflected in the questioning again of the school and educational actions and also mathematical education, especially, as stated by Loureiro (2004), because methodologies and curricular syllabuses have gone through - in recent decades - very significant alterations. For Gomes and Ralha (2005), the new methodological demands, which derive from the alterations of school syllabuses, generate difficulties that seem to intensify, when a deficient teacher education is encountered in relation to mathematical content. These authors considered that initial education is not enough and that permanent updating is necessary throughout the professional career of the teacher. Yet initial education must offer "the future teachers a mathematical education that prepares them for teaching for the understanding of mathematical ideas and concepts and for the development of reasoning and communication" (Loureiro, 2004, p. 89). After initial education the professionalization of the teacher will be guaranteed through courses and programmes that involve a range of competencies in harmony with current curricular guidelines and the functions that the teachers perform in schools (Pereira et al., 2007).

Some studies about the knowledge of primary teachers about geometry show scarcely encouraging knowledge of the results. Gomes and Ralha (2005) in studying the teaching of geometry in the first cycle identified "at the least a distressing ignorance at the level of scientific knowledge about so-called elementary geometry" (p. 19). In this same sense the APM (1998) declared - by evidencing the deficient initial education of primary teachers concerning mathematics - that teachers that underwent their Professional education in the context of the Primary Mastership "had a very precarious initial training in mathematics in relation to education and the didactics of mathematics" (p. 70). The study carried out by Fonseca et al. (2002) showed a

clear discrepancy between the level of knowledge that the teachers revealed in relation to the content of geometry and the content of other mathematical topics. At the same time the teachers who had a more specific education coming from teacher education colleges did not present a very different situation. The possibility of opting for several course variations during education led to some of the teachers having an even more reduced knowledge of the area of mathematics (APM, 1998). Other studies corroborate the gaps in the level of mathematical content knowledge of the teachers. In the case of the study by Matos (1985) about the level of geometrical competencies of preservice teachers in the light of the theory of van Hiele, the majority of participants in the study did not achieve or surpass Level 2, which should be seen as the capacity to identify the elements and properties of geometrical figures through observation and experimentation.

The preoccupation with the quality and adequacy of the teaching activity has itself been shown in numerous important studies of primary teachers. This interest derives, according to Almiro (1999), "from the recognition of their essential role in the changes that are important to undertake in the processes by which this subject is taught in our schools" (p. 25). Gomes and Ralha (2005) consider that the education of primary teachers must be strengthened in terms of its educational intentions. The striking characteristic in the early learning of the education of individuals throughout life suggests that teachers of this level of teaching should be responsible for the basic education of the students, which will constitute their future cognitive mathematical representations.

METHOD

This study analyses the didactic knowledge of two primary teachers about topics of geometry handled at this school level and the relationship that exists between this knowledge and their education. With this objective a case study was developed about Ana and Inês. These teachers were selected as they teach in the same school in classes composed of children in two different years of schooling. Ana teaches in the first and second years of schooling and Inês in the third and fourth. Both have been teaching for more than 20 years having completed education courses with an emphasis on "expressive arts" and "educational guidance," respectively, and at the moment are attending an in-service education course in the area of mathematics.

The study follows a qualitative and interpretative methodology in order to understand the significance that these teachers give to the actions in which they are involved (Bogdan & Biklen, 1994). The interpretative approach seeks to understand and explain a given reality based on an analysis of a particular and specific body of information and observed data, which determines the "personal role of the investigator" (Gómez et al., 1999, p. 34). As the subjectivity of the investigator can call into question the credibility of the information collected, in order to become objective, this type of approach resorts to a set of measures, such as a detailed description susceptible to allowing the "particularity of the situations to permit an exhaustive and complex description of the actual reality of the object under investigation" (p. 35). The case study is characterised by Bogdan and Biklen (1994) as "the detailed observation of a context, an individual, a unique documentary source or of a specific event" (p. 89). Yin (2001) also mentions that case studies constitute the appropriate method of research in the search for relationships and when the investigator wishes to include a certain phenomena in the context in which it occurs.

Data was collected from four class observations (CO) by each of these teachers ($CO_i, i \in \{1,2,3,4\}$) and from two semi-structures personal interviews (PI). Class observation is understood by Yin (2001) as a data collection technique that permits the bringing together of straightforward information about the behaviour of the participants. In this case, the information about the practices of the teachers under treatment was collected and - based on this - aspects of didactic knowledge of the teachers about the content of geometry were deduced.

An interview is defined by Bogdan and Biklen (1994) as "an intentional conversation, generally between two people, (...) directed by one of them with the objective of obtaining information about the other" (p. 134). It is not used to know the individual himself but to take the individual as an example of a given community. In this study, the interview made it possible "to collect descriptive data in the own language of the subjects, thus permitting the investigators to intuitively develop an idea about the manner in which the subjects interpreted aspects of their world" (Bogdan & Biklen, 1994, p. 134). The first interview (I1) was composed of questions about geometrical topics from the current mathematics syllabus for the first cycle of Basic Education. The second interview (I2) focussed on the classes observed.

KNOWLEDGE ABOUT THE CONTENT OF GEOMETRY

Ana and Inês disclosed that they had consistent knowledge about the content of the geometry that they teach, as shown in the example of the hierarchy of quadrilaterals. But they also revealed some difficulties in relation to the significance of concepts. Ana did not like estimates and solving problems about areas and volumes, as exemplified by the way she compared the volume of two cylinders obtained by rolling up an A4

sheet of paper according to each one of its sides. She thought that the cylinders "would hold the same quantity of liquid, as the sheet is the same" (I1). The same surface of the sheet prevailed in relation to the variation of the area of the base and height of the cylinders obtained.

She provided a similar reasoning when comparing the volumes of boxes obtained by cutting equal squares out of the corners of the same A4 sheet.
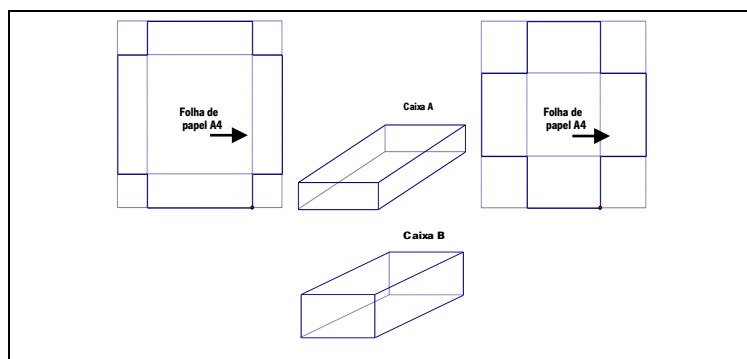
Figure 1: Construction of boxes from an A4 sheet of paper.

As for Ana, the volumes of the boxes "are different," though she had difficulties in her justification, thinking that box A is bigger than box B, because more paper was cut out of B" (PI1). The area of the base prevailed in relation to the height of the box.

The teacher was conscious that the difficulties that she had with some content influenced her teaching. For example, the difficulty, which she had about the notion of volume, led her to state that "I do not like teaching volumes very much, the students do not understand, as it is very abstract" (PI2).

Inês also manifested some difficulties with volumes. In relation to the volume of cylinders, she considered that "the sheet of paper is delineated by the same surface, so for me the volume is actually equal" (PI1). As for the volumes of the boxes, she affirmed that "they are different; the surface of box A is bigger than the surface of box B, because more paper has been taken from B, so we also have to take internal volume from this box" (PI1). This teacher tended to highlight the application of formulas the other way round in relation to the data furnished: "if we assign measurements to the squares that we cut out, the application of the formula can be seen later" (PI1).

Inês also is conscious that the difficulties that she senses in the content of geometry influence her classes: "I have gaps of knowledge in geometry that are complicated to overcome and explain to others, so I have to be aware of these things to fix them" (PI2).

Besides their difficulties with three-dimensional ideas, the teachers also showed difficulties about two-dimensional ideas, as is verified in the following tessellation:
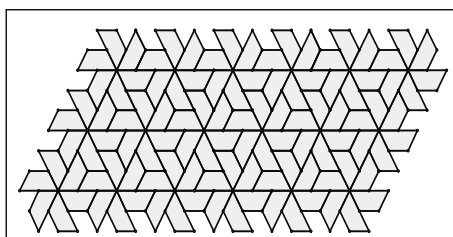
Figure 2: Tessellate the plan.

Ana as asserted that the "pattern unit is the triangle" (PI1) but she did not explain the transformations that permitted tessellate the plan from this figure. Inês considered that the "pattern unit is the hexagon and the tessellation is only repeating the same figure" (PI1).

In another problem about the best position for the construction of a petrol station equidistant from two localities, the teachers did no more than to identify the position corresponding to the middle point of the segment, which linked these two localities, as exemplified by the affirmation of Inês: "design the villages, link them with a line and then divide it in half and it is here that the petrol station must be built" (PI1).

In the observed classes, both the teachers had good knowledge of the content of geometry that they broached. Ana focussed on the composition of geometrical figures and the construction of symmetrical figures. Inês dealt with the classification, perimeter and area of polygons and the volume of cubes.

The treatment of some of this content would deserve more attention. For example, concerning the concept of the axis of symmetry (CO2) Ana mentioned that this axis divided the figure 'into two equal parts' without thinking about situations where axes divide a figure in equal parts and that there are also cases where the axes are not axes of symmetry. Although visual perception will be important work for the students for the identification of the properties of figures, it will be equally important to look at examples and counter examples of the content handled.

Inês - to cover the characteristics of some polygons (CO1) - tolerated these being designed on the blackboard and on worksheets but always in the same position. She gave the impression that she did not consider this attribute important for the identification of geometrical figures.

CURRICULAR KNOWLEDGE ABOUT GEOMETRY

Ana and Inês showed that they knew the current the mathematics syllabuses for the first cycle and its reformulation, since the time of their initial education during the period when the subject of geometry was played down. In relation to her time as a student, Ana stated that in the teaching "of geometry the subject was given rapidly and rather unattractively, because it would seem that it did not have as much importance as calculus" (PI2). Inês also did not have many memories of the subject of geometry and said that they gave the names of the "figures, areas, perimeter and volumes with the application of formulas; rarely in secondary school were these given, because they were at the end of the syllabus and the books" (PI2).

As far as the strategies used in the teaching of geometry were concerned, the teachers acknowledged that they focussed on what, "their professor would say and do" (PI2) and that the materials were not integrated into the class activities, as exemplified in the statement of Ana: "I do not recall that we used materials, there were only sums and calculations, it was a kind of repetition and memorisation" (PI2). When comparing such strategies of teaching with those that they developed in their classes, they showed knowledge about the methodological guidance of the current school syllabuses, as exemplified in the assertion of Ana: "we did experiments for understanding and not to commit to memory; they took offence if we wished to question things" (PI2).

In their observed classes an effort to articulate their personal representations and the new curricular directives was evident. A complex and slow process which aroused a conflict that was more evident in Inês than Ana. Inês considered that "I still have to get used to the new methods, as I have not learned this way" (PI2). So she was aware of this, because in the classes observed she did not instil discovery learning. For example, when working with the notion of the perimeter, she followed the method observed in the four classes that consisted of reading and explaining the definition, putting the question and immediately initiating the response that the students finished afterwards: "above all, according to the definition, we get that the perimeter of that polygon is equal to only… above write P is equal to …" (CO3).

Ana and Inês showed a preoccupation with adapting the development of geometrical content to new knowledge acquired in education, which they were developing. For Inês, this influence falls more upon the tasks that she proposes than on the process of the work with the students.

INSTRUCTIONAL KNOWLEDGE

The two teachers differed in the way that they organised their teaching of geometry. Ana conducted her practice of teaching with an approach that was open to the participation of and discussion among the students and, when convenient, used manipulative materials like "the *geoplan* and the *tangram* for creating geometric figures and exploring constructions; I make many displays, not I make, they make them, they cut out and compose displays" (PI2). This teacher values the use of individualised help for the clarification of difficulties that the students have, thus developing in them the "desire to ask things; I like them to learn and if a student has difficulties, I go near to them to help them" (PI2). Although she seeks to carry out her planning by - at times - directing the students towards the responses that she intends to obtain, she is preoccupies with the creation of moments for the carrying out of practical activities that involve the students. Therefore, she resorts to expressions of the type "let's start to make something" (CO1), "If you have any doubts we can examine them; let's see how much we manage to come up with" (CO4).

In spite of providing moments for the introduction of student-to-student activities with the objective of instigating discussion amongst the students, Ana does not always ask then to explain their processes. She turns to the use of different visual representations "in order to motivate them and for them to learn better; I think that their improvement in learning is what we are looking for, because I think that they think this is what I want them to do" (PI2). She also resorts to relevant daily representations of concepts by taking advantage of the use of manipulative materials. This teacher considers that the "concepts of geometry that do not allow work using different materials are difficult to teach to the students, as for example estimates" (PI2).

In her turn, Inês revealed herself to be a directive and expository teacher. Although attributing importance to the new methods of teaching, as opposed to the traditional way that so much displeased her as a student, she seems to have difficulty in overcoming these representations of the educational act in her classes. Her students have little opportunity for experimenting and explaining their processes, which would allow then to discover new knowledge. It is the same when she turns to manipulative materials like, for example, figures on paper, since this device does not perform its function of leading the students to discussions, making inferences and pointing out conclusions.

For Inês, the capacity of applying geometrical knowledge gets involved with "the carrying out of experiments and substantiations and recourse to materials to motivate the students" (PI2). But in her classes verbalisation predominates and the associated worksheet solution is in a very structured format: "for developing the content in the classroom, I almost always start with a challenge followed by more traditional problems for the students to see that the ideas that they learn adapt themselves to our day to day situations" (PI2). The procedures unleashed throughout the lessons were always the same: recourse to the blackboard to tackle the concepts related to the lesson content; reading and explanation of the definitions of the chosen concepts; executing the worksheets step by step with the student reading and a consequent clarification by the teacher.

In the communicational process Inês gave the students only one role, which was to respond to her questions, which were centred on her own discourse: she raised questions, steered the responses and left the students to complete phrases and to repeat or finish the reasons indicated by her. She even communicated the results by strongly hinting what the answers of the students should be without allowing them to make their own presentations.

CONCLUSION

It is generally considered that teachers are key elements in the educational process. However, it must not be forgotten that the teacher of mathematics also was a student, who developed throughout his school life knowledge about aspects of the didactical knowledge of mathematics. The manner in which he acquired this knowledge tends to have influenced the way how he interprets, understands and teaches, which is clearly perceptible in this study. In relation to geometry, the teachers revealed knowledge of the curriculum and a precarious knowledge about the content of this subject that is to be taught in the first cycle. In relation to curricular knowledge, Ana and Inês manifested knowledge about the content of geometry present in the syllabuses of all four years of the primary and of the learning objectives and didactic materials to be integrated into their strategies for teaching. This perception became explicit in the comparison between the methodological guidance in the syllabuses of their initial education and what the teachers currently accomplished. As for knowledge about the content of geometry, the teachers presented structured knowledge about definitions, formulas and calculations, which seemed to result from learning based on repetition and its uncritical assimilation. The knowledge of geometrical content seemed to fall well short of what is expected of a teacher, so that they can teach about it. As stated by Gomes and Ralha (2005), nobody can teach what they do know and it is not enough to have a superficial knowledge of elementary mathematics.

Ana and Inês showed knowledge about curricular guidance for the teaching of geometry and the importance of didactic materials in the processes of learning and activities developed by the students. However, their education tended to influence the knowledge that they had about the content of geometry and the way to teach it in the classroom. The experience that they acquired during their professional careers, as Inês mentioned, tended to "bridge some gaps in my education," (PI2) principally in relation to the representations that they used for making the content that they taught comprehensible.

In order to stimulate their teaching strategies, Inês valued teacher activity and the repetition of exercises, looked for the students to imitate what she did and valuing above all memorisation and the uncritical application of formulas. Ana valued the participation of the students by attending to their responses, resorting to drawings on the blackboard to indicate the significance of the selected content and using materials in order to favour discovery by the students. Yet, she did not always exhaust the responses of the students, when guiding them to what she intended should happen.

We concluded that the images that are developed during educational actions tend to condition the innovation of pedagogical practice. Knowledge of the methodological guidance in the school syllabuses and education that is developed does not always automatically guarantee the modification or transference of this knowledge into classroom practices. So as to overcome some obstacles in the teaching of mathematics, we consider that the teachers must involve themselves in the exploration of mathematical tasks by questioning and discussing ideas with other teachers in the same way that it is expected that they will do with their students. The present investigation is an example of work between peers in which the two teachers had an opportunity to reflect

about their own professional practice, which made them aware of the importance of reformulating their methodological options and being ready to put into practice their knowledge regarding the way to approach the content of geometry with their students.

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393 - Faculty Seminars as Means for Teacher Educators' Professional Development

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Abstract: The purpose of this paper is to investigate teacher educators' motives for participating in faculty seminars and their perception of the contribution of these seminars to their personal to professional and social development. The research context was a monthly faculty seminar conducted in a college for teacher training in Israel. Data were obtained from 35 teacher educators using a questionnaire and from six teacher educators who were interviewed. Findings showed that teacher educators participated in the faculty seminars primarily because of their obligation as faculty members and because of their desire to become better teachers. Its main contribution was improving research skills and moderately contributed to the personal, professional and social domains. However, findings imply that well-implemented faculty seminars can meet the diverse needs of teacher educators and contribute to their development and consequently to the teachers they train.

Keywords: Teacher educators, professional development, faculty seminars

INTRODUCTION

Most teacher educators enter their job without participating in a preparation program for becoming teacher educators. Therefore, they have to develop their own professional competencies, particularly during the first few years of their work as teacher educators (Murray & Male, 2005). In addition, during their careers, teacher educators are exposed to many changes and reforms in teacher education which require them to evaluate and redefine their professional skills. Consequently, and in light of their multiple roles to instruct, teach, and provide support to student teacher (Koster, Brakeman's, Korthgagen, & Wubbels, 2005) attention to the professional development of teacher educators is imperative and may contribute to substantial improvement in the quality of teachers.

Professional development can be defined in various ways. In relation to teacher educators it was defined as the process by which an individual teacher educator improves the quality of his/ her work and tries to "become the best professional one can possibly be (Smith, 2003, p. 203)

Very little is known about the quality of teacher educators or their professional development. Teacher educators seem to be an under-researched occupational group (Ben-Peretz, Kleeman, Richenberg, & Shimoni, 2010). Much of the research on professional development of teacher educators is outdated, limited to specific professional activities, or constrained to descriptions of concrete courses for new teacher educators. An exception is an extensive study of 400 Dutch teacher educators which indicated that monitoring their own professional development is fundamental to their profession and is the most essential area to improve (Koster, Dengernik, Korthagen, & Lunenberg, 2008).

From this study and other few studies about the professional development of teacher educators one can learn that it refers to three main components (Dickman, 2005):

1.Personal components - professional Identity as "community membership" and as "learning trajectory" (Ben-Peretz et al., 2010, following Wenger's dimensions of identity, 1998)

2.Professional components – "teacher educators are firs of all teachers" (Tamir, 1998, p. 84). Accordingly, they are supposed to have the knowledge that is required from teachers and unique knowledge of teacher educators ("extras" according to Lunenberg, 2002). Tamir (1998) calls it unique pedagogical knowledge which contains four parts: communication, deliberation, analysis and synthesis and reflection. Reflective thinking constructs professional knowledge of practice (Koster & Dengerink, 2001); for teacher educators, reflection carries a dual purpose: reflect on their experience and develop their students' ability to reflect (Lunenberg & Korthagen, 2003). In addition, teacher educators must know how to explain their pedagogy to the teachers they are training (ibid) and have to conduct research (Cochran-Smith & Donnell, 2006; Tanner &Davies, 2009).

3. Social components - intra-personal intelligence - working with students and peers, being empathetic, assertive, committed and tactful (Smith, 2003), professional frame of reference – expert teacher educators associate themselves to the teacher educators group (Kupferberg & Ben-Peretz, 2004)

In conclusion it can be said that professional development of teacher educators is not limited to expanded theoretical knowledge in a specific subject matter, but it is more a whole person development with cognitive and affective aspects (Smith, 2003). The task for teacher educators is made even more demanding due to the fact that there is little, if any, formal preparation for their role; nor is there much in the way of ongoing professional support or mentoring (Lunenberg, 2002; Zeichner, 2005).

Routes in professional development of teacher educators

As indicated previously, there is little formal preparation for teacher educators' role. In addition, there is not much in the way of ongoing professional support or mentoring (Lunenberg, 2002; Zeichner, 2005; Berry, 2009). There are formal and less formal routes in professional development, some of which are for individuals and some involve the whole staff (Smith, 2003).

In Israel, teacher educators' professional development takes several forms: workshops and courses organized by the teacher education department as well as seminars organized by teacher education institutions. Smith (2003) classifies the routes in professional development of teacher educators in Israel to six forms: higher academic degree, in-service workshops and seminars outside the teacher education institution, staff development inside the teacher education institution, feedback on teaching, voluntary and forced support, and peer tutoring.

A literature review reveals that several aspects contributed to the success of formal programs for professional development of teacher educators: Giving attention to the integration of personal, professional and social development (Zaslavsky & Leikin, 2004); cooperative learning together with making reflection (Zaslavsky & Leikin, 1999); team work within the frame of professional community (Zaslavsky & Leikin, 1999; Dickman, 2005); making reflection (Zaslavsky, 2004); and the mentor of the teacher educators (Dickman, 2011).

The purpose of this study is to investigate teacher educators' motives for participating in faculty seminars and their perception of the contribution of these seminars to their instruction and their professional development. This study focused on a teacher educator seminar conducted in one teacher Education College; therefore it can be referred to as a case study.

THE RESEARCH CONTEXT

In Israel, teacher educators' professional development takes several forms: Workshops and courses organized by the teacher training board, teacher educators' seminars organized by each of the teacher training institutes. This study focused on a teacher educator seminar conducted within one teacher Education College. A monthly meeting was conducted by a member of the teacher educator staff or an external expert in a relevant domain. Participation in the seminar was mandatory, however, only part of the staff attended on regular basis.

The seminar meetings centered on various topics such as the place of curriculum in teacher education, promotion of high order thinking, reflective thinking, learner assessment and methods and strategies in learning and research.

METHOD

Participants

Data were collected from 35 teacher educators who participated in the faculty seminar at a teacher training college during the year 2010. Participants varied by gender (71% female), experience (45% at least 6 years), age ($\overline{X} = 49$), and academic degree (44% Ph.D., 56% Masters). Participant also varied by the area they teach. Six teacher educators who consistently participated in the seminar meetings were interviewed.

Research instruments

Data were obtained by means of a questionnaire administered to participants at the end of the seminar meetings. The questionnaire included questions related to: background and training, motives for participating in the seminar meetings, contribution of the seminar to personal and professional development and open-ended questions regarding, strengths, weakness of the seminar and suggestions for improvement. Motives for participating in the faculty seminar were measured by asking participants to rate the extent to which each of eight motives drive them to participate in the faculty seminar on a 5-point scale ranging from 1 (low degree) to 5 (high degree). These motives included importance of the seminar topics, obligation to the job, becoming a better teacher educator, receiving incentives, showing respect to colleagues, sense of belonging, fulfilling

requirement of the institute administration, and following a colleagues' recommendation. Internal consistency as measured by Cranach's α was .74.

Contribution of the faculty seminar to teacher educators was measured by 23 items intended to measure General and content pedagogical knowledge (8 items, Cranach's α =.94), Content knowledge (3 items, Cranach's α = .77), Application to classroom practice (6 items, Cranach's α = .92), and awareness of self /reflection (6 items, Cranach's α = .94). Items were grouped conceptually into dimensions because factor analysis unlikely to yield valid factor solution when sample size is small.

Qualitative data were obtained by means of three open-ended questions about strong and weak aspects of the faculty seminar, recommendation how to improve, and whether they apply ideas and methods presented, or emerged in the seminar meeting to classroom practices. Interviews were also conducted with six teacher educators to obtain in-depth data regarding issues emerged from the questionnaire data.

Procedure

The faculty seminar coordinator distributed the questionnaires to the participating teacher educators who filled them in their convenient time and sent them back to her. She then forwarded them on to the researchers.

The interviews were conducted face-to-face in a setting which was convenient for the interviewees. Interviews which lasted on the average about 45 were not taped, but rich notes were obtained.

FINDINGS

Findings related to both motives for participation in the faculty seminar and participants' perception of the contribution of the faculty seminar to their personal and professional development.

Motives for participation in the faculty seminar

Results reflecting the extent to which each of eight motives was responsible for participating in the faculty seminar are summarized in Table 1.

Table 1: Means and Standards Deviations of Participants Responses on the Motive for Participation Items Seminar

I participated in the seminar meetings because ----	*Mean*	*SD*	*Cronbach's α*
Motives	*3.86*	*0.63*	*.74*
1. The seminar topics were important	3.31	0.90	
2. I felt it is an obligations as a faculty member	4.14	0.81	
3. I wanted to become a better teacher	4.14	0.97	
4. It is important for me to receive incentives	2.79	1.41	
5. I wanted to show respect for my colleagues	3.74	1.07	
6. I wanted to feel I belong to the faculty	4.00	1.09	
7. My participation was important for the college	3.44	1.10	
8. Colleagues recommend participation	2.23	1.24	

(Scale 1-5; N=33-35)

As can be seen from Table 1, Teacher educators felt strongly that they should participate in the faculty seminar to fill an obligation as faculty members, to become better teachers and to feel they belong to the college team. The weakest motives for participation in the faculty seminar were receiving incentives and following colleagues' recommendations. However, responses related to these two motives were the most heterogeneous (SD= 1.41 and 1.24, respectively).

In the interviews with six participants they mention strengthening general knowledge, exposure to information in other areas and new information of one's area, filling an obligation to the institute and feeling affiliated with the college team, as motive for participating in the faculty seminar.

Contribution of the Faculty Seminar

How and to what extent does the faculty seminar contributed to teacher educators? Findings related to these questions are displayed in Table 2. On the average the contribution of faculty seminar was rated by teacher

educators, at best, only moderate in all domains, except improving their ability to conduct research which was rated relatively high.

Data from the interviews indicated that the faculty seminar contributed to participants in three major domains. The first domain is personal. Participants indicated they become aware of their teaching styles and were exposed to new interesting general knowledge which stimulates them to reflect on their knowledge, styles and values. In the professional domain, participants indicated that only part of the meetings contributed to their professional development, particularly those focused on topics which are relevant to their teaching. For example, one of the participants stated: "I learned how to handle student reflections". Other teacher educator stated that: "Participating in the faculty seminar reminded me of certain knowledge that encouraged me to read more and strength my desire to apply things in the classroom."

Table 2: Means, Standard Deviations, and Cronbach's α Coefficient for the Scores on the Contribution of the Seminar

Contribution of the faculty seminar	*Mean*	*SD*	*Cronbach's α*
General and content pedagogical knowledge	***3.04***	***0.83***	***.94***
1. My general pedagogical knowledge has been enhanced	3.34	0.87	
2. My knowledge about assessment has been extended	2.94	0.95	
3. My pedagogical content knowledge has been improved	2.86	1.00	
4. I feel expert in instruction	2.91	0.95	
5. My understanding of reflective thinking has been improved	3.23	1.00	
6. My knowledge regarding classroom teaching has been enriched	2.91	1.10	
7. My knowledge regarding learning processes has been improved	3.00	1.09	
8. I acquired instructional tools that promote student thinking	3.09	0.98	
Content knowledge	**3.12**	**0.88**	**.77**
1. My knowledge in various content areas has been enriched	3.24	1.12	
2. My knowledge in the content area I teach has been enriched	2.60	1.06	
3. My ability to conduct research has been improved	4.14	0.97	
Application to classroom practice	**2.96**	**0.88**	**.92**
1. I used ideas presented in the seminar and related to other content,	2.63	0.94	
2. I used ideas presented in the faculty seminar in my instruction	2.66	0.94	
3. I encourage my students to think reflectively	3.41	1.37	
4. I plan to apply methods and strategies I learned in my instruction	3.14	0.97	
5. I think that things I learned will be useful for my instruction	3.20	0.96	
6. My student learning has been benefited	2.70	1.02	
Awareness of self (consciousness)	**3.12**	**0.93**	**.94**
1. I become more aware of my teaching style	3.34	1.08	
2. I become more aware of my strengths	3.31	1.13	
3. I become more aware of my weaknesses	3.26	1.01	
4. I feel that I can become a better teacher educator	3.35	1.07	
5. I feel I has been developed personally	2.94	1.08	
6. I feel I has been developed professionally	3.03	1.15	

Items (Scale 1-5; N=33-35)

All Interviewees mentioned the contribution of the faculty seminar to the social domain. They indicated that seminar meetings provided an opportunity to know each other. For some participants, particularly new faculty, this social aspect is most important. As a female teacher educator said: "this [knowing each other] is what we need in this college." One interviewee took thing a step further by arguing that seminar meetings

provided opportunity to know about the specialty and the research domains of peer faculty which can encourage cooperative work and professional and personal growth.

The perceived applicability of topics presented in the seminar can be interpreted as perceived contribution. The quantitative data indicated that participants applied or intended to apply the seminar topics in their teaching to only a moderate extent. This pattern also emerged from the interviews data where participants pointed out that only part of the topics are applicable for their teaching such as using portfolio as an assessment tool, or classroom journals as learning and research tools.

General evaluation of the seminar meeting revealed strengths as well as weakness.

Interviewees described diversity of topics and seminar leaders, positive climate, relevance of some of the topics for many participants, and the high expertise of seminar leaders as strengths. Among the weaknesses they mentioned: Some topics were not relevant and some seminar leaders and participants took their work lightly (e.g., arrive late).

SUMMARY AND DISCUSSION

Teacher educators, in general are not trained or prepared for their complex job. Several routes are followed to fill this void and to help teacher educators to perform their job as effectively as possible. One of these routes is organizing institutional faculty seminars. Two unavoidable questions are relevant in this regard: what are the motives for participating in such seminars? And to what extent these faculty seminars contribute to teacher educators? These two questions were the focus of the present study.

Findings revealed that two primarily reasons derive participation in the faculty seminar: obligation as a faculty member and desire to become a better teacher. The first of these two motives reflect the desire to develop an identity as a teacher educator within an institutional identity. This finding agrees with arguments suggested by Wegner (1998) and reinforced by Ben-Pertez et al. (2010) regarding the personal components of professional development to which they refer as "community membership" and as "learning trajectories". The other motive relates to professional components as suggested by Tamir (1998) and later by Koster and Dengenrink (2001). The moderate rating that teacher educators gave to the other motives does not mean that they are irrelevant rather they might be less important than the first two. However, this finding should be interpreted with caution given that the information was self-reported, and that the importance of these motives might be context dependent.

The fact that teacher educators rated highest the contribution of faculty seminars to their research skills reflect the lack of training in this area and the need of providing in-service professional development in this area. This training should not be limited to faculty seminars and might be better served within different frameworks such as workshops and research forums. This aspect is important because engagement with research has resulted in positive changes to the knowledge, skills and critical awareness of the teacher-educators which has in turn brought benefits to the learning of their students (Tanner & Davies 2009). Along these lines Snoak and Klink argue:

> It would be very useful for teacher educators and researchers to engage in research aboutthe needs of beginning teacher educators, the way in which teacher educators prefer to learn and what expert teacher educators and heads of teacher education institutes consider they need to learn. (2009, p. 223).

Other personal, professional and social domains were benefitted to moderate extent as a result of participating in the faculty seminar. This implies that careful planning of these seminars can increase the relevance of their content and topics presented within them to the diverse needs of participants. Institutional faculty seminars have an advantage over other professional development activities conducted outside the institutional setting, because they can be designed to address the unique needs of the faculty team while taking into account unique institutional features, conditions and constraints.

In summary, since faculty seminars should be responsive to teacher educators needs, and given that much leeway is allowed in running them, they differ greatly with respect to composition, content, and operation. The result is great variation in participants' motives, perceived benefits and satisfaction. However, the findings imply that well-implemented faculty seminars can meet the diverse needs of teacher educators, provide them of opportunity to communicate, to create a learning cooperative culture and contribute to their personal and professional development. Clearly, further research is required in order to better understand the dynamics of faculty seminars and their possible benefits for teacher educators and their student teachers.
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396 - Teacher Professional Development Programmes in Mathematical Literacy, Natural Sciences and Technology Education: Establishing Foundational Features

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Abstract: The South African democratic government introduced change in all spheres of South African life. The challenges that they had to face in education was addressing the redundant, racialised curriculum, and the global focus from the poor results achieved by learners in 1995, 1999 and 2003 in The International Mathematics and Science Study. A key feature to these poor results was the large group of teachers who were inadequately 'trained' during the Apartheid era: trained to teach for subservience and not for critical thinking. Current actions to address this crisis are being undertaken in a collaborative relationship between the Department of Education and Higher Education Institutions. Current initiatives in the professional development of Mathematics, Science and Technology teachers at a South African university are explored. A driving question in this article is the exploration for a professional development programme that can effectively support the professional development of teachers in a developing context. The rationale, foundational principles, model of delivery, programme structure and assessment for the specializations of the teacher professional development programmes at the university are described. The discussion highlights the important role that the university plays in the professional development of teachers.

INTRODUCTION

In 1994, the South African democratic government under the leadership of the African National Congress (ANC) was sworn into power. Change was on the way – in all spheres of South African life. The apartheid laws and actions were abolished; all South African citizens irrespective of race, culture and creed had the right to vote and access to education. The discriminatory education system was renounced and new education policies were developed. Essentially, the democratic government was concerned with enabling all citizens to have "access to lifelong education and training" (Department of Education, 1994, p. 11). Thus, the education policies were concerned with increasing access to school and, also the quality and nature of schooling for all children eligible to attend. The policy of free basic education to all was a very attractive and acceptable policy for most South African citizens. Inherent in this policy was the expectation that all schools would have an acceptable quality of education.

The South African Department of Education, in their attempt to provide non-racialised, relevant, quality education for all introduced new school curricular. Since 1994, we have experienced three curriculum waves. First, in 1998 Outcomes Based Education (OBE) was introduced as a philosophy of education in schools and Curriculum 2005 (C2005) as the curriculum vehicle. Four years later, C2005 was reviewed and the Revised Curriculum was introduced. The National Curriculum Statements (NCS) was introduced in 2006 as the third curriculum. Each of these curricular brought expectations of what and how teaching and learning should take place for quality education to be achieved. The challenge that the Department of Education faced in improving the quality of education since 1994 was frustrated by the global focus on the poor results achieved by learners in The First, Second and Third International Mathematics and Science Studies in 1995, 1999 and 2003. The report of the 2003 TIMMS study showed that "South African teachers have extensive development opportunities, but the evidence of poor learner performance shows that these have limited impact" (Department of Education, 2006, p. 17). This limited impact can be ascribed to a large group of teachers who were inadequately trained during the Apartheid era: they were trained to teach for subservience and not for critical thinking. During the curriculum reform period many of these teachers attended basic education workshops to develop the required knowledge and skills for implementing the new curricular. But, these workshops proved to be insufficient for developing the teachers as competent implementers of the curriculum (Adler, Ball, Krainer, Lin & Novotina, 2005; Johnson, Hodges & Monk, 2010). What was required for the effective implementation of the new curriculum with were highly developed teachers who

could work with the intended expectations of the new curriculum, the necessary teaching and learning materials and a teaching and learning ethos that focused on achieving excellence and quality education (Adler, *et al.,* 2005).

The introduction of the NCS with its new subject areas and content features in many subjects made demands on teachers and learners. Learners in the Further Education and Training Phase (FET), which is Grades 10 – 12, were expected to either study Mathematics or Mathematical Literacy (ML), irrespective of the course that they would want to study at the tertiary level (post Grade 12). This policy change had implications of re-training and re-skilling teachers to teach a new subject - Mathematical Literacy. Natural Science and Technology teachers were expected to work with new content areas that they had not encountered even in their own professional development. These curriculum changes influenced Higher Education Institutions (HEIs) to design teacher professional development programmes to respond to the re-training and re-skilling of teachers. This was also a response to the growing demand for Continuing Professional Teacher Development (CPTD) in South Africa as outlined in the Report of the Ministerial Committee on Teacher Education entitled A National Framework for Teacher Education in South Africa (2005). Programmes for Mathematical Literacy, Natural Science and Technology Education were designed and implemented at an HEI (university). The driving question in this article is the exploration for a teacher professional development programme that can effectively support the professional development of teachers in a developing context.

DEVELOPING CONTEXT AND THE NEEDS (RATIONALE)

Since the introduction of the new government the Department of Education has been faced with numerous challenges. These comprise replacing the inadequate, racist school curriculum, disparity in the resourcing of schools in terms of the infra-structure, required teaching and learning materials, human resources, and the vast geographical spread of schools across urban and deep rural areas. In 2006 in South Africa, teachers were the largest single occupational group and profession in the country, numbering close to 390 000 in public and private schools (Department of Education, 2006, p. 5). These teachers were expected to play an important role in the development of the youth of South Africa, in preparing them for the 21st century and to be responsible, sustainable and economically active citizens who could contribute to the further development of the country.

The fact that "only 1 in 29 Black children entering the school system emerge with matric certificates (Hoffman, 2008, p. 2) which provide them with access to further their education and their training and employment in a poor economy, represents a classical example of an ineffective education. If we have the courage to recognise that many of our universities and schools across the political spectrum are "close to a point of breakdown" (Morrow, 2007, p. 184), then we have to also acknowledge that our education system is in "serious trouble" (*ibid*). As with the poor achievement of South African learners as revealed by international studies referred to earlier, national concerns identify "[P]oor quality teaching [as] the key reason why the education system is failing so many schools" (Paton, 2006, p. 1). Soudien's (2007, p. 188) statement reveals the counterpart (teaching) as the problem when he says that "the impact it [the country] is making on the *quality* of the learning experience of young children is questionable." Morrow (2007, p. 184) concludes by a "widespread conviction that we urgently need to improve the quality of teaching and learning in our schooling system". This is possible if professional development of all teachers is effectively planned and managed.

Teachers' work can be achieved if teachers are professionally developed to work with the expectations of a new curriculum and the changing contexts within which they work. One of the criticisms leveled against the failure of teachers to work with the curriculum - C2005 was the use of workshops to develop teachers, as opposed to using short courses or two years qualifications provided by HEIs (Chisholm, Volmink, Ndhlovu, Potenza, Mahomed, Muller, Lubisi, Vinjevold, Ngozi, Malan, & Mphahlele, 2000). The ACE programmes are developed taking this perspective into account. Whether the two year qualification is more effective as a teacher professional development model, still needs to be investigated. This is one of the research questions for the larger project that this article is linked to: How effective is the formal ACE inservice qualification as a professional development model in the province of KwaZulu-Natal?

During these professional development programmes teachers need to be developed to have the necessary knowledge competence of the subject that they teach and to interpret and utilize teaching resources and learner support materials effectively (Department of Education, 2010). Teachers of Natural Science and Technology are expected to have the new knowledge and skills that are included in the curriculum for the Natural Sciences and Technology Learning Areas (subjects). The expectation for the Mathematical Literacy field (subject) was for teachers to be trained to teach this subject as this was a new subject in the curriculum.

The challenge therefore for the South African Department of Education was to establish initiatives for the professional development of teachers to teach these subjects. The initiative undertaken was a collaborative relationship between the Department of Education and HEIs. The HEIs were expected to design and implement Advanced Certificate in Education (ACE) programmes to meet the need for professional development of teachers who are currently teaching but do not have the necessary competences to work with the curriculum. Professional development therefore was viewed as the solution to various educational reforms made by governments yet there is a dearth of research on the effectiveness of formal qualifications such as the ACE Mathematical Literacy, Natural Science and Technology Education. Furthermore there is a lack of research on the effect of spreading these across multiple learning sites (Adler *et al*., 2005). Adler, Pournara, Taylor, Thorne and Moletsane (2009) further add that impacts on teaching and learning should consider examining the practices of teacher education with respect to "breadth and depth of domain knowledge; subject content and pedagogy" (p.39).

In this article we focus on the meaning of professional development in a developing context and a descriptive analysis of the ACE programmes - Mathematical Literacy, Natural Sciences and Technology Education.

PROFESSIONAL DEVELOPMENT OF TEACHERS THROUGH ADVANCED CERTIFICATE OF EDUCATION PROGRAMMES

This section of the article addresses the meaning of teachers as professionals in the South African context. It raises issues on professional development in a developing context and the implications of these for the design and implementation of a teacher professional development programme.

Teachers as professionals

In describing teachers as professionals in the South African context we could refer to the roles as laid down in policy or descriptors used by teacher education researchers. The Norms and Standards for Educators policy document (2000) requires of a teacher to be a specialist in: a particular learning area, subject or phase, teaching and learning, assessment, curriculum development, a leader, administrator and manager, a scholar and lifelong learner and a professional who plays a community, citizenship, and pastoral role (Department of Education, 2006). The meaning that theorists ascribe to professional teacher is politically, socially and culturally influenced. In Morrow's (2007b) terms, for example, a profession has two characteristics: "theoretical nature of professional practice and the ethical dimensions of a profession" (p. 78). Within the South African context, this meaning cuts to the core of the characteristics that professional teachers should possess as many lack appropriate content knowledge, pedagogic content knowledge and an effective work ethic. Researchers essentially agree that the teacher as a professional should possess "competence in and be committed to the practice of professional teaching" (Morrow, 2007b, p. 75); make decisions about teaching and learning for particular learning environments with "confidence and commitment" to teach learners (Samuel, 2008, p. 15) and have the qualities of flexibility, courage, thoughtfulness, resilience, independence and self-reliance (James, 2009).

Teachers may be regarded as members of a profession (Morrow, 2007b) whose 'actions' and work are shaped by many different demands made on their work in general (Samuel, 2008; Morrow, 2007b; James, 2000) and the internal and external challenges for quality learning (Hoffman, 2008; Soudien, 2007; Morrow, 2007b). It is for this reason that a critical descriptive analysis of the ACE programmes is presented. Teacher professional development does not occur in a vacuum and they are expected to learn and develop on a part-time basis, while still working, running families and being confronted by various challenges in their communities e.g. poverty, AIDS sufferers and grieving learners. The particular models, methods and pedagogic content knowledge used by HEIs to re-skill and re-train teachers needs to take these aspects into account.

Professional development of teachers in a developing context

A foundational principle of this study is that professional development within a developing context is different to professional development in a developed context. Thus in this study we hope to make recommendations about the form and substance of formal qualifications that work with teachers from the diverse contexts – deep rural to urban, in the province of KwaZulu-Natal. Many of these teachers have to consider issues such as safety of schools, poverty of the learners, poor school and district support, insufficient community involvement, nonexistent curriculum support. Teachers also have to contend with curriculum issues where they "tend to be driven to such frenzy about 'assessment' and 'portfolios' that they have little time to teach" (Morrow, 2007a, p. 8).

In the climate of curriculum change, all teachers were expected to enhance their skills, not necessarily their qualifications. Johnson, Hodges and Monk (2010) are of the view that knowledge is necessary for a change in teacher practice but it also requires a teacher's willingness to change (James, 2000). A large majority of teachers "need to strengthen their subject knowledge base, pedagogical content knowledge and teaching skills" (Department of Education, 2006, p. 16). The provision of a professional development programme and teacher's participation in it thou, does not guarantee change in teacher's teaching practice. For the majority of South African teachers the enhancement of skills and qualifications was necessary as stated earlier, as they did not receive adequate training for the teacher profession under the apartheid system. According to Lieberman and Mace (2008, p. 226) a natural solution then was to "teach teachers how to improve their practice". But, this was a complex issue interwoven with the political, educational, personal and institutional demands and would limit the teachers further (Morrow, 2007 a). Many teachers viewed the professional development workshops provided by the Department of Education as "fragmented, disconnected, and irrelevant to the real problems of classroom practice" (*ibid*).

Foundational principles for Professional development programmes
Morrow (2007 a) challenges us to think about two important questions when designing and implementing teacher professional development programmes: what work is expected of teachers and what are the contexts in which they work? Teaching occurs in a sociocultural context (Van Huizen, van Oers & Wubbels, 2005; Hughes, 2006; Morrow, 2007b; Samuel, 2008, James, 2009) where it "concentrates on the connections between individual functioning and development *and* the sociocultural practices in which individuals take part" (Van Huizen *et al.*, 2005, p. 271). Each teacher's learning and development cannot be understood if it is viewed as removed from the everyday actions e.g. thinking, facilitating learning actions that they participate in. Within this theory the teacher and his/her environment (society) are viewed as "a unified system in which these two elements are joined together in a dialectical relationship" (*ibid*). Morrow (2007 a) spells this out further in that a teacher programme should "develop an understanding of both the formal and the material elements of teaching" (p. 27). Research conducted on the development of teachers' understanding in a Natural Science ACE programme concluded that an:

> effort should be made to address students' [teachers'] views of how they learn and acquire knowledge, especially in the light of the fact that most of the students who enroll for ACE courses are mature adults whose epistemological beliefs about knowledge and learning are firmly entrenched (James, Stears & Good, in press, p. 11).

In the Faculty of Education the ACE programmes are designed to reflect "the necessary and enabling features for an ACE to achieve its purpose. The curriculum is suited to its purpose, internally coherent, and mindful of the needs of the students (Faculty of Education report, 2006, p. 19).

The programmes
The programme structure is one in which there are eight modules consisting of six discipline-specific modules and two generic modules. Four of the six modules are devoted to the development of content knowledge skills. The two modules are devoted to the development of pedagogic content knowledge skills. The two generic modules focus on general professional development, on students developing an understanding of policy, conditions of service and the roles of the educator (teacher). ACE programmes follow a 25-25-50 split between educational studies; pedagogic content knowledge and content knowledge. An example of the programme is seen from the Mathematical literacy in table 1 below:

Table 1: Modules in the Mathematical literacy programme

Content Modules	• Curriculum Studies in Mathematics 1A	16 credits
		16 credits
	• Curriculum Studies in Mathematics 1B	16 credits
		16 credits
	• Curriculum Studies in Mathematics 2A	
	• Curriculum Studies in Mathematics 2B	
Pedagogic Content Knowledge Modules	• Mathematics Education 1A	16 credits
		16 credits
	• Mathematics Education 1B	
Generic Modules	• Education Policy and Professionalism	16 credits
		16 credits
	• Teaching and Learning	
		128 credits

The generic modules are designed in such a way that teachers become more informed about issues relating to the profession whilst at the same time their development of professional ethics is also examined. In this module issues such as rape and others related to safety of learners and learner conduct is addressed. Teachers are also provided access to more general pedagogic knowledge relevant for teachers within the new South African context, through the module "Teaching and Learning".

This programme design is driven by the belief that teachers should not only be competent in their own specialist area, which is Mathematics in this instance, but they need to have a wider knowledge base as they are part of the members of the school and the community at large. For example, one of the modules in mathematics education deals with the psychology of learning mathematics, hence, the generic discussions from the core module are extended to provide a context and setting within the field of mathematics and/or mathematics education.

The programmes undergo quality assurance by a quality assurance committee whose primary terms of reference are to review the quality of the work and monitor procedures that can improve the quality of teaching and learning (Faculty report, 2006).

The participants

The ACE programme considers the selection of teachers as critical hence, a teacher, who enrolls for an ACE programme, needs to have a Matric plus three years of training (M +3). Teachers who do not have the M +3 are advised to complete an upgrading qualification first before they can be accepted. Completion of the ACE 2- year part-time qualification renders an underqualified teacher (with three years of teacher training post matric) qualified. These teachers come from rural and urban settings (contexts).

Model of delivery

Timetable design provides for two years of part-time study and enables a coherent development of the programme's specialised focus. The mode of delivery is block teaching during school holidays with some Saturday contact periods in between, and where necessary. Each content and mathematics education module is allocated at least 52 ½ hours of contact time, whilst each of the core modules is allocated at least 30 hours over block periods during school holidays in January and July each year, excluding examinations and tests. Because the contact sessions all take place during school holidays and/or Saturdays, this enables practicing full-time teachers to participate in the programme and does not undermine their school responsibilities. This mode works particularly well with our student population and ensures that students from rural and outlying areas are not disadvantaged. The teaching of the module takes place at different learning sites close to the place of work and residence of the teachers. These learning sites are structured, designated university teaching sites called learning centres.

Each module has an introductory contact session at the time of registration during which handouts, worksheets, secondary reading lists (to encourage students to start using the library) and/or notes are given to students and the aims of the modules are discussed. Expectations of students and lecturers for the duration of the module, which are also clearly listed in the materials, are discussed. This is then immediately followed

by the block and/or Saturday contact sessions. Teaching and learning methods and the mode of delivery support the developments of applied competences with lecturers and tutors always ensuring that they themselves in their own teaching model classroom teaching methodologies.

The modules are materials based, interactive, and user friendly, taking into account English second language learners. The delivery involves self-directed individual study, contact sessions, group discussions and peer learning, and, tutorials in which individual learner-tutor contact is promoted. Over and beyond this, students who need additional support are encouraged to call tutors/lecturers or make individual appointments where their specific needs can be addressed. Practicing teachers, many of whom travel long distances to get to the centre, where contact sessions are held and therefore relevant forms of support for such students are part of the programme design. The design of the programme and its mode of delivery enable development to take place over the semester through pacing the learning and feedback between the contact sessions.

Assessment

Assessment policies, procedures and practices are in place for each module in the ACE programmes. Module templates explicitly state what the assessment strategy is as well as the assessment criteria used to achieve the exit level outcomes. Different modules do have different assessment practices and assessment is continuous throughout all modules with both formative and summative assessment implemented. A variety of assessment methods such as tasks, presentations, assignments and tests are implemented in an attempt to address the variety of learning styles of students. The focus of the assessments is the teachers' personal subject specialization development (knowledge and skills within the specialization itself). In some modules there are ongoing tasks focused on developing understanding related to the teaching and learning of specialization topics relevant to the school phase (grade level), developing and using resources for teaching the specialisation at this level, and analysing and reflecting on learners work (learner productions, errors and misconceptions).

A calendar is developed by the Academic Qualification Coordinator for all ACEs at the beginning of the year and is aimed at assisting staff to plan their teaching and learning activities, assignments, and setting of examinations. The calendar stipulates deadlines for activities such as class mark and DP generation, informing students whether they qualify for the exam, among other things. Take away assignments have to be submitted by specified dates. If students submit assignments by hand then they can only be handed to the ACE Administrator who records the date of submission and the student signs a register, otherwise in most instances, students are required to register posted assignments after they have made a copy in case the assignment is 'misplaced' in the postal system. Students may be penalised for late submissions. No assignments are accepted once marked assignments have been returned to students. Students receive feedback regarding their assignments and are therefore always in a position to profit from academic feedback.

Tests are written during contact sessions and feedback occurs at the following contact session, or posted to the students. Students are thus continuously aware of their progress and performance on the course. All marked assignments and other work done by students has to be returned to them at least two weeks before the final semester examination. Assessment results are also used to respond proactively to student difficulties as they become visible. In general, Module Co-ordinators are responsible for monitoring and providing feedback within each module, and Programme Co-ordinators are responsible for monitoring student progress across programmes. Regular meetings of the ACE Qualification Committee provide the forum where concerns about student performance and progress, amongst other things, can be addressed.

There is also an end of semester examination for each module, which could take the form of a sit down examination or the submission of a portfolio of work. The mix, balance, assessment criteria and weighting of assessment activities are thus consonant with the exit level outcomes and selected aspects of the roles specified in the Norms and Standards for Educators and National Framework for Teacher Education. All procedures for assessments are made explicit to staff and students through the Faculty Handbook and/or ACE Handbook.

DISCUSSION AND CONCLUSION

The ACE programmes are structured and focus on the teacher professional development. The structure is evident in the entrance requirements, the programme design and implementation, the delivery mode and assessment, all of which take the teacher's needs into account. Developing teachers for quality education does entail that the HEI considers this as a crucial step in its own mission and community engagement endeavour. As a Faculty of Education its priority is concerned with quality education and supporting the claim that teachers are the essential drivers of a good quality education system (Department of Education,

2006). But, this professional development of the drivers cannot be divorced from the contexts that they experience in South African schools from urban to rural settings. The nature and extent of the experiences vary across the settings but one thing that we are sure of it that teacher's work is not just to teach. We, therefore recognize the important role that the HEIs play in designing and implementing ACE programmes that are conceptually, socially and personally based, in the South African context.

The teachers registering for the ACE programmes, right from the outset are taking their professional development into their 'own hands'. This initial step is important in the South African context where teachers have been teaching for years and have not bothered to participate in professional development programmes unless forced to do so by the Department of Education for new curriculum engagement. Even though the Department of Education has a policy that states, "it is the responsibility of teachers themselves … to take charge of their self-development by identifying the areas in which they wish to grow professionally, and to use all opportunities made available to them for this" (Department of Education, 2006, p. 27), many teachers do not do this. Research conducted on ACE teachers indicated that "some [teachers] have been teaching Science for more than 10 years, and have never before attempted to improve their scientific knowledge." (James *et al*., in press). This is tragic, not just for the teachers but for quality learning for learners. This professional ethic or lack thereof, cannot be allowed to permeate the education system especially when teachers say that they cope by either avoiding to teach a section [of work] or by asking another teacher to teach it (James *et al*., in press, p. 10).

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397 - Student Research and Service-Learning for Community Enhancement: Case studies

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Abstract: Twenty one Biological Sciences student teachers participated in a Research and Service-Learning module at a Faculty of Education. The focus of the module was on students' developing and conducting research on their Service-Learning in an Old Age Home and Children's homes. Their Service–Learning was concerned with the enhancement of the aged and the young children according to identified needs. The theoretical framework used focused on the real aspect of learning and it provides specifics about the nature of the problem. Authentic learning requires real life problems; active learners, the achievement of an outcome and experiential learning in a real context. The enhancement of the community is in collaborative, participatory actions, where knowledge and skills are shared for them to gain control of their lives. A qualitative, interpretivist, case study research design was used to explore the student's action. Data collection methods included student reflective diaries, student research reports and researcher observation notes. The data revealed that students' and the community were engaged in the community enhancement action, in responding to the needs of the community. Most importantly the Aged, and the young children were engaged with the student teachers in using their collective knowledge and actions to enhance their lifestyles. The Aged expressed how and in what ways they were developed where they were taught exercises and creative activities to reduce the effect of frailty and Osteo-arthritis. The young children took action in making and sustaining food gardens, and adopting healthy actions in their lives for sustainable living practices.

INTRODUCTION

Education in South Africa has undergone extensive changes. These are evident in the different curricular that have been implemented, reviewed and reformulated, the role of education personnel, learners, parents and the community in providing quality education for all citizens. Education and the role of teachers and learners in making positive impacts on the social and economic development of communities is gaining a strong foundation. This expectation is laid out in the learning outcomes of the current school curriculum – National Curriculum Statements (NCS) and Norms and Standard Teacher Education Policy document (2000). An outcome is for learners and student teachers to be able to "use science and technology effectively and critically showing responsibility towards the environment and the health of others" (Department of Education 2003, p. 2). Teacher education policy focuses on the role of the teacher in engaging learners in community development of their communities.

For any country to survive into the 21st cenutary, development strategies that are integrated into the education system are necessary. South Africa currently experiences high unemployment rates, negative impacts of HIV/AIDS, child-headed families and a growing population of aged and youth who lack financial security and live in unhealthy conditions (Department of Environmental Affairs 2007). Development strategies, therefore would be concerned with teachers, learners and communitiy members taking responsibility and undertaking actions to make a difference for all. This is not an instantaneous process as it involves the integration of social, economic and biophysical aspects of the environment into the curriculum of learners at schools and the professiona development of student teachers during teacher education programmes.

The hardships experienced by some South African citizens are lessened by non-governmental organisations (NGO) that have taken on the resposibility to give every citizen a fighting chance. Some NGOs work in collaboration with education institutions where student teachers are exposed to the challenges and the worlkings of the NGOs. Also, student teachers are empowered to achieve knowledge and skills, an awareness of and actions to be conducted for self and community development and empowerment. Some Higher Education institutions engage student teachers in programmes where they could be moved beyond developing awareness about people's impact on the environment and the so called green and brown issues of the environment but to community development and empowerment.

Student teachers should be professionally developed to implement Service-Learning when they are teaching learners in the schools. But, they would only develop the true value and skill of how to do this if they experienced it within their own teacher professional development. It is for this reason that in the Faculty of Education a Biological Sciences for Education module, which has Service-Learning as its focus was designed and implemented. In this module student teachers are expected to develop as novice researchers and Service-Learners. This development should be in the frame of Service-Learning where student teachers develop the theory about Service-Learning at the university and support the community based NGOs in working with identified needs. The student teachers then conduct research on their engagement with these community based NGOs. The importance of this engagment was for the student teachers to develop a "sense of social responsibility and commitment to the greater good" (Howard 1998, pp. 23-24).

The purpose of this research was to explore the student teachers' enhancement actions that they carriesd out in selected community based NGOs - an old age home and two children's homes (Drop In-centres) and the impact of these on the communities.

LITERATURE REVIEW

In this section I present literature on Service–Learning and its role in teacher professional development and community develpment in South Africa.

In South Africa, many teachers are expected to deal with issues of gender related violence, HIV/AIDS, poverty and crime that the learners bring to school (Bhana, Morrell, Epstein and Moletsane, 2006). It thus seems inevitable that student teacher professional development should encapsulate the complexity of educating learners in the highest possible quality education practice with regard to empowering community based NGOs through Service-Learning.

Service-Learning has been defined by various authors:some have focused on the service component, others on the learning component and others on an equal focus on service and learning. Service-Learning was defined by Sigmon (1979) as an experiential education. Furco (1996) highlights the use of the term Service-Learning by different organisations, "to characterize a wide array of experiential education endeavours, from volunteer and community service projects to field studies and internship programs" (p. 1). He views Service-Learning as seen in Service-Learning programmes, as "distinguished from other approaches to experiential education by their intention to equally benefit the provider and the recipient of the service as well as to ensure equal focus on both the service provided and the learning that is occurring". He further states that, "service learning programmes must be designed in such a way that ensures that both the service enhances the learning and the learning enhances the service".

In this article the meaning of Service-Learning used embraces both service and learning in a transformative manner, where student teachers are expected to be empowered to address community needs, and in the process empower community members. This meaning of Service-Learning is evident in the following: students develop a lifelong commitment to service and leadership and Service-Learning "promotes understanding of local issues as well as recognition of the interrelatedness of communities and societies across the world" (International Partnership for Service-Learning and Leadership 2007, p. 1). The focus of Service-Learning is such that student teachers and the community are expected to "equally benefit … [and there is an] equal focus on both the service being provided and the learning" (Furco 1996, p. 1) on the part of the students. The focus in this research though is on the actions that the students and the community conducted for the benefit of the community.

Research on student teacher professional development focuses on engaging student teachers in Service-Learning and researching this engagement. Dé Bryant (1996) is of the view that we need to move beyond exploring the meaning of research, to include community action/activities that are directly related to one's academic expertise. According to Eyler, Giles and Braxton (1997), when students are engaged in Service-Learning they have a positive development in their attitudes, values and a better understanding of social issues.van Niekerk (2007) conducted research on student teachers engaging in Service-Learning in Adult basic education. He concluded that Service-Learning "enriches a student's total learning experience at a tertiary institution and provides opportunities for better closer public relations" (van Niekerk, 2007, p. 18). The students in van Niekerk's research expressed their enjoyment of Service-Learning in that they took individual responsibility, their learning was practical, they shared ideas with many people, learning from others and the challenges that they experienced. These students also expressed the most significant things that they had learnt and what they came to realize. The students as a result of the Service-Learning realised "the importance of patience, challenging pre-conceived ideas, to be reliable and not to take simple tasks for granted and that every body is a person" (van Niekerk, 2007, p. 16).

The theoretical frameworks that underpins this research is authentic learning and community empowerment. Learning may be viewed as a change in a person's understanding and in his/her relationship to the world (Lombardi, 2007). It is also viewed as an active, social and sensory process that occurs effectively in authentic contexts (Van Huizen, Van Oers & Wubbels, 2005). Learning also has an active component in that it is "learning by doing [action] that is the most effective way to learn" Lombardi (2007, p. 2). It is in learning, that learners increase their capacity to act effectively in the world (Senge, 1990; Lombardi, 2007). Lombardi's (2007, p. 2) view of authentic learning captures the real aspect of learning and it provides specifics about the nature of the problem and the strategies which are used for effective learning to occur. Authentic learning therefore requires real life problems; active learners, the achievement of an outcome and experiential learning in a real context.

Empowerment is a construct that is used in the field of psychology, community development, economics, education and social science and its meaning varies among these fields. Attributing a single definition to it may make attempts to achieve it formulaic or prescriptive-like and this would contradict the concept of empowerment (Page & Czuba, 1999). According to Bailey (1992 in Page & Czuba, 1999) how we define empowerment within projects will depend on the people and the context. Theorists view empowerment as a construct that links individual strengths and competencies, natural helping systems and proactive behaviours to social and political change (Rappaport, 1984; Perkins & Zimmerman, 1995). Empowerment, generally defined is viewed as a "multi-dimensional social process that helps people to gain control over their own lives" (Page & Czuba, 1999, p. 2). According to Page and Czuba (1999, p. 2) empowerment occurs at various levels, "individual, group and community." In viewing empowerment, issues of wellness versus illness, competence versus deficits and strength versus weaknesses (Perkins & Zimmerman, 1995) are explored. Perkins and Zimmerman (1995) are of the opinion that "empowerment-oriented intervention enhance wellness while they also aim to ameliorate problems, provide opportunities for participation to develop knowledge and skills and engage professionals as collaborators instead of authoritative experts" (p. 570). In this research the view of individual and group empowerment was used where it focuses on the enhancement of the community in collaborative, participatory actions, where knowledge and skills are shared for them to gain control of their lives.

METHODOLOGY
Sampling
Twenty one final year Biological Sciences student teachers completed the module in 2010. This article reports on the community enhancement actions that four student groups engaged in. The selection criteria used were decided by the placement sites of an old age home and a children's Drop In-Centre. Four student projects were selected: two projects that focused on the aged and two that focused on the children. The projects on the aged focused on (1) teaching them exercises to reduce Osteo-arthritis and (2) creative activities to reduce the effect of frailty. Projects on the children focused on the development of young children to (1) take action in making and sustaining food gardens and (2) adopting healthy actions in their lives for sustainable living practices.

Context
The student teachers' research and Service-Learning environments and their activities were completely removed and different to that which they had encountered when teaching learners at schools. The student teachers were based in a township. The project with the aged was at an Old Age Home in a township, Clairville and the project with the children was at a Drop In-Centre in a township, Dengezi, Both townships are within a 20 kilometre radius from the university. The townships were developed during the Apartheid period where many Black people were not permitted to live in the towns. They were forced to live in areas close to the cities but these areas lacked services etc. Both townships are in semi-rural areas with a number of one-and two-bedroomed block houses, informal structurescows and goats grazing, land and 'container shops'. Both areas had extensive levels of poverty and unemployment.

The Old Age Home was started over thirty years ago by professional Black women who were concerned about the state of the aged in the township. It is an NGO and relies on funding from various sources for its existence. There are over in one hundred aged at ages ranging from 55 – 86. The aged at at different levels of health and they are accommodated accordingly.

The Drop In-Centre (DIC) is a two roomed house built in a residents backyard. This centre is supported financially, educationally and socially by an outreach centre at a local hospital. Food and educational material is given to a housemother who is responsible for the management of the centre. This centre runs from seven o clock in the morning until four o clock in the afternoon. Children who have been identified by

the outreach centre as destitute and needing support to live attend the DIC. Schoolgoing children have breakfast and go to school to return to the DIC for lunch and homework support. The younger children are fed at the DIC and they participate in school readiness programmes that the housemother and a helper teach. At the end of the day all the chilldren go to their respective places where they stay.

Research design
A qualitative, case study design was used. This qualitative approach was selected as the purpose of the research was to explore the enhancement of the community. This purpose is supported by Creswell (2003, 181) who states that "qualitative research is concerned with interactive and humanistic" aspects. The case study was used as it focused on "just one instance of the thing that is to be investigated… [and the case] is something that already exists, it is not artificially generated." (Denscombe, 2003, p. 31).

Qualitative data is viewed as by researchers as significant and the data collection involves "documenting real events, recording what people say, observing specific behaviours, studying written documents" (Neuman 1997, p. 329). It is for this reason that the student teachers were expected to record their experiences in a journal. Since engaging the student teachers in community enhancement projects is "education that is grounded in experience" (Jacoby & Associates 1996, p. 9) the student teachers were expected to reflect on the process of this enhancement. Ethical aspects and research validity procedures were followed in this research.

The case studies are descriptive accounts of the student teacher group projects with the aged and the youth. These case studies were extrapolated from the student teacher reflective diaries, student research reports and researcher observation notes. The data was electronically recorded. All the data for the four student teacher groups was read. The data was analysed using an inductive approach (Cohen, Manion & Morrison, 2007), which focused on the actions of the students and the community for enhancement. It was then placed into categories which were previously decided by the researcher. The categories that emerged from the data were: collaborative, participatory actions, and development of knowledge and skills.

FINDINGS AND DISCUSSION
The findings are presented as case studies for the projects with the aged and the youth. The project on the aged focused on the student teachers teaching them exercises to reduce Osteo-arthritis and creative activities to reduce the effect of frailty. The projects on the children focused on the development of children to take action in making and sustaining food gardens, and adopting healthy actions in their lives for sustainable living practices.

Student teachers and empowerment with the aged
Four student teachers met with the managers of the Old Age home to identify their needs. The managers described the range of conditions that the aged experienced and they were interested in how the student teachers could make a difference with the aged. The student teachers met to discuss the conditions that the aged experienced, to decide on what they could work with. Two student teachers decided to work with the aged who had Osteo-arthritis since one student teacher's granny, who had passed on, had it and the student teacher was aware of the pain and suffering that her granny had experienced. The other two students decided to work with the frail women as they were interested in this.

In each case the student teachers did not have the depth of knowledge and skills to work with the aged who displayed the named conditions. They decided to inform themselves by contacting specialists in the field and accessing resources. They engaged themselves in self-learning activities for them to be competent to work with the conditions that the aged had. The student teachers had initial introductory discussions during the first two weeks of the project with the aged.

Exercises to reduce Osteo-arthritis
During the introductory discussions the aged shared their biographic details, history, knowledge of causal aspects, current experiences and treatment for their condition. The student teachers shared their details of the project in that they were "interested in working with the aged who has Osteo-arthritis" (Thobe, September, 2010) and they discussed the reasons for their interest. During this discussion it became evident that three aged people thought that using cold water caused it, while two did not have any idea of its cause. All the aged indicated that they were receiving medical treatment for their condition and this "relieved the pain a bit in the joints" (Aged, September, 2010). The aged expressed the view that they had limited knowledge about their condition and when the students asked if they wanted to know more about it, they agreed. The student

teachers developed a Powerpoint with large visuals (some Aged were illiterate) to present to the aged on the meaning, causes and actions for alleviating the condition. A student teacher, Thobe reflected that:

> "In our presentation there was a part displaying old people exercising, trying to deal with the pains on the joints. They were so motivated in such a way that they asked us to bring the pictures of different exercises that they can do on their own when we are not there" (Thobe, October, 2011).

The student teachers and the Aged decided that an exercise programme would be the action to take. The student teachers shared that this was recommended by Oseo-arthritis researchers as the best mechanism to reduce pain and all forms of disability associated with it.

The student teachers planned an exercise progamme for the Aged. They discussed this exercise programme with the managers of the centre and a specialist trainer, who approved it. As, none of the Aged had done any exercises in the past, they were eager to engage in it for a period of five weeks (the duration of the student project). The programme was based on the exercise principles of overloading, progression, specification and reversibility and it was personalised for each person, e.g. the type of muscle group to be trained. The student teachers also made exercise instruments that were comfortable for the Aged to use. The Aged undertook these exercie activities three times a week for two sessions of thirty minutes each for a period of five weeks. The student teachers held weekly discussions with them on their experiences with the exercise programme. Precautions for exercising were discussed "excessive exercise may lead to muscle soreness and increased pains" (Michiela, September, 2010).

At the end of five weeks the student teachers and the Aged held a post-exercise programme discussion. The Aged shared the impact of this exercise on them. They stated that generally they felt much better, "pains are no longer severe", "I even sleep a bit better at night", I can walk a bit without my walking stick", "sometimes I did more exercises than what I was supposed to do and I got muscle cramps. I will have to stick to the programme." The Aged were more informed about their condition and they could take charge of it by exercising and reducing the negative impacts of it. The student teacher Michaela reflected that "participants, (Aged) are so happy with our Service-Learning ...the Aged to work freely without feeling stiffness on their legs and arms".

Creative activities to reduce the effect of frailty

Two female students interacted with three women who were identified as frail by the NGO managers. An introductory session was carried out where student teachers discussed their intention for the interaction with the women. Nomu reflected that,

> "we walked around introducing ourselves to our target group stating our name, why we were there and getting to know them. We sat with them for the whole three hours while they told us stories of them growing up and how they behaved when they were young. It was an amazing experience" (Nomu, September, 2010).

The student teachers explored the things that the women could not do due to their condition. The women varied in their ability to bath themselves, gripping with one or both hands, walking with support, toilet useage and doing their own laundry.

As the women needed to strengthen their small muscle movements, the student teachers discussed possible creative activities that could improve these movements. The activites were painting and beading. When the student teachers shared the creative activities with the women, they were reluctant to paint as they had never painted before. The student teachers decided that they would also participate in the activity to encourage the women to paint. The students stated that one of the women was reminiscing about her childhood when she drew pictures with charcoal. While the women painted they also exercised their feet, and their hands. One woman drew a house with a guava tree and a bench as this is what her house looked like. The women were also exposed to a beading activity. Before they started the activity they had to do hand exercises. The women found the beading activity a bit challenging because they had to thread beads onto a thread of twine/cotton and also make designs with them. They made bracelets and necklaces. After a period of five weeks of exercising, drawing and beading with the women, the student teachers expressed the emotion that the women had experienced during the time. During the last session, "this activity was long and during the making of bead-necklaces we asked them how they felt and they were excited and looked back to the days when they were younger". The outcome of these activites was that there was a slight improvement in the use of the womens' hands for gripping objects.

Student teachers and empowerment with the youth
Three student teachers met with the housemother and the manger of the NGO to establish the needs of the organization. Since the organization worked with children at Drop In-Centres, the students visited the site to meet the children and observe the context of the centre. From the discussion and the observation the students in conjunction with the centre personnel identified the needs. These were educating the children about knowledge and skills in making and sustaining food gardens, and adopting healthy actions in their lives for sustainable living practices.

Sustaining food gardens
The student teachers interviewed seven children of school-going age. They asked them about the necessity of a garden at the centre. Six children saw the importance of the gardens for growing food but one child did not see the importance of it. This child hated gardening and he did not see crops picked from the garden at the centre. This garden was small and badly maintained, with one type of crop growing. It is not surprising that this child gave a negative response. When the children were asked if it was important to have gardens at their homes, they all gave a positive response. But when they were asked if they had gardens at their homes, they gave a lack of time, money for seeds and space (land) as reasons for not having them at their homes.
Over a period of five weeks the student teachers engaged the children in organic gardening practices at the centre. The children were assigned four gardens to create and maintain. They planted seedlings that the student teachers had purchased -beans, tomatoes, carrots and spinach. The children were more willing to participate in the activities when the student teachers worked with them in the garden. The student teachers used this time as a learning opportunity where they explained the growth of plants and the effects of pests on the plants. They also explained the importance of weeding and mulching the garden. At the end of the period the plants had grown and the bean plants had started budding. The children, unfortunately were only motivated to work inthe garden when the student teachers visited the centre. The development of a positive attitude to gardening will expect a longer time frame.

Adopting healthy actions
The student teachers, Mtembi reflected that when she arived at the centre for her first visit, "the children could not hide their excitement so they started cheering at me; introducing themselves to me and telling me about their schooling" (Mtembi, September 2010). The student who worked with this project engaged the children (four children in the age group 9 – 15 years old) in developing knowledge and skills on primary healthcare and conservation practices. These needs were identified when the student teacher visited the centre and discussed the needs of the centre with the housemother. The primary healthcare looked at personal hygiene, diseases, physical activity and diet. The conservation practices looked at water conservation actions carried out by the children.
At the beginnig of the project the student teacher asked the children for their understanding of and actions with regard to healthcare and conservation of water (access to water was a problem in the area). She then used these meanings to develop a programme that they could follow to increase their understanding and actions with regard to these issues. She presented stories about healthcare practices to the children and discussed the issues highlighted with them. She analysed the lunch menu that was planned for two weeks on the presence of protein, carbohydrate and fats per meal. She used a mapping activity of the area, observed the source of water, what it is used for, how it was used and possible rainwater harvesting actions using the drainpipes of the house.
The student teacher reported that at the end of the project the children could identify the carbohydrates, protein and fat in their meal and talk very basically about their importance for their development. The children used behaviours like covering their mouths when they coughed instead of freely coughing as they did before and "they asked for cough mixture" (Mtembi, October, 2010). Before meals children are given a basin and soap to wash their hands. The children are aware that they should not wash their hands under a running tap. Mtembi stated that when a child was asked what healthcare was the response given, "is about washing your body, changing your clothes and brushing your teeth every day. Is to choose the right friends. To seek help from social workers and the hospitals and keep the utensils clean all the time". Mtembi, research report, October 2010).

CONCLUSION
The student teachers and the community for the four projects were in different contexts but in each instance the needs were identified and a suitable programme was developed on request from one group of Aged citizens and identified and observed for the other projects. The initial knowledge and skills for both the

community and the student teachers were developed and extended. The programme developed expected of the community and the student teachers to be participatory and to collaborate on taking control of their lives, the Aged with Osteo-arthritis after exercising "could do home chores and experienced less pain" (Thobe, October, 2010). The programme designed expected of the community to participate in activities that could enhance them and the student teachers were enhanced in the process as well. Being empowered is about developing a power of knowledge and skills for a better life. The student teachers expressed their empowerment of the process as they were taken out of their comfort zone of teaching children in a classroom to working with the Aged and youth in contexts different to what they had experienced before. For all the students this was their first time in an old age home or a Drop In-Centre. The integration of Service-Learning for the development of a community is a necessary and important empowering process for both the students and the community.

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THEME 2
Educational Leadership in Context

3 - New Scopes for the Training of Educational Administrators, Based on a Reflection on Their Role

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Abstract[103]**:** Among several referential theoretical systems, practice disseminated inside institutions and the social relations that enclose us, there is much still to advance and to revise, towards a more balanced, fair and human world. In this context, the school, like socially recognized institution, is one of the principal social spaces of preparation of the generations.

The challenge that relapses into the school is stimulating new forms of thinking and of acting, more appropriated to the current social complexity, in the most human perspective of a society.

In this way, there becomes big the responsibility of the educational administrator in the choice of values and concepts that will give basis to the educational action.

It is important to accent the role the school administrators must fulfill, because It has been a call to revise the set of his functions, understanding them in a systemic way. It is made necessary to surpass the barrier of the division between "administrative" and "pedagogic" sectors. He must act like someone who articulates objectives, interests and propositions, with the dialog as a base.

I propose the "conversation" between the Critical Pedagogy by Paulo Freire and the Organizational Learning concepts by Peter Senge as the principal theoretical referential system for the reflection on the acting of the educational administrator.

I am starting from the premise of *understanding as a driving force of education* and I propose three elements as *areas of training and reflection for educational administration* that are integrated and that influence each other, since neither occurs apart from the other in the desired dynamics for appreciating a world of complexities. They suggest the possible development of the ability to understand, as well as developing other skills that will give genuine support to educational administrators faced with a diversity of situations to handle:

1.   PERCEPTION – This element comes up so that the need to organize individual and collective spaces for reflection is recognized and appreciated. These spaces should be based on a critical reading of the realities that are necessarily associated with goals (institutional, educational and professional).

2.   EXPRESSION – Here the care that the forms of manifestation require comes into focus when considering the importance of the role of the administrator's mediator. In this area, the ability to construct environments for dialog is highlighted, where the desired expressiveness should be of a multilateral nature.

3.   ACCOMPLISHMENT – In this training element, practice and experimentation become the central environments. Such an element is a field of practice that supports the right practice.

The proposed elements do not correspond to rigid and compartmentalized structures, but perhaps, meet the need for transposing the preponderant thinking that separates, classifies and fragments to a shreds, towards perceived unconcerned thought, which is based on understanding as its driving force.

The author will present the work that is carrying out with sixty educational administrators from Senac Sao Paulo, one of the biggest institutions of professional education in Brazil, taking the parameters above described as a base of their formation.

Keywords: Educational administration, training of educational administrators, curriculum

The proposal of this text is to reflect on the training of the educational administrator, considering the need to review the set of functions performed by this individual, and to promote training-related actions that reflect a concern with education of the future.

For some time now, I have been reflecting on the work of educational administrators and the way they conduct groups. I have worked as an educational administrator since 1998, and in 2006, I took on the responsibility of coordinating the operation of around seventy educational units in the State of São Paulo, Brazil.

It is important to place the role of the educational administrator in the context of the present day. According to Alonso (in PONTIFÍCIA UNIVERSIDADE CATÓLICA DE SÃO PAULO, 2002), the function of the

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[103] This text translation from Portuguese to English is a free translation

educational administrator has come to be understood as a pedagogical-administrative relationship in which planning and execution are not separate or contradicting fields, since the work of administration is defined according to the proposals of the educational institution. Thus, Alonso (ibidem, p. 23) states:

> (...) the division of attributes, which is very common, in which the director is responsible for the administrative, routine, the bureaucratic work, and representation, without any commitment to the pedagogical work, seen as the excusive reserve of the teachers and teaching specialists, is unacceptable.

In the search to overcome the barrier between "administrative" and pedagogical" activities, the educational manager should, in today's social context, be committed to creating an atmosphere of dialogue in which he or she acts as an articulator of objectives, interests and proposals. Concerning this aspect, Alonso (ibidem, p. 250) states:

> In the case of the school, collective work is a more recent concern, and is not always accepted by the directors, or even the teachers who, by force of habit of working in isolation, see this as a waste of time or an additional task.

On the other hand, in the current context of sweeping social change, the concern with the future has been manifested in various reflections and proposals. The UNESCO Internal Commission on Education for the 21st Century (DELORS, 2001), for example, highlighted the importance of this debate in the field of education. His report, known as the Jacques Delors Report – concluded in September 1996 - points to education for the 21st century, indicating four basic essential pillars for a new concept of education: learning to know; learning to live together; learning to do and learning to be. Delors (2001, p.11) emphasizes that education "(...) emerges as an indispensable triumph for humanity in his construction of the ideals of peace, freedom and social justice."

THE SCHOOL AS A FIELD OF THE FUTURE

Whether together with the family, groups of friends, the working environment or the communities to which one belongs, each of us is responsible for the construction of what may appear – to the eyes of the present time – to be no more than an idea or a possibility, but which gradually takes form, based on the sum of the individual and collective acts of today: the future.

Some may see the future as a destination to which we are subject, a predetermined end that we will one day reach. This is a way of seeing that frees us from the responsibility of linking the acts of the past and the present which, undoubtedly, will comprise the future, as this is formed in the succession of decisions and actions of people, communities and institutions, added to other phenomena that may or may not be under human dominion and logic.

The concept of the future, understood based on the refusal of the present as something irrevocable brings, at its heart, *hope* as a feeling that reveals a desire for other possible contexts to be accomplished; *utopia*, as the belief in the process of human evolution, in the projection of the idea of a better, more egalitarian and fair world; and *ethics*, which is manifested in the aspiration for greater harmony between the values and principles focused on human well-being and those evidenced in the various social realities experienced. The future proposed here is one that valorizes human relations, balance in social relations, and care of the human being, with his shelter and the other systems of life present in it.

The thinking of Paulo Freire (2000, p.21) gives a basis to this form of conceiving the future, as the author considers that the conscious presence in the world:

> Means recognizing that we are *conditioned but not determined* beings. Recognizing that History is time of possibility and not of determinism, that the future, permit me to reiterate, is problematic and not inexorable. (original text)

For the author (idem, p.20), the human being has become "(...) a Presence in the world, with the world and with others." This conscious presence intervenes, alters, evaluates, resolves, breaks and (ibidem, idem)

> (...) it is the domain of the decision, the evaluation, freedom, breaking away, option, that the ethical need is instituted and responsibility is imposed. Ethics becomes inevitable and its possible transgression is a loss of value, never a virtue.

Freire (2000b) warns of the danger of accepting the fatalistic discourse that the reality cannot be changed by man, and that life, as it is, is an untouchable reality. He points out the possibility of dreaming, of desiring possible utopias, and transforming the world, which for him should be desired and operated.

To the thinking of Freire can be added that of Peter Senge (2007, p. 24), who considers the field of the future as something that may be accessed by means of presence, the capacity to be aware and attentive to the current moment and "(...) to hear intensely, to reject preconceived ideas and historical forms of lending meaning to things."

The positions of these authors relate to the possibility of transforming the present, towards a desired future, through purposeful action in the present.

Freire (idem) understands that to be able to transform the world, one must work with unity between discourse, action and utopia. For Freire, the diagnosis of the reality – the *denouncement* – should always be followed by the proposal of better solutions – the *announcement*. Concerning this question, he affirms that (idem, p.118):

> (...) when rethinking in the concrete data of reality, being experienced, prophetic thinking, which is also utopic, involves a denouncement of the way we are living, and the announcement of how we can live. It is a hopeful thinking, for this very reason. It is in this sense that, as I understand it, prophetic thinking not only speaks of what could come to pass, but speaks of how the reality is like, denouncing it and announcing a better world.

For Senge, the capacity to witness alters our perception of the world and of ourselves, and can bring an extraordinary sensation of hope, when visualizing other possibilities of giving meaning to life. The author observes that in the development of the perception lies the possibility of conduction to the state of (ibidem, p. 24) "opening oneself to receive", as a means of reaching deeper levels of learning and awareness.

To be able to perceive the future which is manifested in the present, it is necessary to look to the current moment, in a critical way, so that the social diagnosis can be accomplished. Through signals observed in the critical reading, the evils present in the social fabric become apparent. Reflection on these ills – based on the set of values focused on in the social balance and on the well-being of humans and the planet – enables alternatives for corrections and transformations to be seen. Thus, another possible route can be perceived with the mind and with the heart.

Among the various theoretical references, widespread practices within institutions, and the social context that surrounds us, there is still much to advance and review, towards a more balanced and worthy world. The school, as a socially recognized institution, is one of the main social spaces in the preparation of generations; therefore its environment can be understood as the field of the future. However, often a certain distancing is seen between pedagogical proposals that are considered as transforming, and the educational action itself.

The school that is committed to the valorization of human relations, of social relations balance and environment care, has the challenge of stimulating new forms of thinking and acting that are more appropriate to the current social complexity. Thus, the responsibility of the educational administration in the choice of values and concepts that will form the basis of the educational action becomes an important element of impact. For this, the educational administrator needs to assume his role as the main person responsible for giving shape to the educational environment. I propose, for this exercise, the following parameters:
- Education has the responsibility, as a field of intergenerational training, to build a more balanced world;
- There is a new model of society, in its relations of production and power, in the context of the so-called Information Era;
- The need is observed for theories and practices that are more appropriate for multidimensional, transdisciplinary practices and those of a local and global order;
- The educational manager should assume his role as the main person responsible for shaping the educational environment, and he must reflect on the role of joint responsibility for the student's progress, in all it's amplitude;
- The educational environment should be based on the principle of reflective action, as a form of accomplishing the praxis; interaction between theory and practice.

It is observed that the main route to be taken, in the exercise of reflecting on the professional role, is the processes of reflecting the practice, which do not affect only themselves, but require intentional organization, to constitute learning processes that are collective and institutional.

CONCEPTUAL FRAMEWORK

An important point to be highlighted is the fact that the educational administrator must see him or herself, above all, as an education professional. This is his scope of action, and the main factor in the individual relationship with the working environment.

Personally, I have found in the work of Paulo Freire the necessary ethical force – and support – for the accomplishment of educational actions geared towards human well-being and development. Freire's concepts become an important conceptual guideline, expanded by other theoretical proposals that facilitate their understanding or expand their application. The formation of a critical awareness proposed by Paulo Freire (2000a) is therefore proposed as the main guideline for the exercise of reflecting on the role of the educational administrator.

I propose a dialogue between the Critical pedagogy of Paulo Freire, and the concepts of Organizational Learning proposed by Peter Senge as a theoretical framework for reflection on the practice of the educational administrator. There are convergences between these authors, in their portrayal of the world in its multiple realities, and also in their warnings of the risks to which we are exposed. The authors present elements for the necessary reflection, aimed at individual and collective practice committed to building a more balanced world. They address the urgent need to deal with these themes and rethink our presence in the world.

For Freire (2000), educational ethics requires certain competencies that bring in their essence qualities like criticality, respect, acceptance of the new, good sense, humility, tolerance, rigor, curiosity, happiness, hope, commitment, generosity, amorousness, listening, authority, liberty, simplicity, fondness and dialog.

The teachings of Paulo Freire prompt us to reflect on the importance of professional values in view of the search for an education based on the values and virtues that enable dignity in human relations. Consciously or not, any human action is always accompanied by the set of values that each individual carries. Also in educational action, as action that is never neutral, one must not run away from the responsibility of linking the personal values with the values that reside in the pedagogical proposal to be implemented. The educational activity cannot be simply a personal choice of how to do this or that, or how to apply this or that content. As Freire (2000b, p. 25) warns, "... besides being an act of knowledge, education is also a political act. therefore, there can be no neutral pedagogy."

The clarity with which Paulo Freire addresses the question of educational ethics, the simplicity of his words, enables us to see that what appears to be a choice based on good sense is, in fact, an incessant search for coherence between thoughts, values and practice. It may seem obvious that being filled with "good intentions", the resulting actions will, consequently, be equally good. But without an ongoing commitment to pay attention and action, and accomplish the praxis, we run the risk of deviating from the way of critical reflection.

It is not a simple route, but a difficult one. It requires daily effort and ongoing evaluation of the actions carried out in relation to the thinking: theory and practice must be coherent. As Paulo Freire (2000b) teaches us, education is, above all, about *giving examples through actions*. To work in a democratic environment, one must primarily *understand* what it means to *be* democratic and *act* in accordance with this idea. If being dialogical is a necessary quality, one must know how to listen and guarantee the expression of all, in any circumstances.

The proposal of Learning Organization of Peter Senge was conceived in the world of large corporations, but it does not apply exclusively to the corporate world. It is a proposal of great value for educational administrators and educators. In his book, "Escolas que aprendem" (Senge, 2005, p. 16), bases his thinking on the idea that

> (...) a school that can learn has become more predominant in recent years. It is becoming clear that schools can be recreated, vitalized and renovated in a sustainable way, not by decree or order, or by supervision, but by the adoption of a learning orientation. This means involving everybody in the system in expressing their aspirations, building their awareness and developing their capacities together.

For the author, a learning school represents an approach that stimulates hope, since (ibidem, p. 18):

> (...) schools are increasingly expected to compensate for the changes in society and in the family that affect the children: changes in family structure, rapidly changeable trends in the culture of population television, unending commercialism, poverty (and the malnutrition and inadequate healthcare that accompany them), violence, child abuse, teenage pregnancy, drug abuse, and the incessant social revolt.

However, Senge, also gives us a warning (ibidem, p. 18):

> (...) Even so, the schools also are also facing intense pressure to slow down the change, to be conservative, to reinforce traditional practices and at the same time, not to leave anybody behind.

Peter Senge proposes the five disciplines of Organizational Learning as a *strategy for assisting the work of Critical Pedagogy*, in light of Freire's teachings (ibidem, p.126):

> The emerging language of the five disciplines can provide strategies for those seeking to practice a critical pedagogy. Combining these two bodies of theory and practice, always keeping in mind the underlying philosophies of these practices, educators and develop new practices to "read the world", acquiring the multiple illiteracies necessary to change practices that are deeply rooted that prejudice many students.

The conceptual bases of Organizational Learning proposed by Senge are found in his book ""The Fifth Discipline" (2008):
- *Personal Mastery*: discipline, understood as the articulation of a coherent image of the personal vision with a realistic vision of the actually reality, in a way that (idem, p.41) "clarifies and deepens our personal vision, focuses our energies, develops patients and sees the reality objectively";
- *Mental Models*: this discipline focuses on the development of the awareness of attitudes and perceptions, seeking to (ibidem, p. 42) "(...) learn and unearth our internal images of the world, bring them to the surface, and keep them under rigorous analysis";
- *Shared Vision:* establishes focus in the common proposal, as it is considered (ibidem, p.43) "(...) difficult to think of an organization that has kept itself in a position of greatness, without having goals, values and missions that are deeply shared within the organization";
- *Team Learning*: discipline of group interaction, since (ibidem, p.44) "Learning as a team is vital, as teams, not individuals, are the fundamental learning unit in modern organizations. This is a crucial point: if the teams do not have the ability to learn, then neither will the organization";
- *Systems Thinking*: discipline considered as the cornerstone of the learning organization, this fifth discipline can help the leader with the forces that mould the consequences of the actions, as (ibidem, p.97) "(...) to understand more complex administrative issues, it is necessary to see the entire system responsible for the problem."
Many of the educational environments are still a stronghold of proposals focused on authoritarianism, ready answers, the application of methodologies and technological resources without discussion, and a lack of communication between all those involved (directors, coordinators, teachers, students, employees, parents). I fear that many curricula, whether more traditional or more innovative, have as a prospect a future that is not much different from the present time, as they are based on the predominant model of thinking, authenticating it, whether deliberately or not.
The problems of the present time require a look at the system in itself, to reevaluate and subsequently identify solutions by the parties that comprise them, in a dialogical form, for the composition of more worthy realities. But – it must always be stressed – there is no random chance or spontaneity that takes account of this challenge. Thus, the school, as an organization, needs its main leaders to promote deeper reflection on the reality, in order to be able to take bigger steps towards a future with greater social balance. In this quest, I believe that the foundations of Organizational Learning are presented as a support strategy for educational administrators, for the application of Paulo Freire's Critical Pedagogy.
The scenario formed by the theoretical references presented here instigates thinking to return to more integrating compositions in regard to the conceptual parameters and the forms by which educational administration is practiced. In the visualization of possibilities, other dimensions can emerge, in the route of educational administration as a complex that groups and brings together the various scopes that characterize it.

OTHER DIMENSIONS FOR THE TRAINING OF THE EDUCATIONAL ADMINISTRATOR
Considering the challenge of overcoming the barrier between the *pedagogical* and the *administrative*, I observe that Paulo Freire's Critical Pedagogy and Peter Senge's Organizational Learning enable interaction between these two fronts, in a harmonious way, enabling the recognition of a complex and challenging set, in relation to the various activities of the educational administrator.

I propose three dimensions as *scopes of training and reflection for educational administration,* which are integrated and interposed, since none occurs without the other, in the ideal dynamic for the appreciation of a world of complexities. They suggest the possibility of developing the capacity to *understand,* as well as the development of other competencies that could give the due support to the educational manager, faced with the diversity of situations to be managed:

- PERCEPTION – This dimension involves recognizing and appreciating the need for the organization of individual and collective spaces of reflection. These spaces should be based on critical readings of the reality, which must be associated with objectives (institutional, educational, professional), as they can show responses to questions that emerge from this immersion in the surrounding reality. Here, the thinking that combines reason and emotion is highlighted.
- EXPRESSION – the capacity to build an atmosphere of dialogue, in which the desired expressivity should be multilateral. The care that the forms of manifestation require comes into focus, considering the importance of the administrator's role as mediator. Given that their capacity for communication reveals sentiments and values, improvement should be an ongoing goal.
- ACCOMPLISHMENT – In this training dimension, practice and experience become central ambiences. This dimension is a field of practice, as support of the practice itself. It is in the scope of the conversation of ideas in actions that the working cycle is closed, and that reveals what was possible to achieve. The actions materialized bring to the surface what is in fact valorized, and enables the coherence between concepts, plans and actions to be seen.

The proposed dimensions do not correspond to rigid, compartmentalized structures, but perhaps meet the need to transpose the predominant model of thinking – characterized by separation, classification and fragmentation – in favor of a deductive form of thinking in which *understanding* is the driving force.

In my work at Senac São Paulo, a professional education institution, these have been the main references for the practice. The use of methodologies geared towards the collaborative environment facilitates this exercise, like World Café (Brown et al, 2007) and Appreciative Inquiry (Cooperrider, 1999). In this form of conducting things, the training of educational administrators – and their teams – is understood as an ongoing activity. The proposal for reflection on the practice is permeated by the conceptual framework, the indication of methodologies, the indication of readings, and references of specialized professionals who can bring their visions to the groups in lectures and other types of activities.

The exercise of this practice requires clear and purposeful planning of actions, daily effort, and ongoing evaluation of the actions carried out. Values are not established by chance. They need to be proposed and assumed, individually and collectively. Only in this way can they be incorporated, becoming part of the culture of a team and of an institution.

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5 - Enhancing Teachers Agency with Valuing Them: The Link Between Teacher-rated Servant Leadership of Principals and Teachers' Perceived Empowerment

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Abstract: The main research task of this study was to examine the association between the servant leadership characteristics of principals and teachers' empowerment. Of the total number of teachers (N=310) in Mahabad's High schools, 173 teachers were randomly selected from all schools. Servant Leadership Assessment Instrument including six sub-scales (Agapao love, Humility, Altruism, Vision, Service and Trust) and Empowerment Inventory were used in order to collect data.
Results suggested that there was a statistically significant positive and strong association between teacher-rated of the subscales of Vision, Trust, and Altruism of principals and perceived empowerment of teachers. These three sub-scales were found to predict more than 70 percent of variance of the perceived empowerment. The other sub-scales had no statistically significant association with the teacher-perceived empowerment.

Keywords: Agency, Servant leadership, Empowerment.

INTRODUCTION

Agency is a social theory referring to an individual's capability to make decision and act according to her interests and desires. "The theory's main assumption is that human beings by nature are selfish, thus agents and principals will most probably have differences in interests and attitudes towards risk, leading to divergent decision-making preferences" (Eisenhardt, 1989 cited in Cohen & Baruch, 2010, p. 187). Schools' structure and principals' leadership styles may sometimes conflict with teachers' agency in such a way that teachers may not have enough possibilities to exercise their capabilities effectively. Thus teachers fail to have internal motivation to collaborate in .the school community.

Empowerment as a new way to motivate employees and organizational human resources is an up to date subject in management. Researchers and managers are increasingly interested in empowerment and managerial measures based on it (Spritzer, 1995; Mishra, 1992 cited in Hazrati, 2008). For the first time Conger and Kanango (1988) presented an operational definition of empowerment. They believed that empowerment is process of individuals' self-competence development in organization through identifying unfair conditions -indicating lack of power for them- and try to overcome these conditions by formal organizational activities, informal ways, and providing effective information. Empowerment according to Spritzer, 1995; Mishra, 1992 cited in Hazrati, 2008) has five basic dimensions: competence, self-determination, impact (personal consequences), trust, and personal relevance.

Like other organizations, empowerment is one of prominent factors playing a great role in success of school. Teachers' empowerment depends on leadership approach governing educational environment in school. For example several research showed that principals' leadership was related to teachers' organizational commitment, professional development, job stress and job satisfaction (Dono – Koulouris, 2003; Estep, 2000; Nir & Kranot, 2006). Such research suggested that leadership is a managerial issue concerned with relationship (Hoy & Miskle, translated by Seid Abaszadeh, 2008; Robins, translated by Parsaian & Arabi, 2007; Yukle, 1992). Effectiveness of leadership and followership are reciprocal. Sendjaya and Sarros (2003) believed that leadership was not to use power against follower but for helping them. Servant leadership is one of the theories emphasizing on the effective and mutual relationship between leader and followers. In 1970, Robert Greenleaf (1904-1990) propounded servant leadership in a paper entitled "servant as leader". He focused on servant leaders' motivation as one of leadership characteristics to serve or lead.

Servant leadership has several characteristics (Barbuto &Wheeler, 2006; Greenleaf, 1977; Laub, 1999; Liden, Wayne, Zhao & Handerson, 2008; Page & Wong, 2003; Patterson, 2003; Russell & Stone, 2002; Spears, 1998). Patterson (2003) presented a model of servant leadership including the following components:

Agapao love, Humility, Altruism, Vision, Service and Trust. The figure 1 shows how these dimensions are related to each other:
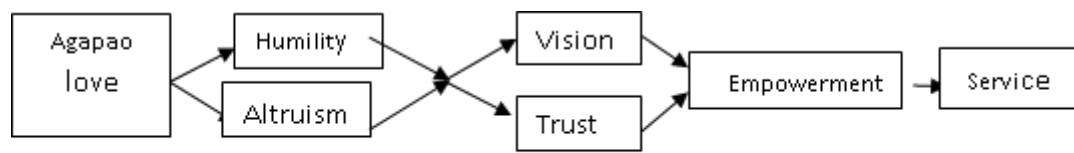
Figure 1: Servant leadership, Peterson, 2003, p. 10

Servant leadership with such characteristics may improve employees' empowerment and thus their agency in organizations such as schools and other educational contexts. Stephen (2007) believed that although schools' leadership approached has dramatically changed and it is difficult to predict which leadership style may guarantee the success of school, apparently servant leadership affected success of schools. Principals with servant leadership behaviors were found to provide good environment to enhance the teachers' empowerment in different ways (Dennis, 2004; Greenleaf, 1977; Lintner, 2008; Lobe, 1999; Peterson, 2003; Short, 1994). Bredson (1998) showed that influential principals affected teachers' profession through ways such as allocating time, money and enough space, assuring teachers to have valuable ideas and offerings, being accessible, behaving intimately and informally, and creating friendly, supportive and open environment resulted in teachers' empowerment (cited in Lintner, 2008).

Although servant leadership had a long record in management field, Barbuto and Wheeler (2002) believed that it had not been examined as a leadership approach in educational management field. Therefore, it should be studied in educational context in terms of different variables. Therefore the present study examined relationship between teacher-rated servant leadership of principals and perceived empowerment of teachers in order to gain an insight into the topic in the teaching and teacher education context. Consequentially, following questions are proposed:

   To what extent was the teacher-rated servant leadership of the principals associated with teachers' perceived empowerment?
   To what extent did the subscales of teacher-rated servant leadership of principals predict teachers' perceived empowerment?

METHODOLOGY

Participants
Population was teachers (N=310) who taught at high schools in Mahabad, Iran during the academic year 2010. 173 teachers out of this population were selected as the sample based on Krejce and Morgan table (Biabangard, 2005). The teachers were both male and female from all high school in the city (Mahabad). High schools in Iran's educational system refer to the level of schooling in which students follow three main areas: Humanities, Empirical Sciences, and Mathematic. Teachers in such schools are specialized and thus each teacher teaches a particular subject matter. Each school typically is officially and organizationally led by one school's headmaster (principal) and two vice-principal. In this study, the participating teachers rated both the principals in terms of servant leadership and their own empowerment.

Measures
Servant Leadership Assessment Instrument: This questionnaire was provided by Dennis and Bocarnea (2005) based on Peterson's servant leadership characteristics. It has 33 items including six subscales; Agapao love, Humility, Altruism, Vision, Service and Trust. Reliability coefficient 0.70 and 0.89 to 0.94 had been reported for questionnaire and components respectively.
2.2.2. Teachers' Empowerment Assessment Questionnaire: This questionnaire was provided by Hazrati (2008). It has 25 items including and measure the amount of individual's competency, meaningfulness, self-determination and effectiveness. Reliability coefficient 0.91 has been reported for this questionnaire.

Statistical analyses
Given that the data reflected a multilevel structure of principals (level 1) nested within teachers (level 2), principals were not independent observations. To take into account the clustering of observations, I used

multiple linear modeling. Since there was no theoretical reference to prioritize the variables, I applied Stepwise Regression in order to analyze data. In this case, the independent variables were entered into model based on the highest correlation that they had with dependent variable.

Therefore, I first conducted a Person correlation to measure the bivariate relationship between the subscales of servant leadership and teacher empowerment. Then I did the Stepwise Regression analysis to estimate the predictive power of the subscales of servant leadership in terms of teacher empowerment. In order to examine the individual influence of each subscale of servant leadership, multicollinearity was checked based on Tolerance and Variance Inflation Factor (VIF).

RESULTS
Bivariate and partial Correlations
Pearson correlation of the overall scores of teacher-rated servant leadership of principals and their perceived empowerment was calculated and the results showed that there was strongly positive relationship between principals' tendency towards servant leadership and the teacher empowerment (r=0.82, p<0.001). In other words, the teacher-perceived empowerment increased when the teachers rated their principals with high tendency toward servant leadership. For more details bivariate and partial correlations were applied to show relationship between teacher-perceived empowerment and subscales of servant leadership. Table 1 shows the results:

Table 1: Bivariate and partial correlation between the perceived teacher empowerment and the teacher-rated servant leadership of principals

Subscales of servant leadership	Bivariate correlation		Partial correlation	
	Correlation coefficient	significance	Correlation coefficient	significance
Service	o.67 ***	0.000	-0.19 *	0.01
Humility	0.70 ***	0.000	0.18	0.17
Altruism	0.77 ***	0.000	0.15	0.054
Trust	0.78 ***	0.000	0.26 **	0.001
Agapao love	0.80 ***	0.000	0.11	0.54
Vision	0.81 ***	0.000	0.35 ***	0.000

p<0.05*, p<0.01**, p<0.001***

As in table 1, bivariate correlation shows that there is strongly positive relationship between perceived teachers empowerment and subscales of servant leadership: Vision and Service received the highest (r=0.81) and lowest (0.67) correlation respectively. Partial correlation however shows considerable decrease of correlation. It means if the effect of each subscale is independently measured while controlling for the effects of other subscales, the association between subscales of predictive variable with dependent variable will dramatically decrease.

As it can be seen correlation coefficients of three subscales Service, Trust, and Vision with empowerment are statistically significant even after conducting partial correlation but the other three subscales failed to show statistical significant relationship. Unexpectedly there was a negative statistical significant relationship between Service and empowerment (r= -0.19, p= 0.05). It means if other subscales of leadership are controlled, there will be reverse relationship between Service and empowerment: the more principals were seen to show behavior associated with Service in their leadership, the less teachers perceived their empowerment.

Regression analysis
The variance estimation of model
Multiple regression (stepwise) was calculated to predict teachers' perception of their empowerment by dimensions of teacher-rated servant leadership of school principals. . The results showed that the three subscales Vision, Trust, and Altruism yielded significant prediction power and thus included in the prediction equation. These three subscales of servant leadership could altogether predict 72% of the variance in teacher-perceived empowerment, (R^2= 0.73). The subscales Service, Agapao love, and Humility showed no statistical significant prediction power and thus excluded from the model.

When the strength of predication was evaluated for significantly predictive subscales in three steps based on their correlation coefficient (the strongest correlation got priority to entered into model), the results showed that Vision could predict 69% (R^2=0/66) of the variance of teacher-perceived empowerment. The subscales

Trust and Altruism could improve the model with 6% ($R^{2\ change}$=0/06) and 1% ($R^{2\ change}$=0/01) of estimating variance of teacher-perceived empowerment respectively. Table 2 shows these results:

Table 2: The predication power of teacher-rated servant leadership of principals

Model	R^2	SD error	$R^{2\ change}$	F change	df	Sig
Vision	0.66	7.590.	.66	326.31	1,169	0.000
Trust	0.72	6.94	0.06	33.61	1,168	0.000
Altruism	0.73	6.84	0.010	6.04	1,167	0.000

Dependent variable: teacher-perceived empowerment of teachers' empowerment

F value (ANOVA) for the model in each step showed significant prediction equation: Vision, F (169, 1) =326.31, p<0.001; Trust, F (168, 2) =211.45, p<0.001; Altruism, F(167,3)=147.21, p<0.001.

Coefficient weights of predictive variables in the model
To determine the individual predictive power of each subscale, multicollinearity or overlapping predictive effect of subscales was checked. Looking at table 3, it can be seen that multicollinearity is not a problem: all tolerance values are above 0.10; all VIF (Variance Inflation Factors) values are below 10.

Table 3: Coefficient of teacher-perceived servant leadership' scales of principals

Subscales	B	Beta	t	sig	Tolerance	VIF
Vision	1.20	0.41	3.46	0.000	0.26	3.76
Trust	0.99	0.32	1.94	0.000	0.36	2.75
Altruism	0.78	0.18	4.76	0.01	0.27	3.59

Dependent variable: teacher-perceived empowerment of teachers' empowerment

In examining the **Beta** weights (standardized regression coefficients), it can also be seen that all three subscales of servant leadership were rated to be significant predictors of teacher-perceived empowerment (p<0.05). The subscale Vision had the highest effect of teachers' empowerment (β=0.41, t.346, p<0.0001): thus, the more the teachers saw their schools' principals with behaviors related to Vision, the high they perceived their empowerment. Among these three subscales Altruism had the least relationship with and thus predictive effect for teachers' empowerment (β=0.18, t=4.76, p<0.05).

DISCUSSION AND CONCLUSION
Servant leadership is one of leadership approaches emerged in line with existing literature of leadership. This leadership approach is based on such leadership epistemology that a good leader prefers needs and goals of organization and staff to his (Woodruff, 2004) and emphasizes on expanding followers to promote their abilities to accept greater responsibilities in organization and work conditions (Stone & Patterson, 2003).

In educational context, the effect of servant leadership components and behaviors have been examined in terms of several variables such as teachers' self-efficacy (Bandura, 1997; Nixson, 2005), developing teachers' insight towards positive role enactment in school (Patterson, 2003) and creating trust among teachers to empower themselves (Farling, Stone & Winston, 1999). In consistent with these studies, this study generally showed that the teacher-rated servant leadership of school principals was positively associated with the teacher-perceived empowerment of teachers' empowerment.

Considering the isolated effects of servant leadership subscales, the results showed that Vision, Trust and Altruism had significant effects on perceived empowerment of the teachers. This means if the principals try to take teachers' opinion into consideration and thus trust them in the process of decision-making for developing school, the teachers will find themselves effective, helpful and positive in the school community. This result is in consistent with results of Chacon (2005), Laub (1999) and Moor and Esselman (1992); trusting teachers to participate in decision making process of school leads to their self-efficacy (one of servant leadership subscales).

On the other hand, other subscales of servant leadership (Service, Humility, Agapao love) failed to show a significant prediction in regarding to perceived empowerment of the teachers. This is due to fact that quantitative methods may not solely be appropriate to examine the complexity of servant leadership in terms of teacher empowerment. In many cases, the statistical reliability and validity of the scales might be artificial and thus may not examine what they address. In this study, for example, the multicollinearity of subscales Service, Humility, and Agapao love was a problem and thus it was difficult to isolate their individual effects on teacher empowerment. In addition results of this study confirmed that these dimensions servant leadership (Service, Humility, and Agapao love) are somehow unreal and ideal. This part of results is in consistent with

other researchers' findings. Jhonson (2001) believed that servant leadership was unreal resulting in passive and most times wrong behaviors between staff. Moreover, Bowie (2000) stated that servant leadership was credulous and incredible.

In general, subscales Vision and Trust are more authentic and also considered as dimensions of other leadership styles such as distributed leadership. A meta-analysis on the nature of these two subscales shows that they are two basic interrelated components of school professional development in terms of how teachers collaborate in the school community. Vision is generally related to making decisions about the important professional development programs of the school and trust is a necessary property of the school leaders with which teacher collaboration is improved in terms of the school development plans. In this way when the school principals trust teachers in the process of school development, it helps teachers improve their agency in different ways. However, other subscales, e.g., Agapao love, are somehow dreamlike in an organizational context such as school and thus showed no significant contribution to the teachers' empowerment. Jhonson (2001) in this case argued that servant leadership was not efficient in all contexts and thus failed to be powerful in some cultural and organizational conditions.

In line with the results of this study, it is suggested that other researcher conduct qualitative studies to examine the nature of servant leadership contribution in terms of different issues in the educational context.

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17 - A Study on Perceived Principal Support and Principal-Teacher Communication with Teacher Job Satisfaction among the Key High School in Xi'an, China

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Abstract: A descriptive correlation study using questionnaire was conducted in 2008 to assess the perceived school principal support, school principal-teacher communication and teacher job satisfaction which were the key variables that guided the study. Respondents were 297 teachers from 20 key high schools. Data were analyzed descriptively through the use of the Statistical Package for Social Sciences (SPSS) program. The results reveal that the key high schools of the Xi'an city have average level of teacher job satisfaction with mean score of 2.93, perceived school principal support with mean score of 2.84 and school principal-teacher communication with the mean score of 3.20. Pearson *r* test shows that there is a positive significant but moderate weak relationship between perceived school principal support (r = 0.386, p<0,01) and principal-teacher communication (r = 0.493, p<0.01) with teacher job satisfaction. There is a negative significant but weak relationship between perceived school principal support and principal-teacher communication (r = -0.251, p<0.01). Regression analysis shows there are 3 predictors namely job relevant communication, upward openness communication and perceived school principal support explains 48.7% of variance in teacher job satisfaction. The best predictor for teacher job satisfaction is job relevant communication (β= .566, p<0.01).

Keywords: Perceived school principal support, school principal-teacher communication, teacher job satisfaction

INTRODUCTION

The role of school administration contributes to the successes of the students' gained knowledge. In this context, a school administrator has to face more difficult tasks and challenges. Principal plays a variety of roles in leadership, administration, communication, support, and ability to gain support from various stakeholders. Principals are the leader of school, so their actions are noticed and interpreted by others as what is important. A good school principal must have a clear goal and vision, where his/her school is heading and knows the desirable direction, and on the path that should be taken by using the available resource and translating it into the real action (Xia, 2006). However, a school principal alone cannot achieve the goal of school, but has to support and work together with teachers. Principal's support is a part of principal leadership.

For the purpose of school effectiveness and improvement, schools like other organizations, must be cooperative, cohesive, efficient, and well managed (Tschanneen-Moran and Hoy, 2000), it needs to have successful reformation, and the relationship or interaction between the school principal and the teachers is of great importance. Effective communication at work places contributes significantly towards the performance of employees. Communication is considered as a supportive behaviour. It gives rise to enhanced job satisfaction, a good feeling of personal accomplishment and increased productivity. (Talha & Qaiser, 2004).

According to Bryk and Schineider (2003), good schools depend heavily on cooperative endeavours. Relational trust is the connective tissue that binds individual together to advance the education and welfare of students. On the other hand, concern and care about teachers from the school principal will lead to teachers' commitment to the school. Rhoades and Eisenberger (2002) found that when the organization values the employees' contribution and cares about their well-beings, it serves an important source of socio-emotional resources (such as respect, caring); these would increase employees' felt obligation to help the organization reach its objectives. Employees' affective commitment to the organization, and their expectation that improved performance would be rewarded. In schools, Blasé and Blasé (1997) suggested that effective school principal can also promote teachers' work through supportive personnel characteristics.

This study emphasized the importance of a good relationship between school principal and teachers. However, most principals do not see or understand the long-reaching effects of this relationship. There are those who feel constraint by the very nature of their work; for example the unlimited paper work and rules

and regulations of the Ministry of Education. There are also those who can see and understand, but lack the skills needed to build and develop a good relationship, especially perceived principal support and principal-teacher communication in building teachers' trust in him/her (Lim Sothea, 2005). If certain decision made perceived to be fair and supported by the organization members, therefore can cause the increment of teachers' motivation, attitude, performance, commitment and satisfaction and at the same time reducing the teachers' intention to leave. Furthermore, determining teacher quality has become a critical focus for public school administrators in China. Therefore job satisfaction is playing a key role in the teacher turnover process and it would dramatically affect the performance of the teachers. That required additional regards and became a most important part of principal's responsibility.

BACKGROUND OF THE STUDY

The Compulsory Education Law of China calls for each child to have nine years of formal education. To meet this requirement, a child will attend either five years of elementary education, followed by four years of junior middle school, or six years of elementary education, followed by three years of junior middle school. Today in China, the second system, or ``6-3'' system is the more commonplace. While the Compulsory Education Law calls for each child to have nine years of formal schooling, it is recognized that certain realities prevent this nine year standard to be implemented immediately. Therefore, a provision of the Education Law is that China shall be divided into three categories: cities and economically developed areas, towns and villages with medium development, and economically backward areas.

In China, the education is divided into three categories: basic education, higher education, and adult education. Basic education in China includes pre-school education, primary education and regular secondary education. Preschool, or kindergarten, can last up to three years, with children entering as early as age three, until age six, when they typically enter elementary school. The academic year is divided into two semesters. Secondary education is divided into regular secondary education and vocational and technical secondary education. Regular secondary education consists of junior middle school and senior middle school. Junior middle school will involve either three or four years of schooling, depending on the system (6-3 versus 5-4), and senior middle school is, in the vast majority of cases, a three year program, resulting in a 5-4-3 or a 6-3-3 system of elementary school-junior middle school-senior middle school. The academic year for junior middle school consists of 39 weeks of instruction, with one week in reserve. The academic year for senior middle school is made up of 40 weeks of instruction, with one to two weeks in reserve.

Junior middle school graduates wishing to continue their education take a locally administered entrance exam, on the basis of which they will have the option either of continuing in an academic senior middle school（high school） or of entering a vocational secondary school. Vocational schools offer programs ranging from two to four years and train medium-level skilled workers, farmers, and managerial and technical personnel. Technical schools typically offer four-years programs to train intermediate technical personnel. "Schools for Skilled Workers" typically train junior middle school graduates for positions requiring production and operation skills. The length of training is typically three year.

Key high schools' principal normally is instated directly by the department of education of Xi'an. Under principal, there are three deputy principals, deputy principals is nominated by principal and approved by department of education. Then the principal can built his managerial team. The principal has the power of recruitment, the power of financial management and the power of educational management. The deputy principals are the assistant of principal, who need to take charge in these three aspects of school managerial affair. The principal get the detail information from deputy principals then give the comment of how to processing the work. Thus, the principal in a key high school have an absolute authority.

Teachers in key high schools are divided through two ways. First, each teacher belongs to their own grade group, each grade group had a head teacher, and the head teacher takes charge in daily management of teacher affair. Second each teacher also belongs to their teaching subject group, such as Mathematics group and English group. Each semester, every group need to have 3 meeting at least to sharing teaching experience, new technology, or some new issues in that particular area.

With regard to higher education, Xi'an ranks third in the country next to Beijing, and Shanghai, It is also an important base of scientific research centre in China. The Chang'an college Town, which is now under construction, will be a great appeal to hundred thousands of students from around the country. The development of private education in Xi'an is also ahead of other regions of the country. After the implementation of the reform and opening-up policy, the first private institute of higher education was founded in Xi'an. With this environment of higher education and higher proportion of students entering university, more and more students from other cities and provinces in burst into Xi'an high schools. Till today there have been five institutes each of which keeps an enrolment of over 10,000 students.

Owing to the academic year which The Law of Compulsory Education required only 9 years, that means not everyone has the ability and opportunity to enter the university throw studying in high school, and with Xi'an's profound educational background, the high schools especially the key high school got the higher solicitous from the parents and public, the teacher's performance loom large significant. A teacher's satisfaction with his or her job may have strong implications for student learning. Specifically, it may influence the quality and stability of instruction given to students. Though the student's achievement is gained in the class through the teaching of teachers, the role of school administration also contributes to their successes. In this context a school principal has to face more difficult tasks and challenges. The role of school principal must be able to pay attention to how to fulfil the expectation and accelerate the teacher's performance.

Statement of Problems

Seeing that the China educational system is one of centralization, most school principals seem to think that their most important and only duty is to carry out instructions from the Ministry of Education, and they do not seem to see the need to allocate time to develop their relationship with the school teachers. They focus much on the administrative side of their job, and do not think there is a need to show their supportive behaviour to their school teachers. But for teachers, as an ordinary human beings, they need positive attitude and commendation when they done things well, it is a basic psychological emotional requirement (Educational Annual Survey Report, 2004). Because of traditional culture in China, the leaders are always big man, they have absolute authority and power, they are serious and august，they don't unveil their attitude easily, so it is difficult for subordinates to get positive comment from them, and most of the subordinates just do what as their leader said. This bad customs is an obstruction to a job creative performance (Educational Annual Survey Report, 2004). Lack of perceived support from principal can lead teacher dissatisfaction in aspect of emotional needs and high rate of job burnout.

Friendly, relaxed, attentive, open-minded, and better communicators were the one who were able to make their teachers more satisfied with their work (Jabnoun & Fook, 2001). Because of this superior-subordinate relationship; there is hardly or very little flow of free communication between school principals and their school teachers in today Xi'an key high school. The school teachers are sometimes not informed about the happenings in the school. There is always a big gap between principal and school teachers, they hardly sharing feelings, emotions, attitudes, opinions and information, it is really an obstruction of school effectiveness and improvement.

Owing to the quality of education that the society required become more and more rigorous. The government's and the parents' position concerning the job performance and efficiency of the teachers; they accuse the teachers of negligence, laziness, lethargy, and lack of dedication and zeal to work. But a school is a whole system, if it occurred foregoing status, we cannot blame fault all on teachers (Zhang, 2001). But as a decision-maker of schools，the principal can not only care about the proportion of students entering schools of a higher grade, or how much does school earn every year, but also deeply thinking about what should they do in order to make their teachers more enthusiasm and how can they support the teacher's job and make them satisfied (Zhang, 2001). They should take advantage of their working power and administrative ability to improve such the situations.

Rosnani Jusoh (2003) concluded that teachers are the pulse and the motivator to achieve the school aims need to be well managed and the role for this should be carried out by the principal or headmaster as personnel manager as in school in alignment with the role of personnel manager in other organizations. School principals should realize the importance of having a good relationship with the teachers and should learn the skills needed to do so. With the increased of school principals' support, the principal-teacher communication in their principals and teacher job satisfaction will also be enhanced greatly. Therefore, this study intends to access the determinants that influence teacher job satisfaction in the specific cultural environment of Xi'an.

Research Objectives

Based on the problem stated above, this research intends:
a. To identify the level of teacher job satisfaction in the Key High Schools in Xi'an.
b. To identify the level of perceived school principal support existing in the Key High School in Xi'an.
c. To identify the level of school principal-teacher communication existing in the Key High School in Xi'an.
d. To identify the relationship between the level of perceived school principal support and the level of teacher job satisfaction.

e. To identify the relationship between the level of school principal-teacher communication and the level teacher job satisfaction.
f. To identify the relationship between the level of perceived school principal support and school principal-teacher communication.
g. To identify the predictors of teacher job satisfaction.

LITERATURE REVIEW
Bogler (2001) in his research indicated that the factors affecting job satisfaction can be broadly categorized as environmental and psychological. Environmental factors refer to characteristics of the job itself or the working environment such as the physical aspect of the school rules and regulation, supervision, salary and interpersonal relationship. This antecedent is also known as extrinsic motivator. The psychological factors which are also known as intrinsic motivator refers to aspects of work, such as achievement, recognition, the work itself, responsibility and opportunity for advancement. Zembylas and Papannastasiou (2004) carried out a research to determine if the level of satisfaction of Cyprus teachers was related to their personal characteristics, their school characteristics as well as their motivation to remain in the profession. The results showed that the majority of teachers in Cyprus chose the profession for extrinsic reason such as the salary and long holidays. The study also confirmed that teacher motivation either intrinsic or extrinsic is related highly to job satisfaction.

Cotton (2001) indicated that job satisfaction is essentially a cognitive evaluation that individuals make in relation to their work experiences. Therefore, job satisfaction is an index of positive and negative work experiences. In accordance with the health organizational approach, the occupational well-being of an individual consists of three components, namely job satisfaction morale (refers to positive feelings that individual's experience) and distress (refers to negative feelings that individual's experience). Thus, job satisfaction refers to the overall judgments employees make, while the underlying levels of morale and distress exert a major impact on important employee and organizational outcomes. A study done by Darwish (2002) on job satisfaction as mediator of the relationship between role stressors and organizational commitment found that job satisfaction directly and positively influenced affective and normative commitment and negatively influences continuance commitment. Also, job satisfaction mediated the influences of role conflict and role ambiguity on various facets of organizational commitment, except continuance commitment.

Makanjee, Hartzer and Uys (2005) indicated that perceived organizational support is regarded as the assurance that must be available from the organization when it is needed to carry out ones' job effectively. Taking into consideration the latter, the general physical environment within which radiographers performed their tasks in this study was rated as moderate. However, from a quality service rendering perspective it can be rated as poor, because the conditions do not meet the staff and patients' needs. Also, the non-availability and lack of equipment maintenance has direct negative impact on staff and patient safety.

Tang's study (2008) on 418 trained teachers from 65 daily based secondary schools from the state of Penang, Malaysia, 81.5% indicated a median level of principal's support upon the teachers. Thus, there is an existence of significant relationship between principal support with teacher organizational commitment (r = 0.756; p = 0.00) with apparent negative relation with the intention of teachers to leave (transfer) (r = -0.518; p = 0.00). The findings indicated that there is significant relationship between the perceived principal support with the teachers' trust on organization (r = 0.751; p = 0.00). Furthermore it was found that the organizational trust functions as moderator in the relationship between organizational support and teachers' commitment. Aselage and Eisenberger (2003) indicated that perceived organizational support is also valued as assurance that aid will be available from the organization when it is needed to carry out one's job effectively and to deal with stressful situations.

Goris, Vaught and Pettit (2000), in a study investigating the effects of communication direction on job performance and satisfaction, found that 23 of the 27 correlation ratios concerning the association of communication direction (upward, downward, and lateral) with job performance and job satisfaction were negative. Piccolo and Colquitt (2006) found that leaders could influence perceived core characteristic levels by changing the language, imagery, and symbols used to communicate meaning on the job. Goris (2004) in his research indicated that satisfaction with communication received weak support as a moderator of the individual-job congruence association with both performance and satisfaction. Nevertheless, this investigation showed that satisfaction with communication may have a significant, predicting influence on both job performance and job satisfaction.

METHODOLOGY

This is a descriptive correlation study on perceived principal support, principal-teacher communication and teacher job satisfaction. This research utilizes quantitative research methodology involving a sample of 20 key high school teachers. The 20 key high schools have a total number of 1703 teachers as by January 2008. A simple random sampling was used. A total of 317 teachers were selected from the population of permanent trained teachers who are working in 20 key high schools of Xi'an. The researchers managed to collect 300 questionnaires out of 317 that were distributed, giving the response rate of 95%.

The job satisfaction and perceived principal support were assessed using a 36 items scale adapted from Spector (1997), 8 items scale adapted from Eisenberger et al. (1986) respectively and principal-teacher communication was assessed using a 24 items scale adapted from Miles et al. (1996). All the 68 items were measured with a five point Likert scale (1 = strongly disagree, 2 = disagree, 3 = moderate agree, 4 = agree and 5 = strongly agree). A structured self-administered mailed survey questionnaire was used as an instrument for data collection.

A pilot study to validate and improve the instrument was conducted in one school. Improvement was made on the questionnaire regarding the accuracy in measurement, appropriate terminology used, and the structure of sentence used to avoid confusion. Thirty trained and experienced teachers from Baoji No.1 high school in the neighbouring city Baoji were selected as subjects in the pilot test. These teachers had the same socio-demographic characteristics as the actual research sample. Exploratory Data Analysis (EDA) was used to explore the data, followed by a reliability test. The same alpha value of 0.63 ($\alpha = 0.63$) for Section A and B was the score for job satisfaction items and perceived principal support items respectively, whereas an alpha value of 0.62 ($\alpha = 0.62$) for Section C was the score for items on the principal-teacher communication. In other words, the variables used in this instrument are found to have moderate high reliability value but the instrument was still acceptable.

Descriptive and inferential statistical analyses were then employed using the Statistical Package for the Social Sciences (SPSS). Descriptive measures such as mean and standard deviation were used to describe the variables in the levels of the teacher job satisfaction, perceived principal support and also the level of principal-teacher communication. The Pearson Product Moment correlation analysis was used to determine the correlation between the three key variables namely teacher job satisfaction, perceived principal support and principal-teacher communication. A multiple regression analysis was used to identify the predictor of teacher job satisfaction.

FINDINGS

Level of Teacher Job Satisfaction, Perceived Organizational Support and Principal-Teacher Communication

Results based on Table 1 show respondents' perception on the level of their job satisfaction, perceived principal support and principal-teacher communication. Among the three key variables in this study, the highest mean score is on the principal-teacher communication (mean = 3.20, SD = 0.59). This is followed by the teacher job satisfaction (mean = 2.93, SD = 0.27. The lowest mean score is on the perceived principal support (mean = 2.84, SD = 0.27). Therefore, we can conclude that the three key variables are at average level. However, all the key variables achieved mean scores of more than 2.5, which can be considered as moderate high level in practice.

Table 1: Mean and Standard Deviation of Key Variables

Key Variables	N	Mean	Standard Deviation
Teacher job satisfaction	300	2.93	0.27
Perceived principal support	300	2.84	0.27
Principal-teacher communication	300	3.20	0.59

The Relationship between the Perceived Principal Support, the Principal-teacher Communication and the Teacher Job Satisfaction

The Pearson-Product Moment correlation analysis was used to explore the relationship between teachers' perceptions towards the level of perceived principal support, principal-teacher communication and the level of teacher job satisfaction. Table 2 shows a summary of the correlations between the level of perceived principal support, principal-teacher communication and teacher job satisfaction. All the relationships were found to be significant and positive at a significant level of 0.01 accept the relationship between perceived

principal support and principal-teacher communication which has negative relationship. However findings showed that there are moderate weak relationships.

Based on Table 2, the principal-teacher communication has the stronger effect (r = 0.493, p < 0.01) compared to the perceived principal support (r = 0.386, p < 0.01) on the level of teacher job satisfaction. However the perceived principal support was found to have not only weak but negative correlation to the level of principal-teacher communication (r = -0.251, p < 0.01). In other words, the teachers' perceived that the higher the principal-teacher communication and principal support in practice, the higher would be their level of job satisfaction. The teachers' perception towards the perceived principal support was found to be weak and negatively correlated to the principal-teacher communication. This meant that the higher the perceived principal support, the lower the principal-teacher communication.

Table 2: Correlation between Perceived Principal Support, Principal-Teacher Communication and Teacher Job Satisfaction

Perceived Principal Support	N	r value	p
Principal-Teacher Communication	300	-0.251**	.000
Teacher Job Satisfaction	300	0.386**	.000
Principal-Teacher Communication			
Teacher Job Satisfaction	300	0.493**	.000

**Correlation is significant at the 0.01 level (2 – tailed).

The Contribution of the Teacher Leadership Dimension towards the Level of School Effectiveness
Multiple regression stepwise method was used to predict the influence of the perceived principal support and principal-teacher communication towards the level of teacher job satisfaction. With reference to Table 3, perceived principal support and two sub-scale of principal-teacher communication explain 48.7 percent of variance in teacher job satisfaction. Job relevant communication is the best predictor for teacher job satisfaction (β = 0.566, p<0.01) can explain 40.7 percent variance in teacher job satisfaction, followed by upward openness communication (β = 0.266, p<0,01) which can explain 6.3 percent variance on teacher job satisfaction. Finally the perceived principal support (β = 0.153, p<0.01) can explain 1.7 variance on teacher job satisfaction. There are three independent variables can fit the final model of teacher job satisfaction. When we use the stepwise method, each independent variable is put into the model, one by one in sequence as below: beginning with the level in practising job relevant communication, the level in practising upward openness communication and ending with the level in practising perceived principal support. As shown in Table 3, the adjusted R^2 value in final model was 0.487.

Table 3: Predictors of Teacher Job Satisfaction

Variables	B	B	R^2	Adjusted R^2	R^2 changed	t	Sig.
(Constant)	1.330					13.728	
Job relevant communication	.355	.566	.409	.407		12.203	.000
Upward openness communication	.103	.266	.474	.470	.063	6.370	.000
Perceived principal support	.065	.153	.493	.487	.017	3.298	.001

** Significant at the 0.01 level (2 – tailed).

Coefficient for the final model based on stepwise method reported as below:
$\hat{Y}_i$ = 1.330 + 0.355 X$_1$ + 0.103 X$_2$ +0.065 X$_3$
$\hat{Y}_i$ = Level of teacher job satisfaction
X_1 = Level in practising job relevant communication
X_2 = Level in practising upward openness communication
X_3 = Level in practising perceived principal support

DISCUSSION
Findings showed that the Xi'an key high school teachers has an average level of job satisfaction (mean score = 2.93). This implied that generally the teachers are satisfied with the working environment such as physical condition of the school, rules and regulation, supervision, salary and interpersonal relationship among co-worker. Psychological aspect referred as intrinsic motivation include recognition of their effort and achievement, career advancement opportunities and personel satisfaction seem to be attributes that teachers

value, this will lead to greater job satisfaction. This finding is further strengthen the report by Lewis and Michael (1977).

According to the finding, showed that perceived principal support in Xi'an key high schools is at average level (mean score = 2.84). This finding means the Xi'an high school teachers believe that the school principal values their contributions and cares about their well-beings, and school principals play a key role to support teachers' socio-emotional needs, such as respect and caring, being regarded highly by the school principal helps to meet teachers' need for approval, esteem and affiliation. Such perceived school principal support would increase teachers' felt obligation to help the school reach its objectives, their effective commitment to the school and that improved performance would be rewarded.

Although the result showed a moderate level of principal-teacher communication (mean score = 3.20), but it has higher mean score compared to the two variables above. Researchers can conclude by using Cheney's (1983) view that principal-teacher communication help each others to identify with their schools by transmitting messages conveying the goals values and achievements of the schools and by providing information in the form of guidelines for individual and collective action.

The research finding shows that there is a positive, significant but moderate weak relationship between perceived principal support and teacher job satisfaction (r = 0.386, p<0.01). This result indicate that teachers need school principal to concern and to care about them and to recognize their contribution to the school. It is also an evidence that teachers need support from their principal, this can make them satisfied with their job. However, the finding does not concurrent with Eisenberger et al's finding (1997). Eisenberger et al.'s finding (1997) showed that there are strong but negative relationship between perceived principal support and the teacher job satisfaction. This is because the employer does not have the resources to prevent unfavourable treatment such as poor economic conditions. This is something that contrast with what is happening in Xi'an key high schools which have good economic conditions and comfortable working environment. Therefore the same situations do not occur in this study.

The result indicate that the principal-teacher communication does correlate moderately with teacher job satisfaction (r = 0.493, p<0.01). This result is in line with the research findings reported by Haughey and Murphy (1983), Leiter (1988), Hurlbert (1991) and Ducharme and Martin (2000), but is contradictory with the results from Goris et al. (2000) and Goris et al. (2002). The results from Goris et al. (2000) indicated that the communication direction dimensions may increase work outcomes positively up to a point. After that point, further communication saturation may decrease performance and satisfaction. In addition, Goris et al. (2002) indicated that communication overload and communication under-load may inhibit satisfaction with communication. This inhibition might have negative consequence in both job performance and job satisfaction. However the same matter does not happen in China because communication in China school environment is always deficiency.

The negative significant but weak relationship between perceived principal support and principal-teacher communication (r = -0.251, p<0.01) is contradictory with the results from Allen (1995). School as a special working environment, communication is considered as a part of job, communication in schools may take a number of forms, including organized meetings, informal chats, notice-boards, memos and handbooks (Eden, 2001). If teachers get high level of perceived principal support, it can motivate their willing to work and privates with their school principals, these may decrease the informal communication between school principal and teachers.

A regression analysis shows there are three significant predictor for teacher job satisfaction, namely job relevant communication (β = 0.566, p<0.01), upward openness communication (β = 0.266, p<0.01) and perceived principal support (β = 0.153, p<0.01). The result shows that teachers need their school principal values their contributions and care about their well-beings, and further need communication with their principal in aspects of job relevant communication and upward openness communication. The result is consistent with the study by Goris (2004) which showed that satisfaction with communication may have a significant, predicting influence on both job performance and job satisfaction. Furthermore, the result also in line with Randall et al. (1999) that indicated perceived organizational support can predict job satisfaction.

CONCLUSION

The findings of this study indicated that, the perceived principal support and principal-teacher communication have an impact on teachers' job satisfaction among key high schools in Xi'an. For a school to be effective the relationship between school principal and school teachers should be given full attention, this can produce better school performance and be able to facing future's challenges. The importance of relationship between school principal and school teacher's should be emphasized, if the relationship is not given good care, a dominoes effect would take place and could affect the effectiveness of the school. Making

teacher more satisfied with their working would most probably making them prefer to remain in that particular school and contribute significantly towards the goals of the school.

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43- School Principals in Spain: From a Bureaucratic Orientation to Educational Leadership

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Abstract: School principals in Spain have had few attributions allowing them to perform educational leadership in Secondary schools. However, significant changes are beginning to occur in the way school management takes place in Spain. These changes are already reflected in new regulatory legislations in a transition from a bureaucratic model to a pedagogical orientation designed to improve learning and results in the schools. This paper discusses the progressive convergence of our legislation and educational policy with with international guidelines of educational leadership. We review current studies and research into the tensions and dilemmas of school management in Spain, as part of a research project that we conducted about educational leadership in secondary schools.

Keywords: schools principals, educational leadership, Spain, school autonomy, secondary schools

INTRODUCTION

School heads in Spain have had few attributions allowing them to perform educational leadership in Secondary schools. However, significant changes are beginning to occur in the way school management takes place in Spain. These changes are already reflected in new regulatory legislations in a transition from a bureaucratic model to a pedagogical orientation designed to improve learning and results in the schools (Spanish Ministry of Education, 2007).

Spain has been, together with Portugal, the only European Union country where where school principals is a teacher at the school (with at least five years teaching experience), chosen by the School Council (teachers, parents and students). At the end of the period as head (four years, renewable), he or she returns to teaching. This system of being chosen by one's colleagues (together with parents and students) has its origins in the end of the Franco dictatorship, when there was a demand for a "democratic running of the schools", and where the organs of school management would be chosen by the school community. As we mentioned in a previous paper (Bolívar & Moreno, 2006: 19), "while this unique feature of the Spanish system entails many promises in terms of deep democracy and, equally important, the potential legitimacy of change promoted by school leaders, the truth seems to be somewhat less romantic".

School directive teams in Spain up until now have had little chance of exercising educational leadership, being limited in the majority of cases to administrative tasks within the existing organizational structures. A critical issue in the management and organization of the schools is what the head can and cannot do to improve the instructional work of the teacher in the classroom and, consequently, the students' learning. It is necessary to balance the principle of participation with the demands of professionalization, while ensuring the most appropriate professionals for the position of headmaster. In any case, the problem is not so much that the director is chosen by the teachers, but rather the way in which the organization where he or she works is structured. The principals and teachers operate in a certain *context*, which greatly conditions what they can do and- at times- traps them. In this context, beyond the individual players, the organizational structure seriously limits their role, making their condition precarious.

Administrative-bureaucratic model of school leadership, inherited in Spain, presented in late modernity, serious deficits to stimulate the schools. Instead, you should consider what are the tasks and responsibilities that should have principals in our schools and, according to them, to promote the necessary changes in the organizational structure of the school's new educational policy, as does the Act on Education or the new Education Act of Cataluña (Catalonia, 2009), talk about the role of "educational leadership" and "leadership" of the management teams. This transition from a bureaucratic model to a pedagogical direction can be seen, as discussed later in the new law (Decree 155/2010 of Catalonia on the direction of schools, the new organic regulations of Andalusia).

SCHOOL PRINCIPALS IN SPAIN

School principalship in Spain, particularly in secondary schools, has deep historical roots in a corporative model – where the principal is elected among and by the teachers – instead of being a professional figure (Viñao, 2005). Only during the central years of the dictatorship (1945-1970) was there a professional body of school principals, chosen among teachers via public concourse. After the General Education Law of 1970, the principalship is conceived as participatory and not professional. School principals were then chosen by the provincial education authorities among a shortlist of three candidates presented by the teaching staff of each school. Yet, the principal was seen just as a governmental representative, if not as an *agent*. Not surprisingly, after the fall of the dictatorship, there was a huge demand for a fully democratic model of school governance and management. Right after the fall of the dictatorships in both countries in the mid 70´s, Portugal and Spain experienced a growing social demand for a more democratic model of school governance, where principals should be elected directly by the members of the school community. The *Right to Education Act* (1985) regulated the participation of the school community in school management (through the creation of School Council) and the direct election of the school principal. It established a temporary, non-professional, participatory and collegial model of principalship, departing sharply from the prevailing model in OECD countries, which is permanent and professional.

Despite its democratic legitimacy, the figure of the school principal in Spain would remain weak in that decision making and control are placed in the School Council. The participatory or democratic model de facto became corporative, as the principal is overtly dependent on the colleagues who elected him or her (teachers are the majority in the School Council). At the same time, s/he continues to be the representative of the education administration in charge of implementing and enforcing its regulations. This double function is a continuous source of trouble (Coronel & Fernández, 2002). Since the principal is elected by his/her equals, and will eventually have to re-enter teaching, s/he is forced to transact every decision with the teaching staff of the school. On a related account, School Councils have hardly lived up to the expectations, partly because parents have very low levels of participation in electing their representatives (a modest 15 percent), partly due to the ritualistic and formal makeup of these bodies, reflected both in the contents and the procedures of participation (Fernández Enguita, 1993, 2007; San Fabián, 1997).

The unsolved problem of school leadership in Spain is known as the "*cuestión directiva*", reflecting widespread discontent in the education sector with the shortcomings and the unfeasibility of a participatory model which seems impossible to consolidate (Gairín, 1998; Murillo, Barrio & Pérez-Albo, 1999). The deterioration of the model was evident when, already at the beginning of the 90´s, there were no candidates willing to run for the principalship in roughly 50 percent of the schools in the country. In these cases, principals were appointed by provincial education authorities, with a provisional mandate of just one year, until there was a candidate ready to be elected. This shortage of candidates to become school principal pointed to structural problems of the participatory model of school leadership. A supposedly *political* model of school leadership was becoming, in practice, a *corporate* model. Many different causes would appear to account for it: the double function of the school principal –representative of the education administration and of the school community– which triggers tensions and role conflicts, the lack of autonomy for decision making, the overload of bureaucratic tasks, the absence of support to perform leadership the leadership responsibilities, etc. A real crisis of the principalship followed, combined with declining rates of participation in School Councils by teachers, parents and students, all of have led to a progressive weakening of the leadership function in Spanish schools.

The successive problems produced by this elective model are motivating a change to a more professionalized management and a greater capacity for pedagogical leadership. In this crisis, various causes have converged: in a high percentage of cases (40%), the election mechanisms have not worked due to lack or shortage of candidates, with directors having to be assigned obligatorily by the Administration in these cases; the unavoidable transaction mechanisms with the co-workers that elected the head make it impossible for him or her to engage in leadership for improvement in the long run; finally, this system has not led to the exercise of a distributed, shared or democratic leadership in a professional community of learning. This corporative collegiality interferes with the practice of a pedagogical leadership (Bolívar & Moreno, 2006).

Bolivar (2006), based on research conducted for the National Institute for Quality and Evaluation, designated as the model election by the School Board, established in 1985, has not adequately addressed the management of schools, among other things the absence of candidates and non-professional, advocating a pedagogical leadership. Surprisingly, that education policy has remained in oblivion for a long time professionals with such a decisive role on the performance results (Beltrán, Bolívar *et al.*, 2004). As they say in a situation similar Blase *et al.* (2010: xxiv), "this is particularly discouraging in light of strong evidence

that effective instructional leadership by the school principal is a key within-school factor in promoting school improvement and is second only to teaching in contributing to student learning".

While the democratically elected principal was expected to enjoy high levels of legitimacy as a school leader in a political and educational context emphasizing democratic values, that is certainly not the case in a neoliberal environment, where parents are no longer citizens involved in the education of their children but rather clients demanding more quality and improved outcomes.

A good number of proposals to professionalize school principals in Spain have been made since the early 90´s. (Estruch, 2002; Batanaz & Alvarez, 2004). Yet such *professional turn* can be understood in at least two different ways: a) as capacity building of teachers to become school leaders, or b) as a function radically different from teaching, which requires specific training and recruitment procedures (opening the possibility of having principals with no teaching background). In Spain, probably due to its historical tradition in education, the prevailing sentiment is that instead of professionalizing school managers, we need to qualify and upgrade teachers´ skills in management.

Despite some important differences across regions, the proportion of schools with teachers willing to run as candidates to become principals increased by 20 percent (from 40-50 percent to 60-70 percent). The enhanced authority and responsibilities conferred to the principal by the new Act, the loss of power of the School Council (which becomes a consultative body), increased economic incentives, and a more clear-cut managerial job description may account for this change. However, on the one hand, still more than one third of the schools did not have teachers ready to run as candidates. On the other, and even more importantly, wide sectors of the teaching profession (in particular the teacher unions) and some parent associations were clearly against doing away with a democratic election of the school principal by the school community.

As a consequence, Consequently, the socialist government, through a new Act on Education (LOE, 2006) – published in May 2006– has tried to balance the professional approach of principalship with the active participation of the community in the (s)election process. While on one hand, it preserves the participatory model, otherwise the education administration authorities being in charge of accrediting their professional competence and providing targeted training. Therefore, the new regulation in Spain *Organic Education Act*, passed in 2006) has changed the election system to one of "selection", in which certain training and experience requisites are demanded of the possible candidates, and representatives of the educational Administration intervene in their selection. The candidates for headmaster must present, in addition to their curriculum vitae, a *management project* that includes objectives, action lines and improvement standards. Thus, we want to find a balance between the role of the school and the intervention of the Administration, in order to ensure their professional competence. The practice of principal to improve the quality of education, will undergo an evaluation process to identify problems and improve action. Following the positive evaluation of his administration, the director may consolidate a financial supplement proportional to the years of practice.

Currently, it is claimed, first, moving from a model "collegiate" in educational leadership, as the logic collegial corporate nature not possible (in some cases prevent) the practice of educational leadership. On the other hand, in a line of increasing professionalism, have to take steps for non-corporate choice of director for the Teaching Staff. It is true that these steps have to be progressive, since the great hindrance is established school culture, which prevents the director to exercise educational leadership role, able to promote improvement. It is also clear that one can not remain the exception in the world in the way of establishing the school headmaster. Current literature and most relevant experience should have the desired reflected in the legislative guidance.

In the current conditions, a role limited to the bureaucratic management of the schools is becoming insufficient. The school's main responsibility is precisely to guarantee the educational success of all its students. The outcome cannot completely depend on what each teacher, with more or less commitment, decides to do in the classroom. Therefore, the school principal inevitably has to participate in improving the teaching and learning offered by the school. This action is currently the topic of some debate in Spain, but in the experiences and international literature (Robinson et al., 2009; Louis, Leithwood et al., 2010), it is becoming more and more obvious: if teachers are the key to the improvement, then principals have to create an appropriate climate in which the teachers can improve, supervising the outcome and encouraging progress. However, as we explain below, in Spain we have a set of challenges pending in going from the current management model to one of leadership for learning (Bolívar, 2006).

A BUREAUCRATIC PRINCIPALSHIP TO EDUCATIONAL LEADERSHIP

Spain in the last two decades has experienced a spectacular development in education (level of coverage, extending years of schooling, changes in curriculum, remedial education programs, substantial increase in funding, better teacher salaries, etc.).. However, this has not translated, significantly, an improvement of learning (PISA results and other accountability). Of course, there are many factors influencing this improvement, including teacher training and quality of instructional processes developed. But as we advocate in this paper, the leadership of principalhip has a leading strategic role.

In fact, between the "logic of confidence" and voluntarism teachers, little could be done to go beyond the contingency of teachers available to each school. As stated Elmore (2000: 6-7), "because the administrative structure of schools exists to buffer the instructional core from disruptions and improvements, and because teaching is isolated work, instructional improvements occur most frequently as a consequence of purely voluntary acts among consenting adults". This pending change this situation, which can be illuminated by research results that show, providing courses of action within the powers and competencies that school leaders must have their training, their work centers according to priorities and modes of assessment . Demand is thus a convergence of educational policy with the evidence that research at the international level (Leithwood, Day *et al.,* 2006; Louis, Leithwood *et al.,* 2010), has revealed.

The principalship has been traditionally more focused on the administrative management of the school, moreover, in their capacity as *primum inter pares*, has little capacity to intervene in pedagogy. In Spain, the directors have no real ability and autonomy to manage their school pedagogically also has not received adequate pedagogical training to exercise leadership in your organization (Bolívar, 2004, 2010a). As noted above it also seems clear that the model of election of directors by their counterparts in Spain poses serious difficulties for teaching and educational leadership. As mentioned earlier, the TALIS (OECD, 2008) draws an address in Spain with little capacity to improve teaching and learning processes (see Table p. 197).

Today, influenced by current trends, which they consider a priority of pedagogical leadership role (Pont et al., 2008), is starting *a gradual convergence of educational policy to educational leadership*. These changes, reflected in new legislation, points to a transition from a bureaucratic model to an educational direction aimed at improving learning and school performance.

In this regard the current Education Act (LOE, 2006) introduces (art. 132) as a novelty, between the powers of the principalship, "to exercise educational leadership". Similarly, by limiting ourselves to those approved and published, the Education Act of Andalusia reaffirms the role of "educational leadership" (art. 132.1). For his part, the Education Act of Cataluña (2009) specifies that have functions of "pedagogical leadership" (art. 142), particularly in the exercise of autonomy in parallel with the educational authorities should encourage and support "the leadership skills of professionals in the organization and management of schools" (art. 100). In addition to the educational leadership that speaks the Act on Education (LOE, 2006), in Catalonia the "Decree on the principalship of public schools" (Catalonia, 2010a and 2010b) provides new ways to understand management schools: "the school leadership, acquires a global leadership role in the action of public schools", says.

Schools autonomy and educational leadership

The report *"School autonomy in Europe. Policies and measures"* (Eurydice, 2007), which examines 30 European countries shows that the countries of northern Europe give more autonomy to schools to the south and are also the best performing in international assessments such as PISA. Spain, with Portugal and Greece, is among those who have more limited autonomy. In turn, the report TALIS OECD (2009: 197) shows a principal in Spain with little capacity to improve teaching and learning processes. According to the perception of educators, gets the lowest score in educational leadership and managerial leadership, significantly below the average. Without a strong educational leadership there can be no school autonomy, so understood, the OECD itself (Pont, Nusch & Moorman, 2008). For this, as also said development of the OECD report (Stoll & Temperley, 2009),

> "School leaders can only have an impact on student outcomes if they have sufficient autonomy to make important decisions about the curriculum and teacher recruitment and development and if their major areas of responsibility are focused on improving student learning. Countries are increasingly opting for decentralised decision making, and balancing this with greater centralisation of accountability regimes such as standardised testing." (p. 13).

Is this part, also demands increased autonomy of schools in Spain are continuing and increasing. There is a general trend of progressively increasing decentralization and autonomy, linked with accountability - within

a "new public management". The latest Education Act of 2006 opens doors for performance, and, subsequently, some educational laws of the autonomous communities (Andalucía, Cantabria, Catalonia, Castilla-La Mancha) have finalized some ways to go. The directors are acquiring greater powers to intervene in the management and quality of education.

The education policy has to enable each school to "build" their autonomy through their own projects, stimulating endogenous dynamics of each school through *contract-programme*, together with the necessary external support. Thus, once concrete proposals for action in the school educational project in a sort of "contract-program" of autonomy, negotiated and agreed with the Education Authority. This proposed "contract-program" is present in some countries (Portugal, France), the Law of Education of Catalonia (Catalonia, 2009), developed largely in the Decree of autonomy of schools (Catalonia, 2010a) and collected by the Ministry of Education in "Action Plan 2010-2011", within the General Objective 7, which states as a 5:

> "Promote *contracts-program* to several years, including education authorities and schools, with the appropriate funding, human and material resources needed and the flexibility in their management, as well as technical support and teacher training, to achieve, particular, increasing the academic success of students".

They agreement, as shared responsibility, is at the heart of the program increased student achievement. In exchange for the resources provided by the Administration, the school will implement the agreed action plan and accountability to the school community and educational administration. The possible renewal of the mutual agreement remains subject to the outcome of the evaluation. Catalonia was the region (in Spain "Autonomous community") that until now has gone further in setting the principalship and educational leadership. The Education Act of Catalonia (2009) entrusts the principalship (Article 142.3) "educational leadership and school learning community", always understood aimed at improving educational outcomes. Make decisions in the curriculum by principalship, says the Decree of Autonomy (Catalonia, 2010a), is, from the curriculum framework established, the possibility of actively intervening in the curriculum and school management modes so as to allow own performance to ensure the greatest educational success of their students.

In turn, the autonomy is linked to improved results. Therefore, Article 5 states that each school should establish indicators of achievement related to students' academic performance. These standards are the benchmark for evaluation of the school every four years, coinciding with the completion of term of headmaster, at which have to be revised. They are also the reference point of self-evaluation as an element that promotes continuous improvement. Thus, the Catalan Decree of Autonomy states that "schools may establish their own educational projects that require time organizing material different from that stated in general terms, with the ultimate goal of improving students'academic performance" (art. 17.1) .

Principalships can manage aspects of personnel selection to find a faculty profile that suits the school's educational project. Also you can select the teachers, and have the ability to impose penalties. Principals in Catalonia have responsibilities as chief of staff, so they can decide how many teachers they need according to their educational programs. According to Article 8 of Decree of Directors (Catalonia, 2010b), the principal will propose budget allocations and the teaching staff, always adjusting to the school's educational project.

Given that the circumstances (autonomy, assigning responsibility for the results) make it necessary to follow this path, the situation is, therefore, one of no return. If the teaching staff is the key to this improvement, the directors must create the conditions and the context in which the teachers can improve their professional activity. Therefore, a critical point regarding the management and organization of centres in Spain is what the head does or can do to improve the teaching performance of the staff in their classrooms and, as a result, the students' learning (Bolívar & Moreno, 2006). If schools should ensure that all students key competencies, the headteacher is to make it happen. Therefore, the headteacher can not be limited to management and organizational tasks of human resources, should look more to everything that can encourage improvements in education. It is however difficult in the current structures to exercise educational leadership.

An educational leadership

In this situation, we can discuss what the headmaster in Spain can and cannot do to improve the instructional efforts of the teacher in his or her classroom and, as a result, the students' learning. Of course, it is necessary to change from a "transactional" model where the schools choose the principal according to their interests, which are sometimes corporative, to a "transformational" model (Leithwood, Jantzi & Steinbach, 1999). The

dependence of the voters, as in politics, makes them less likely to be able to move ahead in a proactive and transformational way. It is necessary to break these links of dependence (Fullan, 1998), and implement other external regulations, in order for educational change to take place.

Many things are important in the practice of school leadership, but some of them are not essential for the improvement of teaching and learning. Therefore, educational leadership action should be directed to create contexts for learning, focusing on clear expectations of achievement levels. The structures of public schools rather isolated and idiosyncratic values favoring individual learning at the expense of the collective. Beyond that permit structures, there are managers who manage staff engage in a collective project exciting, providing a good education. While educational research should investigate what factors and dimensions involved in these good practices in case they might be transferred or generalized to other contexts, also should care system, beyond the contingent factors, how to make every school a good school, more so for those who are in difficult or low yields.

Influenced by current tendencies which consider the role of educational leadership a priority, we now have a progressive convergence of our legislation and educational policy with these orientations. In this regard, the current Organic Education Law (LOE) introduces (art. 132) as a novelty among the competencies of the director "exercising a *pedagogical leadership*, promoting educational innovation and fostering plans to achieve the objectives of the educational project of the centre". In a similar way, the legislation of the Regions and Autonomous Communities (Andalusia, Catalonia), which have considerable autonomy, limiting ourselves to those that have been passed and published, specify- and broaden- the exercise of pedagogical leadership. Thus, the "Decree on the autonomy of schools" of Cataluña points out that "the schools' management acquires a role of global leadership of the action of the public centres".

However, it is difficult to exercise educational leadership within the current structures. The schools as organizations are "weakly connected", with each teacher functioning independently in his or her classroom, so that the directors have few or no possibilities of supervising what goes on in the classroom and –therefore- of practicing "educational leadership". The inviolability of the teachers' choices and actions in class about what they teach and how they teach it impedes any educational supervision by the direction. The atomization and fragmentation of the teaching, as well as the habitual individualism, effectively hinder both collaboration and joint evaluation of what is planned on a general level and in specific practice in the classroom. When the organization is weakly articulated and the individual teaching practices depend on the will of each teacher and the "logic of trust", talking about pedagogical leadership becomes barely significant, given that the institutional structure, in principle, restricts it. There is teacher resistance to any type of supervision and orientation of their teaching, based on a corporativism and individualism that translate into a lack of intervention by management. A long tradition ingrained in the school culture (especially in Secondary) creates a situation where the head of the public school does not know what takes place in the classrooms, and the information he or she might have usually arrives by indirect routes. Given that isolation is one of the main enemies of improvement, a pedagogical management should contribute to creating a shared vision of the school.

Leadership for learning

Research on school leadership in Spain (Murillo, Barrio & Perez-Albo, 1999; Gairín & Villa, 1999; Gago, 2006) has tried various organizational variables and dimensions research (tasks and duties, satisfaction and problems, training, leadership, choice, effectiveness, change and gender). For over a decade has focused especially on the "cuestión directiva" (directive question), as the problem of combining choice by the school community and professionalism. While in some sense it could be is to enhance the sense of direction in a democratic and participatory school (Santos Guerra & Antúnez, 2009); in practice, these expectations of a culture for participation have not been made. However, overall, has been less than enthusiastic about the priority issue at the international level: the learning-centered leadership. In research on instructional leadership in Spain (monitor and guide the education, coordination of curriculum, student tracking) concluded Gago (2006) that this was more a theoretical than a real practice. In the analysis of common tasks of principals concluded Gimeno *et al.* (1995: 199): "principals not primarily focused their energies on educational leadership roles within the teams of teachers. Neither is configured his post today to exercise that function or assume it as relevant towards others".

This bureaucratic model of the school management presents serious limitations to acting to improve the results of the school. The reality is that when the management is limited merely to doing administrative paperwork, the responsibility for the students' learning becomes diluted; when the focus is on a leadership for learning, this responsibility becomes essential. Therefore, a future agenda in improving management's performance is to understand it as a *leadership for learning*, which links the administration's practice with

the students' learning and the results of the school. If, as research has shown (Robinson *et al.*, 2009; Louis, Leithwood *et al.*, 2010), the educational leadership is the second most relevant internal factor in the school with regard to learning achievements, after the activity of the teaching staff, a change is needed in the competencies of the directors, so that their effects on improving learning outcomes in their respective schools can be increased.

In the first place, the primary objective of 21st century educational policies is to guarantee that the students receive the necessary preparation to enable, without risk of exclusion, their integration and active participation in public life. Leadership in education exists, without doubt, to make this happen. We need, then, the best management teams that can carry out educational leadership. Making the position of school director an attractive profession and developing the competencies for an effective leadership are two lines of action recommended by the OCDE (2008) in its well-known report (*Improving School Leadership*). Attracting the best candidates should be encouraged through compensation, professional careers and training. Secondly, there must be *adequate initial and in-service training*. School leaders need specific preparation to respond to the additional functions and responsibilities, especially regarding strategies to improve school results.

If the school management has been based on a set of regularities that govern the organization of the schools, the new administration is demanding a change in role that would not be possible without an organizational restructuring. Thus, the need arises for a type of school leadership that produces, in a "transformational" way, the development of the school as an organization. Making an educational leadership possible (pedagogical or instructional) requires, then, changes in the current organizational structure. The Secondary schools are currently organized in a culture of isolated departments that favour idiosyncratic values and individualistic learning, so that the action of the educational leadership should be directed toward creating contexts for collaborative learning, which means redesigning the organization in ways that make the desired actions possible.

The heads of Secondary schools must create settings and make spaces and times available that facilitate and support the learning of the teachers, the organization and, finally, the students. Obviously, if the main element is the students' learning, those structures should be promoted that make it possible to improve the level of learning in the classroom, supporting and stimulating the work of the teacher in class (Robinson *et al.*, 2009). In this measure, the management teams focus their action on *redesigning the work contexts* and professional relationships, and they are called on to be "pedagogical leaders in the school". The creation of a culture focused on the students' learning requires fostering cooperation and cohesion among the teachers and a sense of a job well done, while developing understanding and visions of what they want to achieve.

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44- A Research Project on Learning-Centered Leadership and its Impact on Improving Academic Achievement in Spain

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Abstract: This research project, under the new guidelines reflected in the international literature, intends to research how instructional leadership is an important factor in improving outcomes in Secondary Schools. So far, Headteacher has had little capacity to influence the improvement of teaching practice; however, new regional legislative guidance, from the LOE (new mode of selection, powers and competence), enhance the educational leadership. Particularly we research, first, how secondary schools whose teams show high educational leadership *best performer*. It is intended, first, analyze the *factors and variables* related to instructional leadership have an impact on student learning; and -other-what *best distributed leadership practices* in secondary schools contribute to improving education. It uses a quantitative methodology through survey to managers, teachers and students. From the results, it articulates a multi-case study methodology to combine data from interviews, observations and previous results from the survey.

Keywords: leadership for learning, effects of leadership, academic achievement of students, professional development.

FRAMEWORK AND RELATED RESEARCH

"Leadership" is the capacity to influence other people, but not based on power or formal authority. Providing direction around common goals in an organization and exerting influence so that the staff will rally round these goals are two of the defining functions of school leadership. In the words of Louis, Leitwood *et al.* (2010), "leadership is all about organizational improvement; more specifically, it is about establishing agreed-upon and worthwhile directions for the organization in question, and doing whatever it takes to prod and support people to move in those directions" (pp. 9-10). When these efforts are directed toward improving students' learning, we are talking about *educational* or *pedagogical leadership*.

A critical issue in the organization of schools is, then, what the principal does or can do to improve teachers' performance in the classroom and, consequently, pupils' learning. For these reasons, the educational leadership or pedagogical management of schools is becoming, at an international level, a *first-order factor* in the improvement of education, at the same time that it appears as a priority on educational policy agendas. In this study, we propose, on the one hand, to analyze the perspectives suggested by recent research on new leadership orientations and, on the other, to apply them in an investigation of the Spanish reality, so that leadership teams would be able to perform this educational leadership.

The conditions for exercising leadership in Spain are changing significantly. These changes are beginning to be observed in the legislative regulations, moving from a bureaucratic model toward one of educational leadership focused on the improvement of learning and outcomes in the school, in accordance with the orientations reflected in the international literature. In this situation, as a relevant report by the OECD describes, "we need to contrast these trends with the current practice and shape of school leadership in OECD countries. In many countries there is growing concern that the role of principal designed for the needs of a different time may not be appropriate to deal with the leadership challenges schools are facing in the 21st century" (Pont *et al.*, 2008: 27). Therefore, we consider this research to be especially opportune.

The objective of our research project falls into what we believe is the next agenda in improving school management practices, *a leadership for learning*, which is linked to students' learning and the school's results as a whole (Macbeath & Nempster, 2009). This line of research offers a strong relevant theoretical framework for investigating educational leadership practices (Day *et al*., 2011; Townsend & Macbeath, 2011). Recent studies on school efficacy and improvement have highlighted the role played by educational leadership in organizing good educational practices in schools, and in contributing to the improvement in learning outcomes. Research reviews produced in recent decades (Hallinger & Heck, 1998; Marzano *et al.*,

2005) point out that leadership teams can make a critical difference in the quality of schools and the pupils' education.

The core of learning-centred leadership's action is the quality of teaching offered and the learning results achieved by the students. The other dimensions of its daily activity serve to advance this priority goal of the school's mission. Nevertheless, as some studies have shown (Leithwood, Louis *et al.*, 2004; Marzano *et al*., 2005), the impact on learning improvement occurs *indirectly*, through its influence on the organizational conditions of the school and the teaching quality, depending on the practices developed, how leadership is distributed, and the creation of a culture focused on student learning. This capacity grows in educational policy contexts where schools have greater autonomy and, consequently, greater responsibility for the academic results (Stoll & Temperley, 2009).

The OECD is carrying out a broad programme (*Improving School Leadership*) for the improvement of school leadership in its member countries (Pont et al., 2008). This programme defines four major lines of action: *(re)defining school leadership responsibilities, distributing school leadership, developing skills for effective school leadership, and making school leadership an attractive profession*. The successful effects of leadership on students' learning will depend greatly on both the practices developed, such as whether leadership is distributed or shared, and the decisions made about the dimensions to which the school should dedicate time and attention. In an excellent study, Leithwood, Day *et al.* (2006) described four types of leadership practices that impact students' learning: *Building vision and setting directions, understanding and 'developing people', restructuring the organization and redesigning roles and responsibilities, managing and supporting the teaching and learning programme.* Obviously, if the main element is the students' learning, those structures that make improvement possible at the classroom level must be redesigned in such a way that they support and stimulate teachers' efforts in the classroom (Robinson *et al*., 2009). With this measure, leadership teams direct their actions towards *redesigning the work contexts* and professional relations, which means they are called upon to be "the school's educational leaders" (Leithwood, 2009).

In spite of the aforementioned importance of the school leadership in improving teaching, we do not intend to attribute to the administration causal factors that do not correspond to it. In this sense, as pointed out in Elmore (2000), it is necessary to *de-romanticize* leadership and not project on it what should be good qualities of organizational functioning. Instead, there should be an emphasis on a *distributed leadership* among all the members (Harris, 2008), which would contribute to engaging the staff in the improvement. Leadership- apart from ingenuous proposals- is not the solution to every problem, only some of them. In a parallel way, it is important to focus the attention, on the one hand, on potentiating *teacher leadership* (Lieberman & Miller, 2004; Harris, 2004) and, on the other, on schools as *professional communities of effective learning* (Stoll & Louis, 2007). The idea is to generate a robust school culture where all agents are involved (including the family and the community) in a process Kruse and Louis (2008) call the "intensification of leadership". Without creating a sense of community that values learning, leadership alone can accomplish very little.

INVESTIGATING THE EFFECTS OF LEADERSHIP: A COMPREHENSIVE FRAMEWORK

We need a comprehensive framework of different variables that can cause leaders' and principals' actions to have an impact on improving pupils' results. One of the most important studies carried out on the topic (Day *et al.*, 2008a) points out that the independent variables (leadership practices) are developed and emerge through the influence of antecedent variables. Likewise, successful leadership practices are related to a wide range of other variables. Some of them play a moderator role, increasing or diminishing the effects of leadership, while others link or mediate leadership practices with students' learning. Research advances on the effects of leadership imply, as these researchers maintain, recognizing the diverse groups of variables involved, as well as their mutual relationships.

Research has shown the effects of leadership on improving results, although these effects may be mediated by the teaching practices in the classroom (Waters *et al*., 2003; Leithwood & Jantzi, 2008; Robinson, 2007). These researchers conclude that, among all the internal factors of the school, after the teachers' work in the classroom, leadership is the *second factor* contributing to what students learn in school, explaining about 25% of all the school's effects. Furthermore, these effects are normally more relevant where and when they are most needed, that is, in those schools that find themselves in difficult circumstances or in disadvantageous situations.

A broad study carried out by some of the best investigators in education (Day, Sammons, & Hopkins, 2009) dealt with the *impact of leadership on pupils' results*. The authors found that students' outcomes (cognitive, affective, social behaviour) depend first, as a mediator variable, on teachers' working conditions, whose impact on learning is moderated by other variables, such as the family's cultural capital or the organizational

context. Any or all of these variables can be influenced by those who perform leadership roles, thus producing improvements in students' learning. The specific question is how to intervene in the professional teaching culture, professional development or work conditions of teachers in ways that lead to the desired objectives.

Figure 1. The effects of school leadership

Key: *=weak influence; **=moderate influence; ***=strong influence
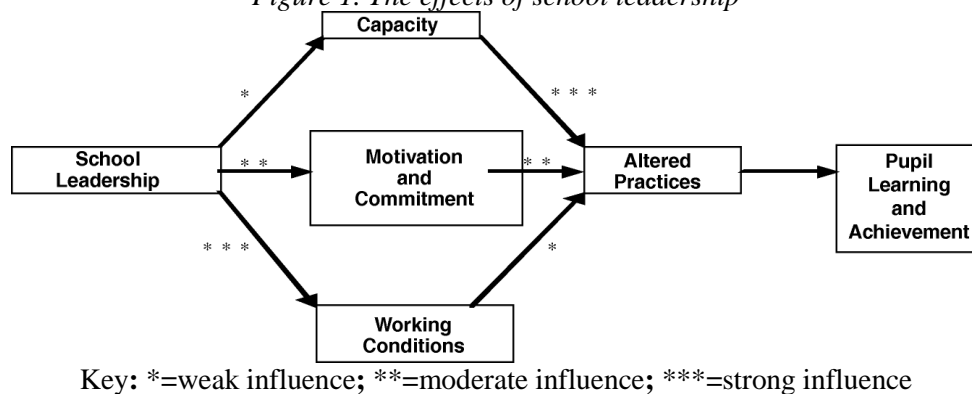
As *Figure 1* shows, a key task for leadership, if it is to influence pupils' learning and achievement, is to improve teachers' performance (Leithwood, Harris & Hopkins, 2008), which depends on their motivation and commitment, capacity or competence, and working conditions. Although principals can influence the teaching competencies less directly, they can have a strong influence on the other variables (motivations and commitments, teachers' working conditions). The figure shows, in a simplified way, the strength of the relationships (low, moderate or high influence), according to the results of the study. When principals exercised this type of leadership, they had a greater influence on these intermediate teacher variables, which, in turn, conditioned the new teaching practices and, finally, the students' results. The figure also shows that teaching capacities have the greatest influence on the practices, although the principal's degree of intervention in them is less. This is a challenge that will have to be faced in the future. In the same way, the feeling of efficacy becomes a first-order variable.

According to Wahlstrom (2008), studies that link the exercise of leadership to students' academic achievement highlight four topics: (i) *the context* plays a first-order role in whether leadership practices have one effect or another; (ii) *the relationships are multi-dimensional, not lineal*, given that in reality a directional hierarchy of leader and followers does not work; (iii) the *beliefs system*, in the form of self-confidence or a feeling of efficacy, *is a key mediator* of the influence the leader can have in the teaching and learning; (iv) the *effects of leadership* on teaching and learning are *indirect*, given that they are not directly involved in the daily teaching practices in the classroom.

Nevertheless, the effects studied in the research refer to leadership in the Anglo-Saxon context, with quite different roles and capacities from those of the principal or leadership team in Spain. Therefore, it is necessary to appropriately adjust and contextualize these studies. With regard to the Ibero-American context, for example, in Chile a large team, promoted by the Centre for the Study of Policies and Practices in Education (CEPPE) together with the Chile Foundation, is carrying out a study on "Principal Leadership and Quality of Education in Chile", with a broad sample of primary schools in urban areas (Weinstein, Muñoz et al., 2010). In their case and ours, the main challenges in studying school leadership are the following:

> 1. *Quantifying* this phenomenon, in terms of its effect on school processes and outcomes, while rating the impact of the different ways of exercising leadership (Louis, Leithwood *et al.*, 2010);
> 2. *Qualifying* school leadership: basic characteristics, successful leadership practices, the way leaders exert their influence and predominant forms and styles; and
> 3. *Contextualizing* the analysis of leadership: taking into account specific characteristics of teachers, schools and educational systems (leadership as a dependent variable).

INVESTIGATING LEADERSHIP IN THE SPANISH CONTEXT: A RESEARCH PROJECT

We are beginning an I+D[104] Research Project in which we intend to investigate educational leadership as a first-order factor in improving academic achievement. Specifically, as the *initial hypotheses*, we have established the following:

> 1. Schools whose management teams show *a high level of leadership obtain better results*. This hypothesis leads us to employ a quantitative methodology, along with results from external evaluation tests. Other antecedent context variables will also be taken into account: the school's image, involvement of the families, and demands for schooling.
>
> 2. It is possible to identify a common repertoire of *good school leadership practices* that create a context for better work by teachers and, as a whole, by the entire educational establishment, shared by other members of the educational team, as a quality of the organization.
>
> 3. *Educational leadership* has a greater impact on improving education when it is broadly *distributed* and *shared*: teacher leadership and professional learning communities. The intention is to verify this hypothesis, specifically focusing on which guidelines and structures favour and contribute to a significant improvement in the educational activity of the school.

Thus, the aim is to generate educational knowledge that contributes to fostering educational leadership in educational institutions, focusing specifically on secondary schools. Our research is based on the idea that it is possible to find a set of successful actions by the school leadership that create a context where teachers can work better. On the other hand, beyond the leadership team, the objective is to show forms of distributed leadership, particularly through teacher leadership and professional learning communities. This objective first involves the use of a quantitative methodology through questionnaires presented to principals, teachers and students. Based on the results, a *multi-case-study methodology* is then articulated to combine data stemming from principal, leadership team and teacher interviews with observations of tasks and school culture, juxtaposed, in turn, with the prior results from the questionnaire and other data from external evaluations.

Objectives

There are two main objectives of this project: to verify to what degree and in what ways the leadership of the administrative teams impacts pupils' learning; and what good leadership practices in the High Schools, not limited to the administrative team, make a decided contribution to improving education. Within the aforementioned theoretical framework, the intention is to generate educational knowledge susceptible to fostering the necessary leadership practices for creating conditions and structures that produce a positive impact on students' learning. These objectives are broken down into the following:

1.- Analyze and determine which *factors and variables have an impact on school effectiveness* (academic achievement of the students) and, among them, especially the influence of the school administration in the High Schools.

2.- Define the repertoire of *good practices* successful principals use to influence, as a mediator, the learning outcomes, and the way principals modulate these practices and adjust them according to the situation or context. This objective is broken down and specified in:

3.- Given the indirect influence of leadership on academic achievements, another objective is to *describe and analyze how the leadership affects the motivations, skills and working conditions of the teachers, who, in turn, affect pupils' results*. In this objective, an attempt is made to enter the dimension of teaching practices and their relationship with leadership, such as the following:

4.- Examine in-depth and contrast the thesis that school leadership has a *much greater influence when it is widely distributed* among administrative teams, teaching staff, families and students. This objective attempts to verify the possible positive relationship between the increase in the distribution of leadership roles and responsibilities and the continued improvement of the pupils' results. At the same time, it implies analyzing the forms of distribution in each school, paying attention to a set of dimensions: forms of distribution according to the position in the organization; degree of coordination and interdependence; relationship

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between the power and authority of each leader and the acceptance of the corresponding responsibilities; stimuli for the distribution of leadership. More broadly, the intention is to analyze the school culture of working together, planning meetings, leadership in each meeting, etc.

Methodological design

Current research on leadership and its effects has become methodologically broader and richer in the last few decades (Heck & Hallinger, 2005). Due to the complexity it has acquired, a wide range of research techniques is needed, suggesting the use of a *mixed methods* methodology combining quantitative and qualitative methods which support each other in obtaining a greater understanding of leadership effects. In a parallel study ("Vitae study") to which we referred above (Day *et al.,* 2009), Day, Sammons and Gu (2008b) justify the combination of quantitative and qualitative methodologies in that the "conceptual and methodological integration led to synergistic understandings that enabled the discovery and delineation of key findings that were both more enlightening and more robust than would have been the case if one method or another had dominated" (p. 331). Moreover, this combination is justified by the research objectives themselves: importing the results obtained from each school, the research tradition on school effectiveness has made substantial contributions to the collection and analysis of data from a quantitative point of view, but it has been justly criticized for not explaining how the processes developed, and the internal conditions of each school can affect these outcomes and explain the *value-added* provided (Sammons, 2007). A combination of quantitative and qualitative methods is also used by Louis, Leithwood *et al.,* (2010) in their study.

Thus, we first use a quantitative study, as objective 1 describes. We base our construction of the questionnaires on the school effectiveness research tradition, which has provided a basis for the consolidation of a model which includes *context variables*, like the characteristics of the school and the environment; and *baseline variables*, like family conditions, prior academic results, expectations of the student and the family, etc. Among the *process variables* are those related to the teaching activity in the school and the classroom, the role of the different strata of the school, especially the school principal and the departments, and the existence of common goals, coordination and a shared vision. Likewise, in this section we place all the variables that have to do with the teaching-learning of the student. In this regard, we have reviewed some of the most widely-used questionnaires (*Principal Instructional Management Rating Scale, Vanderbilt Assessment of Leadership in Education*). The quantitative data stem from questionnaires presented to three groups of relevant agents and actors in the educational process: Students, Teachers in the school, Administration.

Furthermore, in-depth interviews are being carried out of the participants selected in the *case study*, making it possible to investigate the main dimensions linked to improving results from the school leadership perspective. Given that leadership is always contextual and contingent, case studies can show which leadership practices have an effect on improvement. International research has shown that, even when there is a repertoire of successful practices performed by the majority of administrative leaders in schools (Robinson, 2007; Day *et al.*, 2009; Louis, Leithwood *et al.*, 2010), the context is a determining factor in the ability to put them into practice and in the form they take. Especially important are the values, strategies and competences of leadership, the moderating factors (cultural capital of students and families, organizational culture, context of the school), and the mediating factors (teaching-learning processes, teachers' commitment, etc.). It is also advisable for each participant to interview other colleagues who can provide their views of the ways leadership is practiced.

A *multi-case-study methodology* will be used to coordinate contextually sensitive data stemming from interviews with the principal, the administrative team and the teaching staff, together with observations of tasks and school culture, juxtaposed -in turn- with the prior results from the questionnaire and other data coming from external evaluations. Case studies provide the perceptions and ways of acting, along with an opportunity to discover the causes through "intuition, discovery and interpretation" (Merriam, 1988: 10), in so far as the social reality is constructed by the people involved in the situation. As described by Day, Sammons *et al.* (2008): "this mixed-methods approach was designed to enable a sufficient and appropriate range of data concerning leadership and leadership practices to be collected and analyzed so that a coherent, empirically derived and theoretically robust model of direct and indirect causal and associative relationships between effective school leadership and pupil outcomes might be developed" (p. 19).

In the study carried out by Jo Blase, Joseph Blase and Dana Phillips (2010), the authors performed a series of in-depth interviews of 20 school principals designated by the educational authorities and recognized by other sources as principals who achieve high outcomes in their respective schools. The intention was to find out how each of them combined the unavoidable administrative responsibilities with creating an effective school.

Once these interviews had been analyzed, follow-up interviews served to contrast categories, clarify ambiguous areas, and explore relationships among emerging categories.

Qualitative study

In the case studies, for the purpose of collecting observations, we used a set of interviews of the principal, administrative team and certain selected teachers, field observations and notebook, and- finally- discussion groups. Coordinating and analyzing data from three strategies is particularly important in understanding the limitations, possibilities, and future tendencies of educational leadership (Gorard & Tayord, 2004). Schools with good results must be chosen to a greater degree because we are interested in good practices, although contrasting them with other schools with medium and poor outcomes, as was done in the design of the investigation we are following closely (Day *et al.*, 2008; Day *et al.*, 2009). Specifically, we perform the following tasks:

Task 1. In order to collect *good practices in educational leadership, interviews* will be held *with the principal and members of the administrative team* about the most significant aspects related to the study, especially the degree to which the administrative teams work as coordinators, facilitators and motivators of the teaching staff and the life of the centre, playing the role of change agent (proactive, capable of inspiring, instigate lines of work and projects, motivate and persuade). The interviews also take into account the previous results of the questionnaire.

The *semi-structured* interview of the principal, due to the many questions and dimensions to be dealt with, is composed of a reoccurring cycle in three times for gathering information. Specifically, related to the current context of action, we are concerned with:

– *Personal characteristics* of those who have the role of school leaders: values and motivations, trajectories (personal and professional), self-efficacy, attributes and competencies they possess, relations with the community, and manner of responding to complex demands.

– *Leadership practices:* strategies they use, decision-making processes and ways they implement these strategies in response to the unique context in which their work takes place, emotional relations with teachers, and their effects on pupils' learning.

Task 2. *Interviews with selected teachers.* In each high school selected, a set of teachers is chosen for interview. This selection is made once time has been spent in each school and the initial interviews have been carried out with the administration, based on which we determine which people can best act as critical informants for our purposes. In the interviews, according to the investigation protocol, it is important to find out how the teachers experience their work and their degree of satisfaction, their perception of the profession, teaching practices used to improve pupils' learning, etc., as well as how they rate the educational leadership of the administrative teams.

Task 3. *Focus groups*. The focus group has a long tradition in sociological and educational research. We have used it in other studies (Bolívar, 2006b). Our intention is to increase our understanding of the study aims, comparing and complementing personal contributions with those of the group in a more general framework. In this regard, the Focus Group is especially appropriate for understanding the different ways of thinking underlying the topic.

After gathering the information, we will go on to analyze and interpret the information collected in the observations and individual semi-structured interviews for each school. The analysis must combine the diverse elements and dimensions of life in school and leadership, according to the improvement in the pupils' education and learning. Subsequently, individual reports will be prepared for each school, while putting them in three groups: schools with a high level of success, schools with a medium level, and failing schools.

DISCUSSION AND CONCLUSIONS

School principals in Spain, unlike what occurs in the Anglo Saxon environment, often have little capacity to take action with regard to the personnel they are overseeing, which seriously limits what they can do in this area. The principal cannot be limited to administrative and organizational tasks human resources tasks, and instead should attend to anything that can foster better teaching. Therefore, one thing that remains to be done is providing the principal with competences so that he or she can intervene in factors that condition teachers' performances in their classrooms and, as a result, pupil learning.

First, we want to show, in the Spanish context, whether there is a causal relationship between leadership and students' academic achievement. The research design presented here is intended, in this regard, to serve as an example to orient other duly contextualized studies. In general, the idea is to observe the *mediator variables* between leadership practices and learning results, especially the teaching practices. The improvement in

students' learning depends primarily on *first-order changes* (teaching-learning), directed toward making the education more effective. However, –in a *second order*- the leadership teams can introduce new structures and roles that transform the usual ways of doing things. In this measure, the leadership teams direct their activity toward obtaining teachers' commitment and involvement, on the one hand, and their professional development, on the other, by *redesigning the work contexts* and professional relationships. For this reason, they are called the "educational leaders of the school".

Second, in each school we want to analyze the *ways of distributing leadership*, attending to a set of dimensions: forms of distribution depending on the position in the organization, degree of coordination and interdependence, relationship between the power and authority of each leadership role and the acceptance of the corresponding responsibilities, and stimuli for the distribution of leadership. In a broader sense, the intention is to analyze the school culture of working together, planning meetings, leadership at each meeting, etc.

Third, the *good practices* (or, on the contrary, practices that are not good) can be understood as successful ways of doing things. Valuable knowledge can be drawn from them, as they can be guides for action in other contexts. Specifically in our case, good leadership practices are those actions on the part of the leadership team or other teachers that manage to create conditions for improving pupils' learning. In our context, we want to empirically contrast and validate the extended thesis that effective leaders share the same repertoire of basic leadership values, qualities and practices.

If, as it appears, leadership teams have to lead the school's educational dynamics, they will inevitably have to become involved in improving the teaching and learning offered by the school. This cannot be left to the discretion of what each teacher, with better or worse luck, does in the classroom. This point is undoubtedly a source of conflict, but in the international literature and experiences, it is increasingly clear: if the teachers are the key to improvement, the principals have to create an appropriate climate so that teachers can be better. However, it is necessary to recognize that we still have a set of challenges to overcome (Bolívar, 2006a) before we can approach this way of working.

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45 - Towards the Reinterpretation of Curriculum Leadership with a Focus on Its Relation to the Professional Learning Community

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Abstract:. The aim of the present paper is to reinterpret the concept of curriculum leadership from the standpoint of teachers' professional development in the professional learning community (PLC). PLC is a device for the development of curriculum leadership in ways that it promotes teachers' learning, collaboration, decision making and problem solving. Through the authors' researches made for 2008-2010, some exemplary cases of new curriculum leadership are witnessed both in North America and in Japan. Among the findings are that the individual school can recognize more clearly the uniqueness, strength & weakness of its curriculum and gets more information and ideas on curriculum development. The authors attempted to model curriculum leadership based on NLCs through an analysis of those cases.

Keywords: Curriculum Leadership, Curriculum Development, Professional Learning Community, Professional Development

INTRODUCTION

Since the 1990s, standards and accountability have been demanded in school education in many countries including Japan. In the midst of this situation, the concept of leadership came to be adopted in discussions of how school curriculum should be determined. Concerned parties debated the process of curriculum practices brought about by leadership, the role of curriculum leaders in this process, and so on. During these years, we have focused attention on the theory of curriculum leadership as seen from literature on the subject, and examined the concept of curriculum leadership.

We have clarified the following as making up the concept of curriculum leadership: 1) responding to a constantly changing society (that is, innovating) as creative endeavors; 2) when advancing these creative endeavors, the significance of a democratic process for decision-making and resolving problems, which is supported by sharing information and ideas (that is, creating networks); and 3) the importance of management of curriculum as part of the school's organizational activities.

We visited schools in Japan, the United Kingdom, and the United States, and gathered materials related to curriculum development and interviewed several leaders. From our study of the efforts to develop curriculum in elementary schools, we organized the features of practicing curriculum leadership. Based on these features, we proposed a model of leadership roles for carrying out curriculum leadership in Japan (see Figure 1). [1]
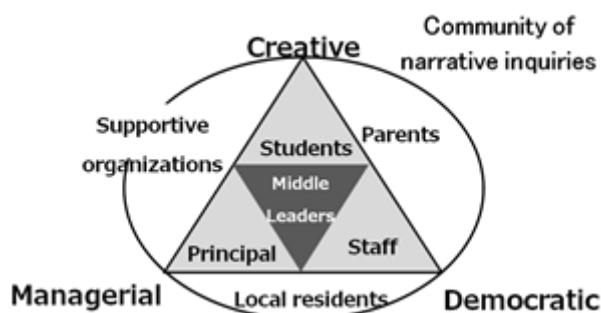
Figure 1: Main leadership groups in curriculum development

This model presumes that learning by students and teachers occurs at the same time and resonates together. This model features the gathering of administrators, teachers, students, and practice leaders as a single

community. It focuses on curriculum practices based on partnership and cooperation. This model of curriculum leadership is characterized as a "process" of promoting narrative inquiries in the community. Therefore, in order to develop this process, learning among community members is essential.

Because our focus is teacher development through learning, which is an important aspect of curriculum leadership, we examine in this presentation the relationship between the concept of a "Professional Learning Communities" (PLCs) and curriculum leadership.

PLC AS A DEVELOPMENTAL TOOL FOR CURRICULUM LEADERSHIP
The Relationship between PLC and Curriculum Leadership

The concept of PLC emerged as questions about the quality of students' academic abilities gained momentum in the U.S. from the 1990s. This concept was proposed by Hord in his work Professional Learning Communities: Communities of Continuous Inquiry and Improvement (1997a). Influences that led to the proposal of PLC included research by Rosenholtz (1989) on the teaching profession. He observed the importance of professionalizing teachers from the standpoint of improving students' quality of education and also the importance of sharing what teachers learned and put into practice. He found that 1) teachers who felt "supported" in learning and in teaching had greater levels of enthusiasm and leadership ability; and 2) expanding teacher networks, cooperation among colleagues, and the role of the profession increased teachers' leadership ability. As a result, people became aware that for the teaching profession, which is known as an isolated job, support and networking and community lead to improved job performance.

The introduction of PLC was also based on findings by McLaughlin and Talbert (1993). They described teachers created accumulated wisdom through their own experiences and that they were able to share such wisdom through the opportunities to study and learn together as a group. PLC was also influenced by Darling and Hammond (1996)'s study. It showed that actual reformation of school curriculum was effective not when it was implemented in a top-down manner, but when it involved all teachers in decision-making and secured time for teachers to train together. This suggested the importance of teachers' participation in school decision-making.

Furthermore, PLC took ideas from theory of "the learning organization" proposed by Senge (1990) in the field of organizational management. Learning organizations are "organizations where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning to see the whole together." These organizations are strong when it comes to developing.

According to Hord (1997b), PLC has the following five attributes: 1) supportive and shared leadership, 2) collective creativity, 3) shared values and vision, 4) supportive conditions (material, structural conditions; human abilities and qualities), and 5) shared personal practice. In PLC theory, these five attributes are treated as defining characteristics of PLC. For example, Hord and Summer (2008) organized PLC in the manner shown in Table 1.

Table 1: Components of Professional Learning Communities (Hord and Sommers 2008:9)

Shared Beliefs, Values, and Vision	Shared and Supportive Leadership	Collective Learning and Its Application	Supportive Conditions	Shared Personal Practice
The staff consistently focuses on students' learning, which is strengthened by the staff's own continuous learning—hence, professional learning community.	Administrators and faculty hold shared power and authority for making decisions.	What the community determines to learn and how they will learn it in order to address students' learning needs is the bottom line.	*Structural factors* provide physical requirements: time, place to meet for community work, resources and policies to support collaboration. *Relational factors* support the community's human and interpersonal development, openness, truth-telling, and focusing on attitudes of respect and caring among the members.	Community members give and receive feedback that supports their individual improvement and that of the organization.

PLC does not seek to improve schools and curriculum through the powerful leadership of the school administration or a part of the staff. Instead, it does so by involving the entire staff in the leadership process

of making decisions (PLC's democratic aspect), producing creativity that transcends individual power from this collaborative process (PLC's creative aspect), and improving human relationships together by maximizing usable resources and material conditions (PLC's management aspect). Pursing these aspects will promote student learning. However, to create a learning community that includes students, it is essential to have a collaborative organization to unflaggingly nurture learning by teachers who are involved in the leadership process and their professional development. We find overlaps between these characteristics of PLC and the characteristics of curriculum leadership that have been made clear in research up to now. We can understand the relationship between the two by viewing PLC as a developmental tool for advancing curriculum leadership.

Examples of Developing Curriculum Leadership with PLC
In March 2010, we visited schools in the U.S. and Canada and also interviewed staff including principals to understand how curriculum leadership is actually developed using PLC.
We first visited Idlewild Elementary School, located in the western Memphis, Tennessee. After interviewing the principal and leader teachers in training, we observed all classroom lessons. In Tennessee, due to objectives set by the state superintendent, district boards of education and schools are doing all they can to improve students' academic abilities. Specific activities to accomplish this goal are symbolized by standardized testing and formative assessments. At Idlewild Elementary School, PLCs were used as the basic unit for each school year. The teacher leaders of each school year and of each subject (language arts, mathematics, science, social studies, and technology) were assigned to PLCs. The school established 1) collaborative lesson planning time (three times per week for all school years, 35-45 minutes per session) and 2) sharing of teaching plans. Also, teams were assembled to allow teachers in charge of kindergarten children, students from grades 1 to 6, and special classes to work together on the subjects listed above. They called the teams Vertical Team PLCs. Also, a staff member called the Professional Development School Compliance Coach was placed in the school to handle the planning and steering of all the pluralistic PLCs. She not only planned and steered PLCs, but was also responsible for educating parents of the school's efforts.
The term "PLC" is also heard in the Grand Erie school district, located outside Toronto, Canada. Like the school in Memphis, teachers in the school district also felt pressure to improve the test results of language and math abilities. Thus PLC was introduced as a method to meet this goal. For example, in the North Ward Public School, days for PLC were established. On those days "school improvement" teams by the teacher leaders of each school year gave presentations to one another about improving rubric-based lessons (see Photo1). The teachers also shared ideas among themselves on how to improve lessons with rubrics.[2]

Photo 1: Presentation by members of North Ward Public School's school improvement team

PLCs of Teachers in Japan
Today, teachers in Japan also form PLCs to shape their competencies. It is one of many diverse forms of training that they undergo. We organize these forms of training in a manner shown in Figure 2.
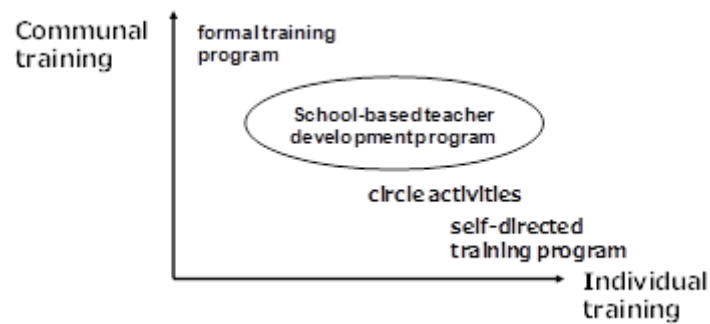
Figure 2: Types of Teacher Development Program in Japan

As can be seen in Figure 2, the teacher training styles are diverse and can be placed along the dimensions of acquiring and improving competencies common to teachers (communal training) and developing separate competencies based on each teacher's own interests and needs (individual training).

"The formal training program," which is planned and carried out by prefectural/metropolitan or municipal boards of education, seeks to form common competencies that administrators believe all teachers should possess at the national or regional level. Therefore the same program is provided to all teachers. Gathering teachers at educational centers for training is a typical example. However, it has become difficult recently to carry out such group training frequently because of the need to maintain classroom time. Thus new teacher training methods have been developed that utilize information technology (e-learning), and many cases of their use have been introduced.

On the other hand, "the self-directed training program" is mainly undertaken outside of work time by individual teachers to address their own needs. All of their independent efforts, including reading books on education, participating in practical seminars and education forums, engaging in fieldwork, and pursuing graduate studies, belong to this category.

In principle, the form of teacher training called "circle activities" (a type of group activities) belongs to the category of self-training. However, this type of training has value as a type of PLC. Circle activities are carried out by communities of teachers that span across schools. These teachers are interested in studying teaching practices. In Japan, activities by what are called "civilian educational research groups" have a long history. These groups provide suggestions concerning the efforts of educators in schools (Tanaka 2005). For example, several groups have played a major role in developing and popularizing educational materials, curriculum, and teaching methods for math and science. New methods for creating classrooms groups have also been suggested by some of these groups and carried out.

These groups form a nationwide educational practice network. Within the network, various research groups, from small to large, are organized and operated in each region. These groups hold meetings every week or so to discuss case studies in classroom practices. About once a year, a major case is discussed by a large gathering. In both instances, circle activities provide valuable opportunities as PLCs for Japanese teachers. This has remained unchanged over the years.

One more form of teacher training needs to be discussed. This is called the "the school-based teacher development program," and is held within schools. This program is a PLC of teachers who belong to the same school. For teachers who come in contact with the same students and teach under the same conditions, they of course share challenges and need similar methods of coping (that is, they share common ground). However, in general teachers have a wide range of educational practices and have different experiences and orientations, even in the same school. Therefore school-based teacher development program must satisfy the individual character of teachers without violating the collaborative character of their situation. Furthermore, because different schools have different challenges, even if they belong to the same area, the common ground within a school differs between schools. In other words, attention should be paid to the fact that the school itself has individuality.

The main pillar of school-based teacher development program is the "lesson study." This is a conference that discusses a lesson carried out by a teacher. For a lesson study, a teacher designs and conducts a lesson, which is observed by the rest of the staff members. After the lesson, the teacher and observers hold concrete, multifaceted discussions on the design of the lesson and its execution. In other words, a lesson study uses a case study approach to consider how to create lessons (see Photo 2).

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Photo 2: Lesson study in progress

PLC Networking to Promote Curriculum Leadership

PLC is generally established on the basis of individual schools. It is linked to "School-Based Curriculum Development," and the community is centered on teachers who investigate problems together. This exploratory community connects person to person; that is, it has the power of a network. Therefore, it is inevitable that this community would connect with "communities of narrative inquiries" of other schools. In other words, the PLC becomes networked. Furthermore, by becoming networked, the PLC becomes even more powerful. A network is a "powerful organizational tool" (Katz, Earl, and Jaafer 2009). Compared to a single PLC, networked learning communities (NLCs) produce, store, and share among their members even richer collective wisdom. At the same time, NLCs have the ability to treat excellent curriculum practices as collaborative property belonging to a widely networked organization that transcends single schools. NLCs can spread these practices throughout the organization.

As we described earlier, we visited the board of education and primary/middle schools in the Grand Erie district in Canada. We interviewed them about the curriculum leadership in practice. We also identified a case of PLC networking that is worthy of mention. This is called TLCP (Teaching and Learning Critical Pathway), which is combined training program that spans schools. Several times a year, teachers from multiple schools gather at a teachers' center or school and exchange views on improving education. In short, it is peer assessment among schools. It is a strategy to widely obtain ideas on the suitability and even the possibility of school improvement plans that are decided by each school. In the midst of pressure exerted by standardized academic testing on teachers and their risk of being agitated by competition between schools, this effort contributes to creating an approach for improving students' academic abilities that builds on the unique foundation of each school. In addition, we heard that an association of school principals also sends advice on improving schools to one anther. We also heard about this activity when we visited schools in England.

In Japan, improving curriculum practices through PLC networking can be found in events such as practical research conferences. As we mentioned earlier, Japanese elementary and middle school teachers share enthusiasm for lesson studies. They have created a teacher culture that respects such training (Kihara 2006). Symbolic of this culture are practical research conferences called Teachers' Conferences on Curriculum Practices. These events, planned and carried out by teachers, are opportunities to present to teachers of other schools the school-based action research of one's school and its results (Kihara 2009a). In the past, expert teachers from a few prominent schools provided demonstrations of model lessons. Today, however, such demonstrations are being redefined on the stage of a practical research program called "Collaborative Action Research among Schools." Because of this, programs at practical research conferences have become more sophisticated. For example, in addition to conferences that discuss lesson studies, there are more cases now of programs that incorporate poster presentations on classroom practices developed by teachers of the host school as well as workshops on improving lessons. These activities go on until the day of the practical research conference (see Photo 3).

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Photo 3: Poster presentation and workshop on curriculum practices

Because of these activities, more exchanges take place between teachers of the host school and participating teachers on wisdom related to "curriculum wisdom". The purpose is to make sharing and exploring curriculum practices an even richer experience.

In addition, in Japan curriculum practices that are created by the collaboration of elementary and middle school teachers are currently gaining in prominence and maturing. According to Kihara (2010), these can be divided into the following activities:

1. Exchanging and sharing information and data on children's academic abilities
   Joint analysis of academic test results and survey results of students' living conditions, etc.
2. Sharing understanding of key points for teaching
   Establishing key points for guidance concerning study habits and rules, etc.
3. Developing team teaching
   Middle school teachers participate in the lessons of elementary teachers, etc.
4. Flexible organization of learning groups
   Elementary school students interview middle school students during "the Period for Integrated Studies", etc.

For example, in case of Example 3 above, when an elementary school teacher and middle school teacher expand team teaching, they become active in exchanging views and participating in joint tasks that concern the growth and development of children. This is because there are more specific opportunities to discuss concepts and styles for creating lessons.

Photo 4 shows a typical example. It shows a Japanese lesson in a fifth grade class. The assignment was to make video news segments about the school that is easy for others to understand. The fifth-graders' interview subjects were middle school students who graduated ahead of them (in other words, their "sempai") and fifth-graders from another school who will go to the same middle school (in other words, their future classmates).

A middle school teacher of Japanese evaluated the validity of the news materials and presentations produced by the fifth-graders. Because she understood the middle school students' perspective and situation, she was able to give honest criticism to the fifth-graders.

Photo 4: Team Teaching between a primary and a middle school teacher

At the same time, the middle-school teacher could promote herself to the students, many of whom she will teach two years later. She could also deepen her insights into the possibility of projects at the elementary school.

STRUCTURAL UNDERSTANDING OF CURRICULUM LEADERSHIP
Model of Curriculum Leadership That Focuses on PLC
By developing joint curriculum between schools, good ideas for curriculum practices can be shared, and the "personality" of the curriculum of each school is made more conspicuous. This dual orientation is established by fully using the functions of PLC. Figure 3 shows a structural model of curriculum leadership based on such considerations. This model is a reconstruction of the conceptual model of leadership groups that advance curriculum development, which we presented earlier (see Figure 1). In the new model, we incorporate the perspective of PLC.

Creating and Growing a Specialized Learning Community and Networking with Other Communities
First, the staff of a school seek to develop curriculum that contribute to the learning of students, while being involved with diverse members, including the students and parents in the region. Then, through four activities (collaborative lesson planning, securing and using resources, creating a teacher culture in which teachers learn from one another, and acquiring theories and models), leaders of practices, the administration, and general teachers develop a specialized learning community. In such a case, curriculum leadership is a process that creates and grows a community that discusses and explores ways to make students' learning richer. Such a community can be considered a joint organization for exploring ways to continually promote teachers' learning and professional development.
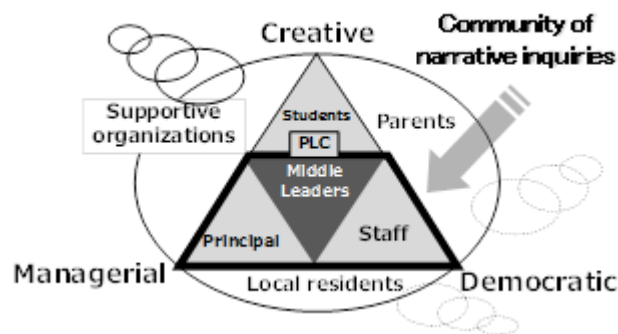
Figure 3: Structural model of curriculum leadership that pays attention to PL

In this model, PLC is seen as a community that allows teachers to continue learning and improve their competencies. In other words, it serves as the foundation of community of narrative inquiries. Then, by becoming networked and by networking with other PLCs, the PLC resonates with the growth of other PLCs. The result is the creation of networked learning communities (NLCs), where richer collective wisdom is created, accumulated, and shared among members. Teachers who "connect and learn" develop this capability even further by networking not only in their own schools, but with the PLCs of other schools. Such connections with others (other schools) are created not merely for the sake of networking, but for serving as a cultural tool to improve the competencies of teachers.

CONCLUSION
The greatest significance of the model presented here lies not only in the creation and growth of PLC within schools, but in the possibility of making curriculum development more fruitful by networking with the PLCs of other schools. According to Sato (2000, p. 122) "how the development of school- and classroom-based curriculum, which mainly involve teachers, is established in schools, and how education administrations and teachers' centers support the school- and classroom-based developments, and how this developmental process is researched and generalized, are critical questions that will determine the success or failure of developing future curriculum." Related to this observation, questions may have also been raised on the possible closed nature and conservativeness of lesson studies and school-based teacher training program (Kihara 2006, Abiko 2009, etc.). [3] To address these questions, this presentation argues that by collaborative curriculum development among schools, good ideas for curriculum practices can be shared and accumulated (that is, collective wisdom is produced). This is accomplished by putting in place a full-powered, dual-oriented PLC, which makes the "uniqueness" of the curriculum of each school conspicuous. Good examples of this proposal include the Teaching and Learning Critical Pathway program in the Grand Erie school

district, which is joint teacher training that encompasses the schools in the district. Other examples are practical research conferences in Japanese schools and collaborative educational activities between Japanese elementary and middle schools. These efforts embody the developmental attitudes of a "community of narrative inquiry."

NOTES

1. These results are provided in detail in our report Modeling the Role of Leadership Groups in School-Based Curriculum Development (Heisei 18 – 20 [2006-08] Ministry of Education, Culture, Sports, Science and Technology Grant-in-Aid Report) (March 2009).

2. The "school improvement team" in North Ward Public School's case consisted of ten staff members, namely the principal, vice-principal, and head teachers of each school year. Their role included creating school improvement plans and planning and implementing training inside the school. When asked about the features of this team, they replied that their activities were based on analysis of data from tests given by the provincial government's Education Quality and Accountability Office.

3. For example, Kihara (2006) observes that "training and research activities in schools until now have a closed nature." He believes that this is because teachers respect conditions that have formed in the schools they belong to, based on the schools' history of practices. He states that teachers should shirk such exclusiveness and avoid sinking into inertia though the style of lesson studies and curriculum development at their schools are worthy (p. 17). Abiko (2009) states that "study groups in Japan currently do not exchange much opinion and information on lesson studies. Therefore, even though what they are engaged in is called 'lesson studies,' what they learned is limited to the group, and their insights do not reach other groups" (p. 19).

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98 - A 'Learning Community': A Process Analysis Intended to Serve as a Collaborative Model for Teacher Training

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"Educators should encourage students to experience the richness of the world, empower them to ask questions on their own and reach answers of their own, and to present and challenge them with the complexities comprising our world."(Brooks and Brooks, 1997)

PROLOGUE

Israeli society is imbued with a feeling of growing dissatisfaction with its students' achievements in the areas of reading and writing. This feeling has been well expressed in the media and in debates held in both the Knesset Education and Preschool Education Committees of the Ministry of Education. Following the disappointing results of the Israeli children in reading comprehension tests, it was decided to begin promoting literacy from early childhood.

As professionals, we indeed believe that literacy should be promoted in a manner that suits the abilities of kindergarten children and that the process of acquiring reading and writing skills depends not only on the acquisition of the code, but also on the reading comprehension of the texts. Based on the studies that suggested the connection between imaginary play and literacy (Blum-Kulka and Hook-Taglicht, 2002; Sawyer, 1997; Harris, 2000), an Early Childhood Department team at Kaye Academic College decided to incite educational activities towards the development of a literacy discourse during 'make-believe' pretend play following story-reading.

Furthermore, it was decided to follow these activities with research and study, driven by the inner need of the team to develop and improve its professional level. In the following section, we will focus on these accompanying study groups, which included educational supervisors and women student-teachers, and we will examine the influence on the participating students.

Pretend play as a means of fostering cognition and linguistic skills in children

Many researchers have emphasized the importance of symbolic play as a means of fostering children's cognition and linguistic skills. (Sawyer, 1997; Göncü, Mistry & Mosier, 2000; Bergen, 2002; Carruthers, 2002; Blum-Kulka, 2002). Symbolic play is an arena in which symbolic skills are developed, to be implemented later in other areas, such as reading and writing. (Pellegrini & Galda, 1991; Williamson & Silvern, 1991).

According to Harris (2000), processes that require coping with reading comprehension develop when children engage in 'make-believe' pretend play. He asserts that, through these games, children learn to temporarily suspend their immediate reality and to enter another, imaginative one. This ability is also required in order to glean meaning from written texts, when the child is also required to temporarily disengage from reality and to enter the world of the text. Pretend play helps children to develop the crucial improvisation skills they need in their daily lives and it fosters their oral culture. Sawyer (2001) has pointed out that pretend play involves negotiation between players, children make proposals and collaborate when engaged in pretend play, and they learn from children (informal, implicit and natural learning).

In general, the project was executed as follows: a student-teacher read a story to a group of children, after which they pretend play it independently, without any adult guidance or intervention. The children were instructed: "Now go pretend play the story". According to the preliminary planning, the student-teacher brought various props relevant to the story she had read, taking care that these props would not unduly limit the game, leaving the children to use their imaginations. This pretend play was done at a predetermined location, during which the verbal interaction was documented by two supervising student-teachers (the one that had read the story and her helper), in an attempt to gain as much verbal or other information as possible. Simultaneously, each 'make-believe' session was recorded on video (by a professional video expert on behalf of Kaye College). Eventually, the student-teachers transcribed the oral records, based on the videos and their written protocols. These transcriptions were analyzed and served as the basis for all the conversation analysis in the research that accompanied the project.

THE RESEARCH AND STUDY FRAMEWORKS THAT ACCOMPANIED THE PROJECT

The learning process regarding the pretend play consisted of four parallel frameworks:

1. **Team meetings** – of the educational supervisors that lead the project de facto;
2. **Learning workshops** – held by a combined learning group, that included both the participating student-teachers and the course's educational supervisors;
3. **Study sessions** – of a study and research group headed by Prof. Hava Tuval from the David Yellin Academic College of Education, which also included experienced kindergarten teachers and educational supervisors;
4. **Meetings for all the project participants.**

The research was conducted as follows:

The years **2001-2002** were dedicated to the preliminary study of literacy by a research group composed only of educational supervisors.

During **2003-2004**, the various frameworks were created: **team meetings, learning workshops and study sessions**. The student-teachers were taught and acquired observation and conversation documentation skills (transcription and video-filming), which they implemented. Discussions that took place during the workshops pinpointed certain conversation variables to be studied following a survey of the relevant research literature and our own experimental discourse analysis methodology.

In **2005**, some of the third-year student-teachers, who had participated in these study workshops, chose to further examine education issues raised by our research as their theses topics.

In **2006**, two courses dealing with qualitative research, observation skills and discourse transcription and analysis were designed for all the student-teachers studying preschool education. Pedagogic workshops included several sessions dedicated to the role of pretend play in the wake of story-reading. The number of student-teachers who chose to study children's discourse swelled beyond the initial number of learning-workshop participants.

From **2007-2009,** the onus was on the assimilation of the research conclusions into the kindergartens and first and second grades and on conducting school workshops. The student-teachers established educational environments enabling children to engage in a pretend play after story-reading.

Since even our own **learning frameworks** were new to us, we decided to guide, shape and evaluate them by means of more research, also seeing ourselves as a **'learning community'** and viewing our novel process as a new way to train early childhood teachers.

RESEARCH FRAMEWORKS AND STUDY AS A 'LEARNING COMMUNITY'

The constructivist approach to learning

For many years, the prominent approach in teaching viewed the teacher as being a 'knowledge supplier' or 'knowledge transmitter'. As a result of this traditional, hierarchic approach, teacher training was based on imparting skills acquired by observing and imitating the more experienced teachers. According to this method, known as the 'funnel model', the learning process takes place when "the teacher teaches and the student learns" (Keiny, 1998).

Unlike the traditional approach, over the last two decades constructivism has been accepted by most researchers and theoreticians. It claims that the teacher's knowledge is in no way superior to that of the student. Information is a product of personal and subjective structuring, evaluated by its vitality and utility. Such new approaches pose challenges to the educational system, in general, and to teacher training, in particular (Back, 1999, 2006). Back (2006) argues that teacher-training institutions still 'overuse' the traditional and hierarchic methods of teaching. He criticizes teacher training based on the rational-technical perception, commonly practiced in recent decades. This rational-technical approach, which sees the teacher merely as a teaching expert, rather than as educator, no longer satisfies us (2006; 304). Modern society suffers from many ills: "… healing necessitates a different sort of teacher, one who can be with students and knows how to nurture them in a process during which he/she him/herself imbues the students' lives with meaning" (ibid., p. 368). Such teachers require a different type of training program.

Our research team faced this challenge by creating a learning community in which we implemented the principles of the constructivist approach.

A 'learning community' as an expression of the constructivist approach

According to Brown & Campione (1994, 1996) and Wenger (2004), a 'learning community' is born when a group of people with common goals engage in shared, continuous, systematic learning. In essence, a learning community consists of people having a common denominator or similar interests. Such a community undergoes an active and dynamic process in which it members learn cooperatively, share knowledge and

engage in personal and collective reflection (Pringle, 2002). Shulman (1995) asserts that learners learn best in a community of learners. He claims that teachers can improve their work by becoming members of communities in which they might actively investigate their teaching methods and do so willingly and collaboratively.

Keiny (2006) discusses the concept of a 'community of learners' in her study of a community whose members were teachers, researchers and practitioners, who participated in a reciprocal process of experiencing, learning and the construction of new knowledge. She further defines a 'community of learners' as a group of learners that acknowledges the differences between its members and encourages individual freedom of expression. Keiny argues that a 'community of learners' is autonomous and self-organizing; community members decide their own agenda and take responsibility for their performance be means of a process of knowledge acquisition and its resulting 'products'. Each individual is a major component in such a community, operating on two levels, both as a participant, involved in its inner processes, and as a reflective observer, aware of his/her actions and thinking about them. The learner and the community are mutually dependent, because they nourish each other. The personal growth of the learner and the individual knowledge accumulated contribute to the growth and knowledge of the learning community as a whole. Thus, the overall accrued knowledge shared by the community supersedes that of each individual learner.

In light of the above, Keiny calls the learning community an 'ecological system', in which each component affects the others and is affected by them (Sergiovani, 2002; Keiny, 2006). Such a system assigns major importance to the communication that takes place between its components and is based on the constant, multi-directional flow of information, feedback, openness and flexibility. This communication enables the system to survive and evolve by maintaining the balance between its components. Thus, listening, enhanced communication, understanding and cooperation between its members are primary requisites for the creation and functioning of a learning community and for successful cooperative learning (Sanjee, 1995; Keiny, 2006). In a community of learners, learning is perceived as an interactive construction process, in which all the learners – adults and youngsters – create new insights through constant dialogue with themselves and others (Vygotsky, 1978; Perkins, 1998, 2000; Bal and Cohen 1999). A learning community supports its members in their process of coping with challenges and changes in their proximate working environment, making it a continuing education--practical 'lifelong learning'.

In a teacher-training institution with such a learning community, its members are engaged in shared learning activities yielded by their constant, reciprocal consultation. The learning community is based on peer experience and the lessons learned from it. The members pool their individual knowledge, integrating it into the common system, strengthening the shared resource (Roth, 1998). This can be done in a number of ways: by conducting action research; by observing the teaching techniques of other teachers; by attending lectures; by means of conversations with guest experts, etc.

Study groups as learning communities and the place of women students in them

The constructivist perspective has several implications for the research and learning groups that accompanied the developmental literacy discourse project in light of the children's pretend play after story-reading. Our community of learners, which included trained kindergarten and school teachers, educational supervisors and student-teachers, was created at the outset of our research dealing with pretend play after story-reading. This course of action was the outcome of trial-and-error processes employed by the supervisory team when examining new ways of working with prospective teachers and was aimed at encouraging **mutual responsibility** for the learning process. One of the learning frameworks was the combined workshops for educational supervisors and student-teachers, meant to establish egalitarian teaching/learning methods, in which the supervisors were not considered to be the sole possessors and sources of knowledge, merely 'data transmitters'. Great emphasis was put on the perception that sees the students as **full-fledged partners** in the learning process and enables interaction between them and their educational supervisors. Such interaction would lead to **shared learning** by raising doubts, reservations and dilemmas. We hoped that by training student-teachers according to this newly-created teaching/learning model it would strengthen the connection between theory and practice and promote its *in situ* application in future.

The research questions

During our research, we discovered that the processes which took place within the **learning community** framework were of no less important and intriguing than the findings related directly to the research itself. Therefore, it was decided to study these processes, believing that such experimental research, within the framework of the learning community as it occurred in the department, might serve as a crucial asset to both our initial research and to teacher training in general. Thus, the following two integral questions arose:

a. How did the participation of the student-teachers in this research influence their learning and involvement in the community?

b. Is there 'another way' to conduct teacher training that would produce a different model of the prospective teacher's professional development? (Vardi-Rat, Eylon, Cohen, Ohana & Lewin, 2005).

This paper attempts to answer these questions.

LEARNING PROCESSES IN A LEARNING COMMUNITY

Learning by asking questions

During the process of the construction of knowledge, we think that an important place should be reserved in which the learner may ask questions; the posing of questions is an essential, intellectual tool for any learner. While, during a natural conversation, questions are asked to get information one does not have (Searle, 1969), in the educational context, the tables are often turned--the person asking the questions may be the one who actually knows the answers (the educational supervisor, mentor or lecturer), while the person being asked is the student (prospective teacher) who lacks that very knowledge (Cazden, 1992; Dillon, 1988).

Harpaz (2000) assigns great importance to the skill of questioning, because it indicates: the detection of missing knowledge; causes the asker to be active in his/her personal process of learning; and requires a degree of involvement and creativity in the formulation and presentation of the relevant question. Harpaz (2000) defines a productive question as one that contains the following basic features:

a. **An open question** – one without an unequivocal answer;
b. An undermining question – one that exposes conflicts and requires original thought;
c. **A enriching question** – one that necessitates coping with its rich contents;
d. **A connected question** – one relevant to the lives of the learners and their society;
e. **A charged question** – one with ethical ramifications;
f. **A practical question** – one that can be shaped into a research question and the learners have accessible information to study and answer it.

Recognizing the importance of asking questions during a process of teaching and learning in a learning community, our paper deals primarily with productive questions raised at our community learning workshops.

Learning as 'knowledgeable performance'

We perceive of prospective teachers as being able to think and act by using their knowledge flexibly, creatively and skillfully. They should enable their young students to demonstrate the applications of knowledge, beyond rote memorization and the mere recitation of facts. In our opinion, the focal learning framework in this study does enable the participants to construct new knowledge through active experimental learning. Our approach matches the constructivist approach, implying that learning is not a matter of the mere transfer, acquisition or integration of ready-made information relayed in appropriate 'doses' and in some 'appetizing' form, but rather the process of the active construction and transformation of information into knowledge (Brooks & Brooks, 1997; Glazerfeld, 1996).

We asked ourselves: How would we know that learning had indeed taken place in the community? How might the participants display comprehension of the acquired concepts, principles and skills? We found that the concept of 'knowledgeable performance' provided some answers to these questions. 'Knowledgeable performance' (Perkins, 2000) is the ability to perform thinking processes by means of 'knowledge on knowledge' or 'meta-knowledge', such as: expressing knowledge in your own words; providing examples of this knowledge; identifying associated knowledge; placing knowledge in its context; bring forth evidence of knowledge; comparing cases, phenomena or claims; criticizing knowledge on the basis of knowledge; creating knowledge on the basis of knowledge; presenting knowledge, etc. Knowledgeable performances are subject to definition, discovery, feedback and fostering (Wiske, 1998; Harpaz, 2000). Our study deals with the issue of identifying knowledgeable performance within the learning process of the learning community.

Motivated involvement in learning

In the constructivist worldview, good learning is **involved learning**, in which the learner is interested in his/her studies and has intrinsic motivation. An engaged learner treats information with affection, inquisitiveness, criticism and creativity (Harpaz, 2000). The desire to learn grows out of an individual's experience of personal interest and pleasure, when given the free opportunity to choose to be involved when ready to do so and not by necessity or under coercion.

According to Assor (2001), intrinsic motivation includes high levels of intensity (the degree of desire to invest in the relevant activity) and a sense of autonomy (a feeling stemming from the selection of the mission, understanding and identifying with it). Extrinsic motivation, on the other hand, stems from external factors and is characterized by a sense of coercion, an absence of meaning and feelings of fear and anger. Assor (2000) lists at least five good reasons for fostering intrinsic motivation:

a. The positive emotional experience – intrinsic motivation is accompanied by a sense of pleasure and interest;
b. The means for building an identity – intrinsic motivation helps a person to discover his/her real interests and to find directions for suitable action;
c. The facilitation of deep and creative learning – intrinsic motivation leads the learner to deeper processing of those theories and concepts being learned and their relationship to personal reality being confronted;
d. The contribution to the learning community – the freely chosen membership of the learner to his/her group and the consequent interest in its actions contribute to the social atmosphere in the group and to the promotion of its objectives;
e. The fostering of cognitive aspects – intrinsic motivation is significant for learning that requires analysis, synthesis and implementation of the studied and learned concepts.

Due to the importance of this topic, our research focused on the following issue: Which expressions of motivated, involved learning were evident in the student-teachers in our learning community?

The research questions
To summarize, the examined research questions were: Which student-teacher expressions relate to productive questions, learning performance and motivated, involved learning? What are their conclusions in regard to teacher training?

The research approach
We have chosen a qualitative approach toward the development of the ability to systematically and reliably observe, analyze and reach conclusions regarding authentic educational events, documented by means of collected data (Tzabar Ben-Yehoshua, 1990).

THE RESEARCH METHODOLOGY
The research population
The population participating in the learning community process included:
- An academic consultant – Prof. Hava Tuval from the David Yellin Academic College of Education;
- 7 educational supervisors from the Early Childhood Department;
- 4 in-training kindergarten and school student-teachers, who showed interest in the subject and dedicated time to learning and research;
- 12 Early Childhood Dept. students (4 of them third year and 8 second year), who volunteered freely as of their interest in the topic.

Data collection
Data collection was based on the following sources:
- 13 team meeting protocols from 2003;
- 11 study session protocols from 2003;
- 14 learning workshop protocols from 2003;
- 10 student interviews;
- Two interviews: one with a student-teacher and another with a kindergarten teacher;
- Four interviews with educational supervisors.

The method of analysis
In order to determine meaningful categories, the interviews were analyzed structurally and systematically. This method is based on the division into meaningful categories in a way resembling that of Corbin & Strauss (1994), which analyses social reality from the subjective viewpoint of those acting in and experiencing it. This method helps researchers to do a qualitative analysis of the data by characterizing and

categorizing significant discourse units. The unit of analysis is not necessarily a single expression, but rather a cluster of expressions on a particular topic. This method of analysis has a number of components:

  a. The reading of the protocols from: team meetings, study sessions and learning workshops, interviews with students, in-training kindergarten and school teachers and educational supervisors. All the protocols had been written manually by two instructors. The various meetings were recorded on tapes for documentation and backup purposes;
  b. Locating and designating categories for encoding via additional reading or identifying common, repeated themes in the documentation;
  c. Determining which categories are significant;
  d. Additional reading and determination by a second, independent researcher for the sake of inter-judge reliability in the setting of the analytic categories.

Inter-judge reliability

Our qualitative study lends itself to different interpretations. Different researchers may see the same data at the same time and, nonetheless, reach different conclusions. Therefore, the data was examined by two independent researchers to minimize the subjective researcher bias and to reach inter-judge agreement. High positive correlation was found among the researchers, indicating high reliability. In our research, the findings enjoyed a very high level of agreement. Findings that did not gain a sufficient degree of agreement were assigned to a separate analysis. The researchers examined ten protocols of the conducted learning workshops (of the 14 protocols in total; see "data collection" section above). The inter-researcher agreement level was 97% (Kippendorff, 2004).

THE FINDINGS

Learning by asking productive questions

During the course of our research, a learning process took place via the mutual deliberations of the student-teachers and educational supervisors. Often, we had to face ambiguous situations, in which the methodology was not straight-forward. Many questions surfaced, creating the need to find the answers by trial and error. The student-teachers were equal partners in both asking the questions and making the decisions. They presented their experiences and determined, to a certain degree, the subject-matter and progress of the research. There were deliberations in many areas that lead to open and productive questions. The following are some examples of the questions asked by learning community members:

Example 1: Is pretend play after story-reading really 'make-believe'?

Learning Workshop 2 (from 13/11/2002) hosted a debate concerning a very critical issue raised by a third-year student: Is pretend play after story-reading really 'make-believe' or just a dramatization? This question had already surfaced earlier at the same workshop and resurfaced to its importance. This question is an 'undermining question', an attests to the ability of the learning community members to debate their previous knowledge and question it. This issue arose due to differences in the definition of the concept of 'free play', since the pretend play game that occurred following the story-reading was initiated by the student-teacher, unlike 'free play' in a kindergarten, which is usually initiated by the children themselves.

Learning Workshop 2 (13 November, 2002)

  Educational Supervisor A: We saw, in the transcriptions received so far, that this is a very prominent element. The children are engaged in negotiating the framework even before the game. Pellegrini and Galda (1991, 2000) speak about the ability to talk about the game and meta-game; this is not the game itself, but talking about the game. By setting the frameworks, they engage in a meta-game.
  Student-teacher A: The question is whether it's a game and not dramatization?
  Educational Supervisor B: It's true that it wasn't something the children initiated, but we're giving them a choice.
  Student-teacher C: Perhaps I should tell the story and introduce props related to the game to see whether they'll would take them and play?
  Student-teacher D: Maybe it's better to leave the game spontaneous and see if it continues?
  Student-teacher E: I've made a distinction between the concepts of 'make-believe' and 'dramatization', which is more closely related to the text. I think that what we're doing is role-playing; there is pretend play, but everyone has a role.

Educational Supervisor C: Free play, 'make believe' and role-playing are synonyms.

During the discussion described above, we tried to think how to cause the children to pretend play the story instead of dramatizing it. We discovered that the fine distinction between 'make-believe' and dramatization depends on the preliminary instructions given to the children. It was found that the instruction that caused pretend play is: "Now, go pretend play the story." Whereas, the instruction leading to dramatization was: "Now, let's present the story".

Example 2: Why do a large percentage of the children playing 'make-believe'
At the learning workshops, the student-teachers and educational supervisors were given projects related to the transcription analyses and debates were held concerning the analyses and interpretations of certain expressions. This type of question is an open question that does not, in principle, have an unequivocal answer. It enables the learners to expand their concepts and restructure previous, limited knowledge.

At **Learning Workshop 5** (30/12/2002), we analyzed the transcription of a children's conversation following pretend play after a story-reading and clarified the difference between the playful activity and those activities dealing mainly with planning and the assignment of roles for the game itself (play vs. meta-play). The cooperative analysis of the findings by the workshop participants revealed the need to discuss them extensively and raised more hypotheses to clarify the differences between these concepts.

Learning Workshop 5 (30/12/2002)
> **Educational Supervisor A:** Perhaps, because the story is an unfamiliar one; perhaps the whole prelude is because each child comes with what he's got.
> **Student-teacher B:** Maybe all the necessity to play cooperatively takes time.
> **Student-teacher C:** Perhaps, acting out of character is a part of a need; perhaps the same reasons they didn't proceed with the story also caused them to deal with handing out the roles.
> **Student-teacher D:** Perhaps, if the costumes had been ready in advance, getting into character would have been quicker.
> **Educational Supervisor B:** Maybe we should try and see what will happen with costumes?
> **Student-teacher D:** The children are still at a stage where they quarrel over the characters; adding costumes would cause chaos.
> **Student-teacher E:** I did a demonstration of the "Three butterflies" story; they played with the props. When the props were there, they didn't argue who would be who?
> **Student-teacher F:** Perhaps, the costumes would cause another problem. If you didn't want to be a certain character, [seeing] the
> costume [there] might force someone else to choose that character

Example 3: What is the difference between the terms 'mediation' and 'scaffolding'?
.

At **Learning Workshop 8** (5/3/2003), we discussed the article "The strategic learning of new words in contextual storytelling" (Kuzminsky, 2002) and examined the issue of children as learning mediators during 'make-believe' games as compared to adult learning mediators. In the presented example, we saw that the difference between the terms **'scaffolding'** and **'mediation'** is not entirely clear, raising a substantial question, requiring dealing with contents which are vital to the understanding of the child and his development.

Learning Workshop 8 (5/3/2003)
> **Educational Supervisor A:** What is 'scaffolding'? And is there a difference between 'scaffolding' and 'mediation'?
> 'Scaffolding', by Leah Kuzminsky's definition is: "providing adequate support to help the students succeed; the nature of this support depends on the student's performance…
> **Educational Supervisor B:** 'Mediation' is conducted to prevent the need for scaffolding.
> **Educational Supervisor C:** 'Scaffolding' emphasizes focal failures.
> **Student-teacher A:** 'Scaffolding' is temporary and pinpointed, while 'mediation' is broader.
> **Educational Supervisor D:** 'Mediation' is planned, but not focused.
> **Student-teacher D:** We're in the field and try to build on what they're doing. In 'scaffolding', we plan in advance – more focused.

Educational Supervisor E: Perhaps 'scaffolding' and 'mediation' are the same. I'll clarify this with Leah Kuzminsky by E-mail.

To summarize, productive questions were asked in the midst of the mutual learning process, motivated by a number of factors:

a. Their relevance to the research process;
b. Their bearing on theoretical understanding and conceptual clarification;
c. Their arising from the field or connecting theory and practice;
d. The deliberations;
e. The connection between inquiry and learned knowledge;
f. The shifting of attention to new questions inspired by answers found to prior questions, i.e. every solution creates new problems.

In light of the many questions generated during this process, we created a 'question bank', i.e. a database of questions, each of which could serve as a future research topic for our or other students or educators.

'Knowledgeable performance' as learning

The section below presents examples of the knowledgeable performance of student-teachers from our learning community. The combined workshops held took into account the various contexts experienced de facto by the research participants working in kindergartens and schools. In the following example, by raising personal experiences, it was possible to learn about the development of each student in light of her own personal experience; in other words, it was possible to detect individual knowledgeable performances, such as the ability: to identify certain contextual knowledge; to express knowledge in her own words; and to provide real examples of knowledge, based on personal fieldwork.

Example 4: Learning Workshop 12 (2/4/2003)

Student-teacher A: On Monday, I recorded "Raspberry Juice" [a popular Israeli children's story]. There was a lot of meta-playing. They argued a lot and raised various arguments – the explanatory genre. There was a girl who dominated everyone and she wanted to be Raspberry Juice [the main character]; a very quiet child also insisted on acting this character. Eventually, they both did the character. In the end, there was a debate on how to end the story.

Student-teacher B: I did the "Hannah and her Sabbath dress" story… There wasn't much talking, very slow…. I tried to encourage them a little. The story was OK, but it was obvious this was their first time.

Student-teacher C: I did the "Mouse in the house" story with two groups: an experienced group and one that doesn't usually act. There were very significant differences.

Student-teacher D: That's why it's important to work with all the kindergarten children from the very beginning of the year.

Educational Supervisor A: This is a very educational conclusion that goes beyond our research. If we want the children to pretend play, we should start them off from the beginning of the year.

The process of learning in the workshops was active and helped to develop self- awareness and motivation toward continuous inquiry. Most of the workshops were planned in such a way that the main part of the workshop had activities including: analysis, term clarification, raising questions and discussion. Likewise, a great deal of latitude was exercised when accepting the various events and learning cases, presented mostly by the student-teachers. In these examples, we can see how the student-teachers succeeded in displaying knowledgeable performance thanks to: the explanations they gave for the pretend play events on the basis of their previous knowledge; their justifications of the possibilities, expanding them and attempting to forecast the results, in order to prepare their next moves. The participants discussed the matter of understanding the children's story before the pretend play event. This matter surfaced when the students experimented with very young children (3-4). One third-year student reached the conclusion that she should alter the nature of her work with young children to add a conversation about the story. This example shows how new knowledge can stem from previous knowledge in a learning community.

Example 5: Learning Workshop 9 (19/3/2003)

Student-teacher A: In my "Apartment to rent" story, one girl lead the game. She told the other kids what to say and they sat down and repeated what she'd said.
Student-teacher B: In my case, the children didn't succeed in playing and stuck to the story.
Student-teacher C: That's why I'm talking about the story.
Student-teacher D: Talking about the story before the game can have affect their understanding later on.
Student-teacher E: That's why it's worth talking about the story and repeating it, rather than talking about understanding.
Educational Supervisor A: In an unfamiliar story, it's recommended to recreate the story.
Student-teacher F: It's possible to try the same story again with the same group.

Motivated, involved learning
The findings related to 'involved learning' revealed that intrinsic motivation plays an important role in the student-teachers' learning process.

1.   Intellectual curiosity
Student-teacher A: In general, everything hasn't crystallized yet. As for the dramatic 'make-believe' in the corners versus the pretend play after the story-reading--we have study both. What most intrigued me was the verbalizations, rather than the discourse. Because, for example, when I was watching children playing 'house' and children playing after story-reading, I could also see…. It depends on which game of 'house' they're playing… When they played a mother grating, cooking and preparing food for her children, there were three girls in the corners that virtually did not speak to each other. It was only something like: "Pass the plates!"; "Give that to me!"; "Go over there!"; "Do this!"; "Do that!" – very little verbalization. Verbalization was virtually non-existent, but action was considerable. On the other hand, I saw a group of boys playing something more imaginative in the corner, as if they were in a spaceship, and then they went to the sea and there really was much more verbalization. This is where the issue we were talking about is felt—exclusion--which also impacts on verbalization versus action. This is the main point.
Her discovery, of the connection between the theme of the game and the degree of verbalization, aroused interest among the community participants and, later, that same student-teacher opted to study this topic for her final paper. Clearly, she felt free to try new ways of thinking, new directions and methods of action and, as a result, displayed greater flexibility and creativity.

2. Controlling the skills
The examples above reflect the readiness and intrinsic motivation of these student-teachers to improve their mastery of the required tasks and of the knowledge being studied. Our research participants referred to the fact that being engaged in the research substantially helped many of them to acquire and master the skills of documentation and the observation of children.
- "I've learned that documentation is a treasure!";
- "I've learned how to transcribe and observe. This are skills I've acquired";
- "My writing ability improved considerably, my knowledge in transcribing grew and I've upgraded my ability to analyze the games";
- "I've learned to type faster";
- "Now, I know to observe children better".

These quotes show that the participants in the learning community gained mastery of the skills and came to understand the importance of documentation and observation in the field of education, in order to get acquainted with the world of the children.
However, this process also caused situations of lacking confidence, uncertainty and ambiguity, stemming from the absence of unequivocal decisions regarding ways to activate the children. The student-teachers expressed their desire to stay close to the familiar and known, to only do what is permissible, etc. They required great deal of support from their educational supervisors, due to prior educational and technical instructions in the process they had undergone. In order to meet their needs, we discussed topics that bothered them during their fieldwork, encouraging and supporting them. One of the ways to meet these needs was making the workshop programming more flexible.
The example below shows how the confidence of the student-teacher had deteriorated. She expected unequivocal answers from her Educational Supervisor about ways of working with the children and regarding which stories are suitable for each age group. In this case, this learner had a task-oriented involvement and her aim was to improve her mastery of the required task. In their answers, the Educational Supervisors focused on

the shared process of learning and its characteristics, explaining to the student-teachers that they, too, lack the answer to her question.

Example 6: Learning Workshop 2 (13/12/2002)

> **Student-teacher A:** Something doesn't work for me here. We're talking about a specific type of literature and generalizing for various levels of children. We're taking a type of literature that doesn't suit all the children.
> **Educational Supervisor A:** True, we're still searching for the 'right' literature. I think that the kindergarten should provide the whole story with the props.
> **Educational Supervisor B:** We're trying to investigate, but neither we, nor you, know which way will produce the results. We tried unfamiliar works, but sometimes we failed.
> **Student-teacher A:** The first conclusion is that maybe we should try familiar stories. Or we should continue [the story] to the end?
> **Educational Supervisor C:** That's why we meet, to derive conclusions from what we bring from the field.
> **Student-teacher C:** Perhaps we should continue testing unfamiliar texts, but less complicated ones.
> **Educational Supervisor D:** Maybe the conclusions would be different for the kindergarten and first and second grades.
> **Educational Supervisor D:** We should understand that this is research and the results are the study itself. Qualitative research is not meant to verify results, rather we're constantly generating hypotheses as the study evolves.

Emotional effects

In an interview conducted toward the end of the year, all the interviewees (12) mentioned their feelings during their participation in the study. Most of them described various positive emotions, such as: pleasure, belongingness, security, mutuality, group cohesiveness, satisfaction with the egalitarianism and pride. These feelings stemmed from the experience of being able to refer to various aspects within the framework of the learning community, in theoretical discussions and fieldwork experience alike.

The following are representative expressions made by learning-community participants during the workshops, indicating positive emotions:

Satisfaction with the egalitarianism

- "All the participants learn to the same extent. This gives a good feeling."
- "My opinions and theirs came from the same place."
- "We've tried and erred, just like the children did, and that's what I like most."
- "I was glad we continued to do here what the children did there."
- "I really liked the experience of team meetings with lecturers and senior students."
- "I felt satisfaction. I'm coming to contribute and being contributed to."
- "The distance was broken."

Belongingness and security

- "The mere fact of being able to work together with lecturers and be in the same position gives you confidence."
- "I was happy to attend the workshops. There, I saw that my mistakes weren't only mine. This empowered me."
- We all feel this way. One can experience, err and learn all the time from children about children."

Pride

- "I'm contributing. I succeeded in contributing to the discussion."

Intrinsic motivation vs. extrinsic motivation

During the course of this research and in all the learning frameworks in the community, we found no expressions of extrinsic motivation. We think that the likely explanation is that all the participants in the study and in the learning community volunteered to participate freely, without any coercion. From the very start of this cooperative project, there was a working atmosphere different from any with which we had been familiar. The partnership, involvement, curiosity and motivation to find answers to the questions coming

from the field, the interest in contents arising from the study, the experiences and meetings that were imbued with a desire to extend one's knowledge and share it with others – all these, apparently did not leave room for involvement characterized by an extrinsic orientation. It can be said that the participation in a learning community is both caused by intrinsic motivation and, at the same time, also generates it.

SUMMARY DISCUSSION

In the attempt to characterize the research process shared by educational supervisors and prospective kindergarten and elementary-school teachers, we have studied learning protocols in actual learning frameworks. The analyses of these protocols have taught us about the process we – the research participants - underwent and about the insights that were developed throughout this process.

Our findings indicate that the principles guiding the cooperative work process with the student-teachers and other participants in the learning community contributed to the nature of the learning. We did not determine, in advance, what would be relevant and what would not. We shared a process of deliberation, characterized by all the participants asking open and productive questions and ongoing dialogue. This was a dialogue between the findings and the theories and within the findings themselves. In fact, this was both an internal dialogue and a dialogue with active partners. In the wake of these dialogues, we derived our conclusions and determined new action methods. We tried to pass on the message that the ambiguity and uncertainty characteristic of the qualitative, reflective process are part of our learning evolution – for the student-teachers, educational supervisors and the in-training teachers. Critical thinking about the process provided us with the ability to see more than one perception of reality and, as a result, to reach a more complex perception of the examined situations and, thus, to gain greater knowledge and understanding. During the learning process in the workshops, the emphasis was placed on collaboration and egalitarianism, meant to facilitate the professional development of all the participants. The reciprocal ties were based on teamwork, mutual trust and open interpersonal communication.

Exposing the students to new research and professional terminology together with with actual fieldwork experience enabled them to develop an understanding of theoretical materials in light of practical action. Theoretical learning could be put to real use thanks to its immediate relevance to the fieldwork tasks. The learning frameworks in our research induced the student-teachers to become engaged in the research process and facilitated positive feelings and intrinsic motivation for further learning, through personal and professional empowerment.

As a teacher-training model, we have seen that an inquisitive learning community provides the learner with an experience different any he/she knew previously. Our learning community presented the student-teachers and educational supervisors a teaching perspective that can contribute to the improvement of their daily fieldwork, because, in this approach, the educational practitioners are a major valuable resource.

As for ourselves, as a final word -- if we may use metaphorical language – all we can say is that our learning community gradually 'composed' a polyphonic masterpiece, with its own unique harmony and characteristic sound.

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126 - Teaching Self-Efficacy and Burnout: a Brazilian Study

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Abstract: The objective of this study was to verify the relations between teaching self-efficacy and the burnout syndrome dimensions; also, the relations of these two constructs with personal and structural variables of the teaching work. 100 high school teachers from public schools participated in this investigation. Three instruments were used to collect data: one questionnaire and two scales, namely, a burnout scale and teaching self-efficacy scale. The results presented moderate average of teaching self-efficacy and average significant levels of Burnout in the three dimensions. The inverse correlations found between the two constructs were significant indicating the self-efficacy belief as a predictor of burnout. This investigation documents the multidimensionality of the teaching work. Results indicate the importance of debating the work conditions of high school teachers.

Keywords: Social Cognitive Theory, Teaching Self-Efficacy, Teaching Burnout; High School

INTRODUCTION

The teaching factor is always highlighted in studies as one of the most important ones in order to have changes made and evaluated in students learning. The teaching professional is asked to be more and more the protagonist of the daily complexity, which goes from his professional education, moving on to institutional disorganization to the violence against himself, including his low earnings. According to Campos (2005) 'there is the need of empowering the leading role of the teachers, to attend the learning needs of their students, to take part in changes and to contribute to transform the educational systems' (p.8).

The teacher working status, and how favorable it is or not for the practice of teaching has been the focus of questions and reflections. Pinto-Silva and Heloani (2009), commenting on research from Sguissardi&Silva Júnior (2009) in higher education institutions, and from Fortuna (2009) in state-run schools in the State of Rio de Janeiro, conclude that in the teaching current working configuration, there is a loss for health, prevailing on the damage to the socio-familiar life of this professional. Such damages are intimately related to the socio-institutional aspects, as heteronomous educational management, and intensification and the precariousness of work. The psychosocial aspects are also in bold, as the non-recognition of work (medium school teachers), competitiveness, the tiredness (professor-researcher) and the present conflicts in the educational institutions.

Esteve (2005) reinforcing his 1985 descriptive proposal about the two sides of the teaching activity, namely, the feeling well and feeling bad, affirms that the description of feeling bad is the one that is closest to the suffering reported by the teacher. He does not think to be so ill as to stop working, as with fever, headache or sore throat, but he feels ill and cannot identify why. The teacher starts to adopt some strategies to recover either personal or professional balance. The recurrent adoption of these strategies instead of not facing the real situations of feeling bad evolve to the precarious physical conditions that may result in such a bad physical state that makes it necessary to have the temporary or definite absence of the teaching activity. However, even without being away from the classroom, health loss for teaching activity and for the teacher itself are observed. The naturalization of the teachers' hard work conditions (Pinto-Silva and Heloani 2009) increases the possibilities of negative results during work, pushing even more these professionals away from teaching.

The study presented here was toward the investigation of the teacher´s illness, as well as the psychological variables involved. It seems to be relevant the search for comprehending the considerations presented above. The teacher is inserted in a working environment that builds and is built at the same time by him. For Bandura (1997) certain organizational conditions may weaken the beliefs in one´s working capacities and for this matter, occupational stress is not only a working problem. One of the core concepts of Social Cognitive

Theory, the self-efficacy beliefs, offer the foundation for human motivation, their well being and personal achievements, being this way, directly linked to the functioning of human self-regulatory capacities.

Bandura (1997) states that "perceived self-efficacy refers to the belief in one´s power to produce given levels of attainment" (p.382). It refers to one´s convictions about his skills to mobilize cognitive, motivational and behavioral functions to execute successfully a specific task in a given context. Since its formulation, it has been shown that self-efficacy beliefs predict behavior and determine if the perception of the lived events was cognitively represented and recovered in a benign way or emotionally disturbing. (BANDURA 1997). Undoubtedly, either the conditions of the environment, or the actions employed to attend the demand, the physiological conditions of the worker and self-efficacy beliefs interact and make it possible, or not, the resolution of the stressful condition. Self-efficacy has been related both with the reduction of the perception of a certain event as stressful and threatening and with health problems and illnesses in the teaching profession. Self-efficacy beliefs influence directly the perception of controllability of stressful events, resulting in the reaction to stress in a specific situation as the teaching work. (Bandura, 1986, 1997).

When thinking about the teaching function as one embedded in a labor organization, it is possible to consider what Bandura (1997) proposes when he states that the perception of personal efficacy in organizations determines if the behavior for coping stressful situations will be initiated, how much effort will be employed, and how long the worker will remain in the working situation. If one employee perceives himself with high self-efficacy, he will activate sufficient efforts to the execution of the tasks that, if well done, can lead to success. On the contrary, employees who perceive themselves with low self-efficacy tend to cease their efforts prematurely, fail in the task and develop some form of reaction.

One of the reactions to labor stress is the development of Burnout Syndrome, which is the combination of symptoms related to the activities developed by the worker, described by Fraudenberg (1974), involving, specially, the workers who developed tasks of care or with close relationship with people. The Burnout Syndrome has been characterized as the affective response to a continuous and long exposure to stressful work factors that generate emotional exhaustion, negative evaluation about oneself, depression and insensibility as to almost everything and everyone. To Carlotto and Palazzo (2006), it would be "the final stage of progressive attempts to deal with the stressful work factors (p.1023)." Physical fatigue and cognitive tiredness are also indicated as a result to prolonged exposition to stress related with work with close relationship with people.

The investigations on the Burnout Syndrome have been becoming diverse each day, either for the investigated population it the proposed instruments of measure, nevertheless, keeping as a common feature for the different segments, the relational aspects of the teaching. This condition increasingly exposes the teacher to stressors for a long period of time. For Reinhold (2004), in this situation, the educational professional makes use of maladapted coping strategies, leading to emotional, personal and professional exhaustion, worsening the feeling of inadequacy to the working position, negative attitudes and of distance with the students. The educational reforms and the implementation of guidelines also in the educational environment require from the professional of education persistence and innovation, besides a high cognitive engagement with the appropriate tasks. Given the current characteristics of the teaching function in all levels of instruction, including technical courses, with diverse kinds of students, this is presented as one of the potential professions to have this syndrome developed, once the social/relational dimension for the execution of the labor task is constant (Moreno-Jimenes & al 2002). Considered as a professional challenge, (Martinez & Salanova 2005), the teacher must have competencies and skills that go beyond the didactic and pedagogical matters which are the foundation of his education to be a teacher. The proximity and the behavior of care are emergent as to the teacher-student interaction, as well as the exhaustive amount of work (large classes, little Professional value, low earnings, adverse environmental conditions, violence). In the same fashion, the setting of goals related to the obtained results by the students is part of the planning of the teaching activities, and not meeting them would be another factor to be added in the possible vulnerability of this professional to Burnout (Labone 2004).

Some international and national studies have been made towards the search for relations between the Teaching Burnout Syndrome and cultural and psychological social variables. Beserra-Leite (2007) investigated the association of the social relations with the three dimensions of Burnout: physical and emotional exhaustion, depersonalization and reduced personal accomplishment. He found significant results of correlations between the variables. The results showed that the higher the support of peers, managers and family, the lower the indicative of burnout in the three dimensions. Weber (2004) investigated factors that affect the burnout in school psychologists (counselors) affirms that for Maslach and Leiter, the burnout has been considered more recently as a gradual progression within a continuum between engagement and disengagement from work. The lack of initial energy of the caregivers becomes exhaustion; the initial

involvement becomes cynicism, and their work efficacy becomes inefficacy. They also affirm that, the burnout can be attenuated by social support, autonomy in the work, and clear idea of the appropriate activities for the role. Martinez and Salanova (2005) identified significant relations between what the teacher realizes as obstacles and facilitators for the teaching practice and the burnout dimensions. Among the obstacles, you find the lack of support from peers and superiors, students who are undisciplined and little involved with school tasks, problems with the course material, difficulties with students´ parents.

The study made by Carlotto and Palazzo (2006), which investigated three hypotheses between possible associations of burnout with demographic and labor variables and factors of perceived stress, demonstrates the quest of these relations between the Teaching Burnout Syndrome and cultural and psychological social variables. An association between emotional exhaustion and the number of students and teaching working hours was found. This indicates that the higher the number of students, and the amount of teaching working hours, the higher tends to be the score for this dimension. The reduced personal accomplishment dimension of burnout was the one with highest mean scores, and it is analysed by the authors, inside a reference of organizational culture generating high expectations as to career, and considering how long have the teachers been working. Teachers who have been working for a longer time have higher scores in the personal accomplishment dimension, and the ones with great expectations with the teaching work also have higher levels of dissatisfaction because of the existing working conditions. Carlotto and Câmara (2007), searching a better understanding of the predictors of the Burnout Syndrome, investigated 563 teachers. The factors of the burnout scale: physical and emotional exhaustion, depersonalization and reduced personal accomplishment were considered dependent variables, and as independent variables: sex, age, number of siblings, amount of time of teaching experience, amount of time at school or university, weekly working hours, number of students/day, numbers of teaching, research and extension programs; dimensions of the features of the position, satisfaction with the earnings, critical psychological states, work results and satisfaction at work. Results yield to a predictor model of the emotional exhaustion dimension, having significant correlation with satisfaction with earnings (SAT-P) and age explaining 46,6% of the variability of the correlated dimension. The results for the depersonalization dimension had the variables: hours of research and the results of the performed teaching work detected as predictors and explain 57,8% of the variability.

Studies about the relation of these two constructs, teaching self-efficacy and the burnout syndrome have pointed to a wide range of correlated factors. Among these, there is the lack of professional accomplishment, peers and superiors support, interpersonal relationships, organizational climate, and also some personal aspects such as: sex and age of the participants, and the time of professional experience. The findings, supported in statistic analyses, raise important issues about the established relations and how much it is effectively possible to pursue, in a relational context, proposals of intervention. As an example, we can cite Friedman ´s (2003) work. She explains that school environmental stressors can be categorized in task stressors, organizational stressors and relational stressors, and that organizational stressors are the best predictors of high and low levels of burnout and of perception of self-efficacy in school principals. Continuing the studies about the relations between self-efficacy and burnout, she identified in 322 teachers in Israel that the perception of self-efficacy and burnout are inversely correlated, that is, the lower the sense of self-efficacy, the higher the perception of burnout. She also found as related factors for both constructs, the organizational matter and the interpersonal relationships as important variables for the prevision of Burnout in the three dimensions: physical and emotional exhaustion, depersonalization and reduced personal accomplishment. Salanova (2005) studying deeper the issue of obstacles and organizational facilitators of the teaching work, applied an adapted scale for a sample of teachers, made semi-structured group interviews to determine the facilitators and obstacles of the teaching work. These groups discussed the more frequent facilitators and obstacles, and eight items were perceived as stressors for the Spanish teachers. They are presented in order of importance: a) overload of work due to lack of time and excessive tasks, b) personal relationships that imply in emotional demand, either with students, parents, and the society, c) ambiguity in the role or the degree in which the teacher does not clearly have explicit the activities that he needs to realize, and what the school community expects from him, d) perception of contradictory instructions for the practice of the teaching work, e) lack of support from peers and the principal, f) lack of connection of the workmates to perform teamwork, g) students demotivation, apathy and indiscipline, h) problems with course material and failures in the structure or school facilities. Burnout, emotional exhaustion, cyniscism (depersonalization) and professional efficacy were measured with the Spanish version of MBI-GS adapted by Salanova & Schaufeli, 2000. Among the investigations of the constructs of self-efficacy and burnout in teachers in Brazil, we can mention Costa (2006) who speaking about Bandura´s Social Cognitive Theory and the concept of self-efficacy, presents a pilot research developed by her with 35 teachers using the 1999 Jerbeck and Bellico da Costa´s inventory. The results showed the presence of levels of burnout in these

teachers and negative correlation data between the presence of burnout and high perceived self-efficacy. Such findings, despite coming from a pilot study, point to the direction of increasing these investigations, because the relation between perceived self-efficacy and the development or not of the syndrome is noticeable.

METHOD

Participants
Data was collected in five state-run high schools of a city in South Minas Gerais-Brazil in the three periods between the months of March and December 2009. It happened after the approval of the Ethics Council of University of Taubaté with protocol number 351-08. 100 teachers participated, being them masculine and feminine, different ages, education and time of teaching. It was a prerequisite to be working as the responsible teacher for the subject that was being taught at the time of data collecting.

The characterization of the sample described above presented a general board of teachers between 40 to 49 years old, being 67% female, 44% with 20 years of teaching or more, 65% graduated in human arts and 90% graduated in private institutions. These teachers have 30 hours of more of weekly teaching. They work in public middle and high schools, with classes ranging from 20 to 34 students, and also from 35 to 50 students. As about school infrastructure, 65% of the participants considered it little sufficient for the teaching work. For the variables: self-perception of freedom of expression at the working place, professional accomplishment, administrative and peer support, and preparation for teaching, the sample presented the results displayed in Table 01.

Table 01. Sample distribution in self-perception variables. n=100

Self-perception	none	little	enough	much
Freedom of thought	2%	29%	48%	21%
Professional Accomplishment	7%	36%	43%	14%
Managers support	2%	30%	57%	11%
Peers support	2%	33%	51%	12%
Preparation for teaching	0%	9%	61%	30%

Description of the instruments
Given the objectives of the study, three instruments were used. One was Iaochite (2007) characterization questionnaire, which allowed access to relevant information from the participants for the study in an objective manner. The other two instruments were to Likert scales: Teaching Self-Efficacy Scale initially tested and validated with Physical Education Teachers in a study made by Polydoro et al in 2004, and the Teaching Burnout Scale CBP-R, preceded by the F*ree* Informed T*erm* of C*onsent*.

The internal consistency index of the scales is robust with confirmatory.factorial analysis

Data was individually or collectively gathered through printed instruments with the presence of a responsible person in public high schools. The average time for answering was 50 minutes. 100 instruments that were considered valid for the characterization of the sample were initially posted in the Excel Program, which allows data exportation to other statistic analysis programs, then the program SAS System for Windows (Statistical Analysis System), version 8.02.SAS Institute Inc, 1999-2001, Cary, NC, USA was used. . In order to analyze the relation among the numerical variables the Spearman correlation coefficient was used so as to evaluate the strength and direction of the correlation between two variables. The Mann-Whitney test was done to compare the variables of both groups, and the Kruskal-Wallis one was done to compare three or more groups due to the absence of normal distribution of the scores. To study the relation of the variables with the scores of the scales, it was used linear regression analysis, both univariate and multivariate, with Stepwise criterion of selection of variables. Linear regression permitted to estimate how a determined variable (Burnout) altered due to a change in a certain value on another one (Teaching Self-Efficacy – Teaching management and intentionality). The significance level adopted for the statistic tests was 5%, that is, $P<0.05$.

RESULTS

Observing the total averages in the Teaching Self-Efficacy Scale either in factor 1 and 2, or in the general scale, it was verified moderate levels of teaching self-efficacy with 71% of the participants with an average between 3 and 4,9 points. The highest average was 5,01 in the item belonging to teaching intentionality that is: *To what extent can you provide an alternative explanation or example when your students are confused?* This score has to do with the teacher´s perception to deal with factors related to his skills in giving lessons and teach content. The lowest average was 3,87 in another item belonging to teaching intentionality: *To what extent can you help parents to help their children to do well in school activities?* This item has to do with the teacher´s perception to deal with external factors of his teaching role.

It was observed in the Burnout Scale that the minimum and maximum scores ranged from 1 to 5 points, and the burnout item for the depersonalization dimension had 4 as its highest score and average of 1,75 for the item: *sometimes I tend to treat students as impersonal objects.* This dimension evaluates the impersonal relationship established with the students. The highest average was 4,02 for the item *Parents are involved in their children education*, which is inversely computed. Observing the average score in the CBP-R Burnout subscale we can see that factors EE (emotional exhaustion) with M=2,45 and FRP (lack of professional accomplishment) with M=2,64 presented higher scores than the factor for Depersonalization with M=1,86.

Spearman correlation (r) between the factors of the Teaching Self-Efficacy Scale, Teaching intentionality and Classroom Management, and the Burnout dimensions: physical and emotional exhaustion, depersonalization and reduced personal accomplishment, presented negative significant correlation between the two factors of the Teaching Self-Efficacy Scale and the three Burnout dimensions in the subscale CBP-R. The value (r= -0,39186) found in the score of correlation between total burnout (physical and emotional exhaustion, depersonalization and reduced personal accomplishment) and the total of the Teaching Self-Efficacy Scale (teaching intentionality and classroom management) is highlighted. In general, the scales were correlated in a moderate and significant way (p>0001).

Table 02 Correlations between the mean scores of the factors and the global score of TSEE and the Burnout Subscale of CBP-Rr

Teaching self-efficacy \Burnout		Emotional Exhaustion	Despersonalization	Lack of Professional accomplishment	Total Burnout
Teaching Intentionality	r=	-0.20929	-0.26245	-0.34909	-0.39369
	p=	0.0366	0.0083	0.0004	<.0001
Classroom management	r=	-0.21492	-0.28554	-0.27240	-0.36679
	p=	0.0318	0.0040	0.0061	0.0002
Total Self-Efficacy	r=	-0.21935	-0.28230	-0.32400	-0.39186
	p=	0.0283	0.0044	0.0010	<.0001

Г= Sperman correlation coefficient
p= p value

In the multivariate analysis, it was found higher scores of teaching intentionality, classroom management of the TSEE in the teachers with the highest perception of greater administrative support, and it was also found higher scores of lack of professional accomplishment of the Burnout Scale in the teachers with evaluation of lower administrative support. (Table 03)

Table. 03 Relations between the factors of the TSEE variables and Burnout and the administrative support variable

Administrative Support		N	MEAN	SD	MIN	MEDIAN	MAX	P-VALUE	**	
NOT/LITTL	Intentionality	32	4.33	0.74	3.14	4.43	5.57	P=0.022	->	'NOT/LITTL'≠'MUCH'
	Classroom manag	32	4.22	0.69	3.10	4.20	5.30	P=0.042	->	'NOT/LITTL'≠'MUCH'
	Emotional exhaust	32	2.56	0.86	1.00	2.50	4.63	P=0.285		
	Depersonalization	32	1.98	0.67	1.00	2.00	4.25	P=0.127		
	Lack of professional accomplishment	32	2.98	0.75	1.29	3.14	4.43	P=0.004	->	'NOT/LITTL'≠'MUCH'
ENOUGH	Intentionality	57	4.67	0.63	2.50	4.79	5.79			
	Classroom manag	57	4.51	0.63	2.60	4.60	5.50			
	Emotional exhaust	57	2.45	0.82	1.00	2.38	4.88			
	Depersonalization	57	1.85	0.61	1.00	1.75	4.25			
	Lack of professional accomplishment	57	2.54	0.77	1.29	2.43	4.29			
MUCH	Intentionality	11	4.94	0.77	3.43	5.00	6.00			
	Classroom manag	11	4.76	0.74	3.00	5.00	5.80			
	Emotional exhaust	11	2.08	0.69	1.00	2.13	3.38			
	Depersonalization	11	1.52	0.56	1.00	1.50	2.50			
	Lack of professional accomplishment	11	2.16	0.71	1.14	2.14	3.14			

** P-Value referring to the Kruskal-Wallis test to compare variables among 3 or more groups.

It was also verified the significant joint relation of Professional accomplishment and peers support with the score of lack of Professional of CBPR. The teachers with the highest scores of lack of professional accomplishment of CBPR are the ones with less personal accomplishment and less peer support in the characterization questionnaire. (Table 4)

Table 4 Multivariate Linear Regression Analysis for the score of lack of professional accomplishment of CBPR(n=100).

Selected Variables	Categories	Beta (SE)*	P-Value	Partial R^2
1. Professional Accomplishment	Nothing or Little (ref.)	---		
	Enough	-0.950 (0.128)	**<0.001**	
	Much	-1.190 (0.183)	**<0.001**	0.4653
2. Peers support	Nothing or Little (ref.)	---		
	Enough	-0.154 (0.128)	0.235	
	Much	-0.458 (0.198)	**0.023**	0.0290

* Beta: value of the estimate or angular coefficient (*slope*) in the regression line; SE: beta standard error. R^2: coefficient of determination. *Stepwise criteria of selection of variables*. R^2 Total: 0.4943. Intercepto (SE): 3.345 (0.107); P<0.001.

Table 5 shows the results of the multivariate linear regression analysis (with Stepwise criterion of selection of variables) to study the relations of the selected variables with the emotional exhaustion score of CBPR.

Table 5. Multivariate linear regression analysis for the emotional exhaustion score of CBPR (n=100).

Variable	Categories	Beta (SE)*	P-Value	R^2
Age (years)	<40 (ref.)	---		
	40-49	-0.197 (0.195)	0.315	
	≥50	-0.503 (0.219)	**0.024**	0.0525
Sex	Female (ref.)	---		
	Male	-0.127 (0.176)	0.472	0.0053
Time of teaching (years)	<10 (ref.)	---		
	10-19	0.182 (0.222)	0.413	
	≥20	-0.310 (0.213)	0.148	0.0523
Score of teaching Intentionality of TSEE	Continuous Variable	-0.285 (0.115)	**0.015**	0.0586
Score of classroom management of TSEE	Continuous Variable	-0.331 (0.118)	**0.006**	0.0738

* Beta: value of the estimate or angular coefficient (*slope*) in the regression line; SE: beta standard error. R^2: coefficient of determination (% of variability of the variable response explained by the independent variable). Ref: level of reference.

Through the results of the multivariate analysis, it is observed significant relation of the classroom management score of TSEE with the emotional exhaustion score of CBPR: The teachers with the highest score of emotional exhaustion score of CBPR are the ones with the lowest classroom management score of TSEE. Table 6 shows the results of the univariate and multivariate linear regression analysis (with Stepwise criterion of selection of variables) in order to study the relation of the variables of interest with the depersonalization score of CBPR.

Table 6. Multivariate linear regression analysis for depersonalization score CBPR (n=100).

Variable	Categories	Beta (SE)*	P-Value	R^2
Age (years)	<40 (ref.)	---		
	40-49	-0.329 (0.150)	**0.030**	
	≥50	-0.220 (0.168)	0.193	0.0476
Sex	Female (ref.)	---		
	Male	0.047 (0.135)	0.729	0.0012
Time of teaching (years)	<10 (ref.)	---		
	10-19	-0.029 (0.171)	0.868	
	≥20	-0.307 (0.165)	0.065	0.0525
Score of teaching Intentionality of TSEE	Continuous Variable	-0.317 (0.085)	**<0.001**	0.1242
Score of classroom management of TSEE	Continuous Variable	-0.370 (0.086)	**<0.001**	0.1585

* Beta: value of the estimate or angular coefficient (*slope*) in the regression line; SE: beta standard error. R^2: coefficient of determination (% of variability of the variable response explained by the independent variable). Ref: level of reference.

Through the results of the multivariate analysis, it was observed significant relation of the classroom management score of TSEE with the depersonalization score of CBPR. The teachers with the highest depersonalization score of CBPR are the ones with the lowest classroom management score of TSEE. It was also observed significant relation of the teaching intentionality score of TSEE with the lack of professional accomplishment score of CBPR: The teachers with the highest score of lack of professional accomplishment score of CBPR are the ones with the lowest teaching intentionality score of TSEE.(Table 7).

Table 7 Multivariate linear regression analysis for the lack of professional accomplishment score CBPR (n=100).

Variable	Categories	Beta (SE)*	P-Value	R^2
Age (years)	<40 (ref.)	---		
	40-49	0.069 (0.190)	0.718	
	≥50	-0.287 (0.213)	0.181	0.0354
Sex	Female (ref.)	---		
	Male	-0.273 (0.168)	0.107	0.0262
Time of teaching (years)	<10 (ref.)	---		
	10-19	0.278 (0.217)	0.205	
	≥20	-0.071 (0.209)	0.733	0.0398
Score of teaching Intentionality of TSEE	Continuous Variable	-0.435 (0.106)	**<0.001**	0.1474
Score of classroom management of TSEE	Continuous Variable	-0.358 (0.113)	**0.002**	0.0930

* Beta: value of the estimate or angular coefficient (*slope*) in the regression line; SE: beta standard error. R^2: coefficient of determination (% of variability of the variable response explained by the independent variable). Ref: level of reference.

DISCUSSION

As a confirmation of the international studies, the results presented here also point to significant relations between personal factors (age, sex, perception of administrative and peers support, and professional accomplishment) and structural ones (school infrastructure) with the factors of teaching self-efficacy (teaching intentionality and classroom management) and the whole scale. Likewise, it was found relations between these factors and the burnout dimensions (physical and emotional exhaustion, depersonalization and reduced personal accomplishment) and the entire burnout scale. As discussed by Salanova (2005) and mentioned by Esteve (1994) these factors could be considered either as facilitators or obstacles to the teaching work, enabling a program of intervention with clear and objective indicators.

Regarding age range and time of teaching from the sample, the results point to a "finalization" of the teaching career. This happens in a context where more than half of the productive years (considering 55 as the retirement age, according to the Brazilian National Institute for Social Security – INSS) was employed working as a teacher and the perspective of retirement is more visible, with little or no possibility of changing the kind of work.

It was also verified that 65% of the teachers consider not the school structure not sufficient. This factor has to do with the conditions under which teaching is performed, that is, school facilities (classroom, desks, chairs, boards), the available materials (media resources, library), and the technical resources available inside the classroom and around the school. As suggested by the literature, we confirm the importance of the obstacles for teaching already discussed by Salanova (2005), adopting the definition made of these obstacles by Brow and Mitchell (1993). They say the obstacles are the environmental factors that have the capability to restrain the teachers adequate performance and have an important role in the teaching performance. Teachers with low scores in the evaluation of the structures and conditions of the school environment where they work, present high scores in the dimension of lack of professional accomplishment of the Burnout Scale CBP-R. According to Esteve (1995) these would be second order factors which also strongly affect the teacher´s motivation and engagement in his work even though being considered indirect factors. They are considered this way because they do not prevent the teacher from working, but the teacher feels unsatisfied, what may generate lack of professional accomplishment.

The perception of lack of administrative and peer support is demonstrated in this investigation as determinant factors for the teaching self-efficacy and for the burnout dimension of lack of professional accomplishment. Teachers with high scores for perception of administrative and peer support, also present higher scores for classroom management and teaching intentionality, which are the two factors of the Teaching Self-Efficacy Scale. The scores have significant statistic relation. Conversely, teachers who perceive little support either from the administration or their peers, present higher scores of lack of professional accomplishment of the Teaching Burnout Scale.

The analysis of the relations found between the factors of TSEE (classroom management and teaching intentionality) and the three dimensions of Burnout (physical and emotional exhaustion, depersonalization and reduced personal accomplishment) confirm the main hypothesis of this investigation, which was the existence of inverse correlation between these two constructs. The scores measured in the Linear Regression

Analysis for the dimensions of the Teaching Self-Efficacy Scale (TSEE) and the Burnout Scale (CBP-R) in Beta index allow the inference of dependence between them in an opposed direction. It was verified that the addition of a unit in the scores of teaching self-efficacy decreases the burnout dimensions.

CONSIDERATIONS

The results found in this research indicate the importance of the teachers´ beliefs about their professional activity. Different researchers have investigated these relations internationally, in the search of alternatives to explain a proposal of intervention that improves the quality of teaching and the quality of life of these teachers. Under the perspective of Bandura´s Social Cognitive Theory (1986,1997), consistent results have been found between the construct of self-efficacy and these contextual variables, and also relations with the three dimensions of the Teaching Burnout Syndrome.

The current teaching conditions, such as: number of students per classroom, workday, the teacher education, his roles, administration and peer support, teamwork, interpersonal relationships and student behavior are perceived by the teacher as extensively ample and with a low possibility of short term solutions. Besides the precarious conditions of earnings and career, we need to add the issue of violence against teachers widely shown by the media, the sudden structural changes made by arbitrary decisions as to the teaching methods, evaluation systems and the record of the activities. These occupational stressors demand active coping strategies that not happen, because the teachers usually adopt behaviors of avoidance and scape, as to pretend that nothing is happening, to let the time pass, to minimize the problem, to miss work, resulting in increased levels of emotional exhaustion, according to Carlotto (2008).

To Bandura (1997), the excess of work due to the constant need of educational updates and few opportunities to recycle may weaken the beliefs in the working capacities. Similarly, bad structured career plans that do not permit to visualize a real progression in the career, and the unbalance between the work life, and the personal life may also increase the adverse effects of low sense of efficacy for coping. When facing the academic stressors, the teachers with perceived high self-efficacy direct their efforts to solve the problems in a better way. They look at them as challenges and incentives, focusing its aspects in order to improve their own skills. On the contrary, teachers who have low self-efficacy, try to avoid academic problems and turn their efforts to relief emotional stress.

The present study documents the multidimensionality of the teaching function, its determinant relations and indicates the search for planned proposals for the increase of teaching self-efficacy as an instrument of change in the education scenario. Indeed, our teachers are more and more exposed to the occupational stressors that, if not approached in a definite way, will become chronic and have this professional ill with the development of the Burnout Syndrome, among other health problems. It is urgent the quest for possibilities of developing personal coping strategies that not only avoid getting sick, but also that strengthen the critical-evaluative capacities of these teachers. Bandura (2008) refers to an extensive program of investigations in which were verified new views about the role of perceived self-efficacy for education, for health promotion and prevention of diseases, demonstrating that such beliefs can be raised and strengthened generating personal and social changes. To Azzi (2010) social transformations are possible, and Social Cognitive Theory gives us the possibility of coping with everyday issues in a definite way.

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138 - The Shared Construction of Reading and Writing: Diversified Activities in the Classroom

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Abstract: This work discusses the pedagogical mediations that are capable of favoring the process of initial reading and writing construction. It comes from the studies that have been developed by the group named Teacher Formation and Educational Practices in the Basic Education and College (GPFOPE), from the Federal University of Santa Maria (RS/BR), from the project Written Culture: methodological innovations in school. This study turns to issues that are related to the reading and writing appropriation, investigating the interactions and mediations that provide the advance on building hypothesis and conceptions developed by particular individuals in the literacy process. The studies that have been developed allow us to highlight the importance of the collaborative activities considering that they favor autonomy, self-organization and the social cognitive conflicts that are generated from the activities developed in a shared way. It is believed that the presented considerations are capable of contributing for the outlining of propositions that focus on overcoming the problematics which involve this thematic.

Keywords: literacy, collaborative activities, pedagogical mediations

INTRODUCTION

Many researches have been identifying problems within the children literacy processes and results in the Brazilian school context as indicated by the country's placement in the PISA105 (2006, 2010), in which Brazilians have been presenting low average scores to what concerns the reading and writing competences.

Under these perspectives, the problematic referring to the school failure in the literacy process has raised many attempts to alter this concerning picture. Public policies consubstantiated into programs, and curricular reformulations are sought by part of the Ministry of Education of the country. The schools manifest propositions of continuing formation for their teachers and partnerships with different community sectors in order to subsidize their teaching actions. Also, the Brazilian universities realize propositions that comprise the production of knowledge directed to the outlining of innovations in the literacy practice from the teaching/research and extension activities developed by themselves, as well as the increment in the actions of initial and continuing teachers' formation.

The work that has been developed by the group named Teacher Formation and Educational Practices in the Basic Education and College (GPFOPE) from the project *Written Culture: methodological innovations in school* inserts in the actions developed by the Federal University of Santa Maria in this direction. This project is constituted in a shared reflection space that involves the knowledge and the constructions of the literacy process, making it viable for the Municipal and State Education Systems school teachers, academics and other members of the research group to review, deepen and produce knowledge, allowing advancements in this knowledge field. Just as well, the possibility for the literacy classes students from the schools that participated in the research to be answered to their necessities, respecting the different learning paces and cognitive styles that are present in the classroom.

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[105] PISA - *Program for International Student Assessment*, launched in 2000 with an assessment realized in 32 countries for students at the age of 15. It is a test realized every three years which evaluates competences in the areas of reading, mathematics and science. In the evaluation made in 2006 with 57 countries, Brazil placed in 49th. Even though the evaluation realized in 2009, released in 2010, revealed that the Brazilian education is improving, we still place in a bottom position: within a rank of 65 countries, we have the 53rd placement in Reading and Science and 57th in Mathematics.

The activities that are tied to this project refer to the follow-up of literacy classes in schools of the Municipal and State Education Systems from the Municipality of Santa Maria/Rio Grande do Sul (RS)/Brazil (BR); to the construction of diversified reading and writing strategies contemplating the cognitive differences of the learners and allowing a shared reflection space amongst the research group members106.

The methodology established for the research is that of qualitative nature, which consists in an ethnographic design based on participant observations and report analysis for following development of diversified activities together with the literacy teachers. According to André (2000), these observations are participants because the researcher has an interaction degree with the studied situation, affecting it and being affected by it. On the other hand, the analysis of the reports is working for the contextualization of the school reality facts, becoming a starting point for the studies based on theoretical sources, as well as for the necessary referrals for the development of the research.

In the ethnographic study there are other characteristics like the interaction between the researcher and his object of study, in which the researcher appears as an important mediating tool in the data collecting, making it possible, if necessary, the modification of techniques, the review of the methodology used in the research (André, 2000).

Thereby, the members of the GPFOPE have been working together with the schools so to understand that interactions and mediations are capable of providing the advancement in the construction of hypothesis and conceptions about the reading and writing of individuals in the literacy process, as well as expanding the findings and studies in this area.

We believe that such work requires an understanding on the ways of interactions that are capable of providing the advancement in the constructions both from the teachers and the children from the literacy classes. In this sense, the collaborative activities involving reading and writing have a preponderant role in these constructions, interfering upon the cognitive antecessors brought by the children and reverberating in the production of innovations in the educational practices (Bolzan, 1998, 2002, 2003, 2007a).

Next, we seek to provide conditions of pedagogical authorship and cognitive autonomy to the different individuals involved in the research from the methodological strategies produced and developed in the group, as well as enabling the study and discussion about which mediations and interactions can favor the advancement in the construction of hypothesis and conceptions upon the reading and writing.

THE LITERACY PRACTICES AND THE TEACHER EDUCATION: PUNCTUAL REFLECTIONS

The practices that refer to the reading and writing acquisition process can be described, at least until the 80's decade, by rotation: sometimes, the option for the synthesis principle, whereby literacy comes from the smaller units of language, the phonemes, the syllables, in direction to the larger units, the word, the sentence and the text; some other times, the option for the analysis principle, whereby literacy, on the contrary, comes from the larger units and meaning carriers: the word, the sentence, the text, in direction to the smaller units (Mortatti, 2006).

Under the perspective pointed out by Zaccur (1997), it is about ministering, drop by drop, minimal fractions of knowledge, assuming that the knowledge fragmentation means to facilitate learning. This way, teaching reading and writing sums up to a series of growing difficulties: first, isolated sounds in correspondence to graphical signs and, later, the disassembly and reassembly of words; words related to sentences, sentences putting paragraphs together and paragraphs integrating texts.

From the beginning of the 80's, such propositions have been systematically questioned mainly by the introduction of the constructivist thinking in Brazil, distributed by the Argentinian researcher Emilia Ferreiro and collaborators. The work of this author has brought a significant change in the assumptions and objectives in the literacy area, fundamentally altering the conception of the learning process once it has dislocated the axis of the discussions upon the teaching methods for the learning process of children, that is, it has positioned the debate no longer only on how to teach but mainly on how to learn.

These ideas have caused a true conceptual revolution as it has allowed identifying and explaining the process through which children appropriate themselves of the writing and, as a consequence of it, has suggested the conditions on which this process develops more adequately, revealing the fundamental role of an intense and diversified interaction of the child with the practices and real reading and writing materials so that the written language conceptualization process occurs.

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106 Members of the research group are: teachers that act in classes of the first and second year of the Elementary School in the Private and Municipal System of Education from Santa Maria/RS, UFSM students from the undergraduate course in Pedagogy, from the Post-Graduation, master and doctorate in Education, as well as professionals from other related areas such as Speech Therapy, Psychology and Special Education.

Along with these ideas, the studies from Vygotski (1994, 2005) gain prominence in Brazil, fomenting the debate upon the necessity for rethinking the teaching of reading and writing because what is done is "We teach children how to draw letters and build words, but not the written language. This way, we emphasize the mechanics of reading what is written, which ends up obscuring the written language as such" (Vigotsky, 2007, p. 139, translation).

In this perspective, it is possible to indicate that the literacy practices have been constituting themselves from two great epistemological paradigms: the traditional paradigm of reading and writing teaching, fundamentally characterized by the formulation of "prescriptions" and "action procedures" that by describing the path to be taken in the literacy process with much objectivity lead to a pedagogical mediation based on the reproduction and execution of role models (Braggio, 1992). Just as well, the social constructivist paradigm which puts into question the standardization and unification models when it is suited in the idea of construction and re-elaboration of the social historical experiences, demanding the appropriation and re-elaboration of the knowledge and the deeds related to the reading and writing acquisition process (Powaczuk, 2008).

Thereby, the constructivist assumptions, once they foreground the idea of knowledge construction, restitute to the teacher the leading of their action, recognizing them as someone who is able to produce their pedagogical practice, providing subsidies for facing the singular classroom situations, making it possible to re-elaborate new theories, knowledge and deeds, from the analysis of the historical social contexts that occur in their literacy practice (Powaczuk, 2008).

We understand that this transformation process is slow and gradual which is constituted from a reflexive conciliating practice between the deed and the reflecting upon this deed, set in a double direction: the internalization of the principles and assumptions related to teaching literacy process and the exteriorization process, as the teacher needs to be capable of mobilizing the elements at their disposition for the construction of new possibilities for action.

The arguments of Isaia and Bolzan (2005) point to this direction when they affirm that the teaching acting implies in a process of the teachers' previous knowledge appropriation, pedagogical knowledge apprehended in the professional formation and their relationship with the pedagogical practice (the knowledge of the practice, as much as the knowledge mediated by the practice) developed in the teaching day-to-day through such an internalization process, leading to an active and transforming incorporation of the practices. There is a dialectical interaction between these pieces of knowledge. Not regarding a reproduction process but fundamentally a recombination of what has been experienced, translated into new ways of pedagogical intervention.

This process requires the self-reflecting capacity as intrinsic component upon the teaching deed and thought. The self-reflection process has to do with the comprehension and analysis of the realized ventures. It is when the individual puts himself into thinking about what is happening (reflection into action) or about what has happened (reflection upon the action) (Schön, 2000) with the objective of finding not only answers to the questions that he has made facing the found difficulties, but also to look for possible steps to be performed in order to achieve the intended purpose of his action.

However, in this confronting, not rarely the teachers are invaded with a feeling of pedagogical solitude which according to Isaia (2006) can be attributed to the feeling of helplessness of teachers facing the lack of dialogue and pedagogical knowledge shared to face the educational act.

In this direction, it is fundamental to consider as part of the literacy practice the viability of the space so that the teachers realize the shared reflection upon the deeds. According to Bolzan (2007b), the shared reflection process is fundamental to the teaching learning since it allows the building of ideas that are redesigned in shared way, creating an interaction web weaved as the participants of this process have the opportunity of confronting their points of view in relation to the knowledge and deeds that they produce daily, thus favoring the process of learning how to be a teacher.

THE BUILDING OF A COLLABORATIVE WORK BETWEEN THE SCHOOL AND THE UNIVERSITY: READING AND WRITING COLLABORATIVE ACTIVITIES

The work has been developed from the monitoring of the school reality through the analysis of classroom situations, which makes it possible to better understand in what way the teacher stands as a mediator of the pedagogical action, playing his role as a knowledge manager besides allowing to recognize and identify the ways of hypothesis construction and conceptions on reading and writing presented by the individuals in this process.

The members of the GPFOPE, together with the conductors of the classes, have developed and monitored the activities previously elaborated and collectively discussed in the study meetings. These activities took place

in six schools, five being municipal and one state level. From the monitored schools, five are situated in Santa Maria/RS and one in the municipality of Itaara/RS.

In order to boost the research, support groups have been constituted to each one of the schools that participate in the investigation, integrated by the members of the GPFOPE, together with the conductors of the classes, who have been developing reading and writing activities subsidized by the discussions and theoretical deepening realized in the study meetings.

The meetings are held fortnightly, sometimes taking place at the Federal University of Santa Maria (UFSM) – Education Center, sometimes at the schools that take part in this investigation thus becoming a space for shared reflection involving the knowledge and deeds about the literacy process, allowing the teachers of the schools from the Municipal and State Education Systems, academics and other members of the research group to review, deepen and produce knowledge in this area.

Initially, mappings of approaches to literacy in course were realized from the regent teachers' reports, as well as the diagnostic of the lecto-writing levels in the classes. For this, Ferreiro e Teberosky (1987) was chosen as reference in order to realize reading and writing testings. This initial contact was proposed as alternative to enable the creation of pedagogical strategies according to the necessities and interests of the groups that were followed, bearing in mind that such a work needs to be appropriated by the teachers and students involved in this process, searching for meaning and [re]contextualization that are proper and permanent to their knowledge deeds (Bolzan, 2005). Then, later, reading and writing activities were elaborated and developed in a collaborative way, having participated teachers and other members of the research group. This interaction process is characterized by the shared activity, jointly directed by the individuals that are involved in this process. Teachers, students and collaborators organize, disorganize, define and redefine the interactive process every each step. The basis for every cooperative activity is the joint action; there is negotiation, conflicts which establish a relationship web that composes the whole process (Bolzan, 2001).

For the foundation of this work, we have started from the referent studies to reading and writing acquisition developed by Ferreiro (1987, 2000, 2001a, 2001b, 2002), Teberosky (1997), Vygotsky (1994, 2005) and Salvador (1994). Also, the investigations developed by Bolzan (1998, 2001, 2002, 2005, 2007a, 2007b), which comprehend the reading and writing acquisition as a dynamic process in which each individual presents different cognitive styles, learning pace and ways of learning. Because of that, based on these researches, circuit activities proposals were elaborated.

This dynamic consists in the development of a set of activities which are realized simultaneously by the groups, having a particular thematic as articulator axis. The activities are arranged in each group after the mobilization for the theme in discussion from a support activity that can be, for instance, the reading of a story or a conversation within the big group, amongst other possibilities. At the moment of the distribution of the activities, pertinent explanations for their development are realized, providing the group with the autonomy to create or recreate rules according to their interests and experiences.

So that the circuit dynamic develops in an organized way, time is determined for the making of the activities in the group. The definition for such time requires a careful planning of the strategies to be developed once the activities progress must be in synchrony, in a way that the groups do not disperse. By the end or even during the activity development, each group receives a registration proposal, which is also flexible within the levels and hypothesis of reading and writing construction present among the children.

This way, these registrations seek to promote hypothesis confrontation, setting the different cognitive levels as upgraders of the collaborative activities that orientate the process of reading and writing construction. This situation also favors the remodeling of the teacher figure in front of this process, dismissing them from the center position in relation to their students' knowledge construction as the child starts to build their autonomy and recognize themselves as a potential informant (Bolzan, 2007a).

In so doing, the work realized with the schools allows us to confirm the relevance of the circuit dynamic as a way of pedagogical mediation. First, by the possibility of evidencing the distinct dynamic from what normally happens in the school day-to-day, generating confrontation and decentralization of the points of view and conceptions about the pedagogical mediations. In the studies realized by Bolzan (2002, 2003), these aspects are shown as resistance element from the teachers towards this kind of proposition as the centrality of the process is no longer their responsibility, beginning to collaboratively float among the students.

Making the activities in a cooperative way, creating room for the students to confront their hypothesis and assumptions with their peers, has evidenced the diversity as interchange situations and awareness upgrader, as well as enabling the remodeling of the teacher's role as the only informant to be consulted since each group integrant is stimulated to be recognized as potential informant.

In this process we have tried to highlight the importance of the teacher in the organization and mediation of the interactive processes that happen in the classroom environment, once that:

> (...) not all interactions are productive, the most productive ones are realized among individuals that are at different levels, though close in development. When the level difference among the individuals that interact is much great, the less advanced individual may ignore the conflict or not comprehend where the same is found. So that a convergence effectively results into a conflictive one, that is, the individual must have the intellectual tools that can make the conflict possible; they have to be capable of accomplishing the required adaptation for the elaboration of new coordinations (Lerner, 2000, p.109, translation)

We agree with Salvador (1994) when indicating that the teaching and learning activities cannot be seen as a series of fortunate encounters between the student and the learning content; it is necessary to consider the performance of the teacher, who is in charge of systematically plan these "encounters", thus being a true mediator and determining, through their interventions, the favoring or not of the process of building students' knowledge.

This way, the developed activities have been elaborated and thought of in the direction of "(…) creating an environment in which the child is called to express themselves, thus creating, exploring, building and also finding themselves being confronted with different points of view from theirs" Perret-Clermont (s/d *apud* Salvador, 1994, p.17, translation) and this has shown to be possible through the organization of different proposed games and recreation.

In relation to the ludic, as a limiting element of the activities, we highlight it as a fundamental element for the effective involvement in the proposed activities. The activities focused on exploring child imagination, from imaginary rides, collective production of stories, have evidenced the relevance of restituting the spontaneity and joyfulness to the teaching learning process.

Mello (2005) when problematizing the proposition of activities indicates that they need to consider the development of what constitutes the necessary basis for the longed acquisition. This implies that the work of the teacher should consider the main activity of each stage of the child's psychic development, which according to Leontiev (1984) refers to the activity whose development rules the most important changes in the psychic processes and in the child's personality psychological traits at certain point on their development. According to this same author, the instruction, in the narrow sense of the term, which develops first of all in the pre-scholar childhood, comes initially from playing, most precisely in the main activity of this development stage, that is, the child starts to learn when playing.

It is while playing that the child understands the social roles of people and the behavior patterns, once that it enables them to put themselves in someone else's place, taking over the behavior of the represented character, favoring the exercise of the child thought through assumptions and hypothesis. Such attitudes and capacities make the necessary foundations for the writing appropriation.

Therefore, we highlight the necessity of reviewing the time that is dedicated for these activities since they are many times seen as unproductive in schools, when, in reality, they are essential for constituting the basis for the writing acquisition (Mello, 2005).

CONCLUSIVE DIMENSIONS

From the work that has been realized, it was possible to identify changes both in the teachers and students positioning\posture throughout the work. Initially, the students have shown themselves to be insecure on how to proceed in the making of the activities collectively but gradually they have developed the notion of group work, thus being able to overcome the individualism that is characteristic from the initial phase, resulting into meaningful advancements in their productions.

To what concerns the teachers, initially, their collocations towards the propositions were limited to disbeliefs shown by their arguments and by not getting much involved with the activities elaboration as well as with the dynamics of the same. Many times they have used the occasion in which we were developing the activities to get other tasks done outside the classroom environment.

In this sense, we highlight that the interaction can many times be considered as disorder by the teachers of these schools, or simply a game with no pedagogical objective. Still, such work proposal can be understood as a tiring school activity once it requires from the teachers constant group reorganization, especially due to the loss of the disciplinary control of the group which they work with.

However, gradually we came to perceive alterations in the teachers attitude such as the interest by the games made, asking for keeping some of the materials in the classroom for later use, as well as by the involvement

that they started to have in the making of the strategies, proposing suggestions and, little by little, getting involved in the circuit dynamics, showing to be surprised at many times with the children advancing in their productions (Powaczuk, 2007).

When considering these ideas, it is important to highlight the words of Guskey (in Garcia, 1999) when indicating that the evidences of a positive change in the learning of students usually precede and they can be a pre-requirement so that there is a meaningful change in the teachers' beliefs and attitudes.

Thereby, even that the alterations noticed in the teachers' attitude are incipient they evidence the relevance of this work proposal together with the literacy classes. First, by the possibility of evidencing the distinct dynamic from what normally happens in the school day-to-day, generating confrontation and decentralization of the points of view and conceptions about the pedagogical mediations. Second, by the fact that it gives vent to discussion about the objectives and purposes of the didactic actions to be developed in the educational practice, once that it is necessary to establish shared goals. Last, by the possibility of crossing different glances at a particular didactical situation, generating a movement of thinking about and upon the collective and individual activity.

This way, we have evidenced that establishing spaces for shared reflection based upon the pedagogical deed is indispensable for the production of innovations in the educational practices as it enables the activation of the teaching thinking. According to Bolzan (2002), the possibility of putting thoughts into words allows the teacher to become aware of the comprehension or not about the themes in discussion, generating a questioning attitude and, consequently, making them reflective of their pedagogical knowledge and deeds, thus favoring the process of remodeling the educational practices.

It is kwon that there is still a long way to run so that there is an effective modification of the pedagogical practices in the literacy process. Therefore, this is a challenge that needs to be taken collectively, from the establishment of teaching spaces, which involve personal and institutional effort that are concretely developed, oriented to the remodeling of the knowledge and deeds tangled in the teaching literacy performance. Believing in this possibility makes us continue to accept this challenge: developing collaborative and diversified reading and writing activities in the circuit dynamics in literacy classes.

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139 - Professorshipness Actions: The Building of Teaching Learning

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Abstract: Understanding the processes related to teaching learning has been the highlight of studies that are developed by the Teacher Formation and Education Practices group: Basic Education and College (GPFOPE), which is linked to the Research line: Formation, Knowledge and Professional Developing from the Federal University of Santa Maria/RS/BR Post-Graduation in Education Program. The research aims at understanding teaching learning conceptions and their repercussion in the building of professorshipness, longing to cooperate with initial and continued teaching development. The carried out research allows to identify teaching learning based on the ongoing developing process, considering the attributes of each professional, as well as the demands of the teaching context, for teaching and learning presuppose having their own paths, which depend on the experiences of being a teacher/professor and on their personal knowledge, apart from their needs and interests, allowing thus this individual to reflect and reconstruct experiences and knowledge which belong to the specificity of their working field.

Keywords: teaching learning, professorshipness, formation processes

INTRODUCTION

The discussion proposed here focuses in the processes surrounding teaching learning, highlighting the relations which surround knowledge domain (scientific knowledge) and know-how domain (working knowledge). It starts from studies developed by the Teacher Formation and Education Practices group: Basic Education and College (GPFOPE) on the research basis of Teaching learning and educational processes: constructive movements of professorshipness in basic and higher education set in the Research line: Formation, Knowledge and Professional Development from the Federal University of Santa Maria/RS/BR Post-Graduation in Education Program.

This study carries out a qualitative-narrative investigation dynamics aimed at understanding the movements produced in teaching learning, both of the teacher who is in charge of the basic education and of the professor of higher education directing us to deepen the subject matters which represent the building of being a teacher/professor.

The studies of Bolzan (2001, 2002, 2007\2008, 2008, 2010); Bolzan and Isaia (2006; 2007); Isaia and Bolzan (2004; 2005; 2007); Vygotski (1993 1994); Davidov and Markova, (1987); Leontiev (1988 1984); Pereira (2000); Ferry (2004), Zeichner (1993), have marked out the routes of our reflection on the complex path teachers/professors go through along their professorshipness production.

Following this idea, the research held by this group starts from a qualitative-narrative approach, reasoned on the teachers/professors voices/ idioms/ speeches about their teaching conceptions and their learning to be a teacher/professor all through their professional education on duty.

Therefore, the investigations take into consideration the shared building processes, as well as the participant individuals social cultural reality, from teachers/professors' discursive/narrative activity analysis making it possible to have an understanding of teachers'/professors' activities, unclosing the subjectivity/objectivity of social relations one can have in teaching (Bolzan, 2007).

The participant individuals of this investigation are active professors of a public university Pedagogy Course, of an education advising center, and of working teachers from public and private teaching system schools, located in the city of Santa Maria-RS, summing up 32 individuals (13 Basic Education teachers) (E.B) and 19 professors from higher education Centers (IES)).

As investigation tools, semi-structured interviews are used, from which teachers/professors are invited to tell situations, facts and stories about their personal and professional paths that contribute to the understanding of the building knowledge process on teaching and its relation with professorshipness, specifying the fundamental movements in this formation process. In this manner, it is believed that the relevance of this

research consists of the possibility of thinking about initial and continued education, not only by the participants of this study, but also by undergraduate students and working teachers/professors. The possibility of reflecting on the theoretical bases built throughout their paths of being a teacher/professor makes it possible to create new and distinct configurations in their actions. It was therefore confirmed that stimulating teaching reflection enables one to produce from his/her own self, resulting in the process of learning about teaching.

THE BUILDING OF PROFESSORSHIPNESS

The studies developed up to here have made it possible to comprehend professorshipness (Oliveira, 2003; Bolzan & Isaia, 2006, 2007; Isaia & Bolzan, 2004, 2005, 2007) related to the subject-teacher's/professor's change movements all through his/her education path, regarding the teacher's/professor's actions and operations, considering

> […] not only the domain of knowledge, education, activities in a certain field, but also the teacher's sensitiveness as a person and professional in terms of attitude and values, having the reflection as an intrinsic component to the process of teaching, learning, educating him/herself and, consequently, developing professionally (Isaia & Bolzan, 2005, p.03).

The comprehension of movements produced in the teaching building implies the consideration on education as a permanent process in the production of being a teacher/professor, in which teachers/professors, on the basis of their own individual and shared experiences, build new strategies, new means of actions and of taking the professional field in a personal development dynamics. It is a question of the process of subjecting oneself *to be able to* (FERRY, 2004) being that alternatives the individual finds to accomplish certain assignments to do a particular task, job, profession, getting away from the educational conception as something to be absorbed, come from the outside, external to the subject, since,

> […] education is not received. Nothing can educate the other. It is not possible to talk about an educator and an educated. Talking about an educator, and about an educated is to affirm that there is and active pole, the educator, and a passive pole, the one who is educated. […] the individual gets educated only by his/her own meas (Ferry, 2004, p.54).

These matters are related to the processes involved in **teaching learning**, as the teaching education is directly related to how the individual subjects him/herself as a learner. It is not about considering education as an independent or autonomous process, but perceiving the personal component, in highlights, in its dynamics, in which the teacher/professor is the ultimately responsible for the motivation and development of the process.

It is highlighted in teaching narratives the comprehension of incompleteness and the search for education continuity as basic elements in this process. The latter, in turn, puts into action distinct ways of teaching development based on peculiarities gotten from different educational practices which are used by the professor throughout his/her educational path. The narratives which follow evidence these aspects:

> *My style is more reflexive I entered philosophy by the philosophy and not by its teaching, do I myself more reflection then, it depends on each one, there are people that want things to be faster more urgent I like things to go slow elaborating being elaborated they go on sitting how you say finding out meanings establishing relations it can be a bit slow but I think it has more quality otherwise you end up reproducing what others say (professor CO-ES)*
> *So I think that this way, I have this way of being so [...] how can I say [...] I am not very systematic in my studies, I know what I want to study, I need some…but I am not one of those who sits for five hours reading the same book about the same theme. I like to read a little, talk about the subject with different people, verbalize it, and when I say different people it is people from different social classes, from different levels of education. (professor CE- ES)*

As it is evidenced in teaching narratives, personal dimension defines the distinct ways of teaching learning, making it possible to indicate this process to be linked to the demands of life, of profession and of established interactive and mediatory processes, being thus the personal and professional paths defining factors to a teacher's/professor's ways of production (Isaia & Bolzan, 2005).

In this process, however, the **gain of awareness** is highlighted on ways of thinking and conducting teaching practice, which are intrinsically linked to the understanding of teachers' /professors' roles and of the

responsibility they carry in the educational context they work. It is characterized by the teacher'/professors' access, by his/her willing to elaborate and re-elaborate his/her practical theoretical constructs, putting him/herself as subject of this educational process. The narratives which follow specify these aspects:

Well, if I am to be a higher education professor, what do I need? Theoretical deepening. I need more than anyone to have knowledge of all this theoretical field with which I am going to work, so that I can have the bridge between this student's culturally built knowledge and the academically built knowledge. So I needed to know very well both kind of knowledge in order to be able to make this bridge for I believe my role is to make the bridge (teacher RO-ES).

To work with teacher's education demands to know the subjects' reality in this process. The experience in basic education has always been a reference to think the learning of being a teacher be that of subjects in development and we ourselves as educators. (AD-ES)

[...] my greatest concern is to create a pleasant environment at school so that these kids wouldn't get tired so that they would really want to go to school, because it is not easy at all to spend whole morning and whole afternoon in an environment if this environment is not beautiful, cozy and fun, because after all, they are kids, they are individuals craving for playing [...]. I think there is a necessity of you to follow certain school subjects, curriculum, in the sense that the school has a prime role that if it is not the school to teach certain concepts, maybe there will be no other place of learning for the kid. And when this is very well systematized, it helps the teacher a lot in his/her lesson plans and also in the development of the classes. (SI-EB)

In this perspective, **teaching learning** is enhanced when the subject teacher/professor is capable of separating aspects in his/her activity, noticing relation among them; by the ability of modifying one activity component and, finally, by the ability of differentiating the means and activity procedures and the selection guided to an end during the activity realization, that is, the ability of the current activity auto-regulation (Davidov & Márkova, 1987, p. 188). As it is evidenced in the following narratives:

[...] Yes, you learn more. It is interesting because one can notice the growth, because that which you didn´t know now you know, what you don´t know now are other matters. So it becomes interesting. This I find good, I like being able to see myself in the walk, how do I say, because this way we see ourselves this I didn´t know, now I know, now what I don´t know are other matters. (AD/ ES).

I learn with challenges, for example, inclusion [...] I didn´t want inclusion, why? First I didn´t feel prepared   [...] I never appreciated poorly made work, then I took a nearly 200-hour course on inclusion on Fridays and Saturdays [...]   we have to invest [...] We don´t have financial return, but we do have learning return [...] I was totally unprepared, then I decided to read and study, what autism is, what down is and when we see theory without having the practice it is one thing, but when you have the practice and see yourself searching for theory, then it is different [...] (MA – EB)

This auto-regulation process implies becoming aware of ways of production in teaching, demanding from the teacher/professor to refine the elements involved in his/her education. As the teachers/professors report in their narratives the possibility of seeing themselves on the way is an indispensable condition for their teaching qualification, as it makes it possible to recognize the ways already walked through, as well as it open possibilities to new paths to be explored.

These aspects make it possible to indicate for an elaboration of a **study teaching activity** which consists of getting involved when working as a teacher/professor and, mainly, the mobilization of the subjects in their search for qualification as a strategy capable of collaborating to the advance in the pedagogical work.

This process showed to be linked to the job the teacher/professor does in his/her **pedagogical work** which is about the processes involved in the teaching practice in action, the ways of organization and reorganization in the strategic didactics. It implies reflection and the constant redimensioning on pedagogical actions developed by the teachers in the perspective of providing autonomy and the mobilization to search knowledge (Bolzan, 2008). These aspects can be noticed in the teachers'/professors' narratives

Take a look at their background luggage [...] and you want to teach them. And they come up with something else and then you have to stop and see [...] I think that what I am teaching is not so interesting. And then I stop and think, so we are always learning, and you learn with kids, right.

They come with much knowledge, even if it is some popular knowledge [...], but they have some knowledge and you cannot ignore that [...] (LU-EB)

The aspects mentioned in teaching narratives make it possible to indicate the emergency of conflicts in the **pedagogical work** organization, working as generator elements of a reflexive attitude from the teacher, and therefore capable of starting the **study teaching activity**. The challenge of being in charge of new issues concerning the developing teaching action and the necessity of creating alternatives, strategies and ways of organization to the problematic experienced in the performance of this profession, guide the teacher/professor to a reflection process and re-elaboration of what he/she has produced.
The professor's narrative reveals this process as propeller in building new learning:

[...] suddenly you review your ideas [...] they will form a new element, of course, evidently, you are arguing with what you have taken possession of, isn´t it?   [...] you establish this internal dialog, so I think this reflection is the one process which basically feeds the teacher. (Professor CO – ES)

This "internal dialog", present at the teaching speech, highlights the polyphony which composes the reflexive process of the individual that questions about his/her work. In such dynamics, it is perceived that this exercise ends up in rethinking of ideas and in changing the way to think the teaching practice itself, longing to make it better (Bolzan, Powaczuk, Fighera, Santos & Rossetto, 2010)
The studies done make it possible to indicate this process to be related to what we denominate **pedagogical alternation movements**, which are characterized as transitional spaces/times between working (teaching practice) and producing knowledge about this work (educational action), demanding from the teacher/professor to keep a certain distance which enables him/her to see his/her action as analysis object (Ferry, 2004).
This process is evidenced in the teaching narratives resulting from dissatisfaction between individuals who long to do and the ones who actually do, besides the desire of obtaining more control over the pedagogical activity. These aspects can be noticed in the following narrative:

Thus this way, I actually found it difficult to work with Information Systems [...] To start with it is many men, something which is totally different in Pedagogy. So they come in, open their laptops and there you are talking and questioning, trying to establish a dialog. I did it on purpose [...} to keep talking about evaluations, no when I talk about evaluations they will correspond. Nothing. Correspond? [...] So it is interesting to work with other courses so that we get to know other students' profiles and ours too. (GA/ES)

The possibility of seeing yourself through the walk and the attitude related to the gain of awareness on the ways of teaching production present in the narrative of the professor **GA** is an indispensable factor to assume one specific action in this direction, as it is made possible to recognize the paths already walked through, as well as it opens perspectives to new routes to be explored.
It is a fact that teachers/professors in their daily work, more and more, find themselves in complex situations of all kinds, be them working with basic education or higher education. Besides the challenge of dealing with a varied public, there are also the institution organizational tensions, relations of power among the teachers, charging regarding productivity and professional performance, generating, not rarely, the feeling of solitude[107] and pedagogical anguish[108](Bolzan, Powaczuk, Fighera, Santos & Rossetto (2010). The teachers' sayings illustrates these strains:

Today, in terms of academical level there is a kind of culture on academic performance there is a kind of productiveness I think it is also competitiveness so people loose the greatest references and their partner becomes a competitor, in all circumstances (Professor CO- ES).

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[107] According to Isaia (2006) pedagogical solitude refers to the feeling of abandonment teachers have face the absence of interlocution and pedagogical knowledge shared in order to face the educational act (p.373).
[108] According to Isaia (2006) the Pedagogical anguish is a feeling developed by teachers because they are aware of the necessity to transform their practices, but they do not know which way to follow. They feel under pressure by the demands of their work, mainly in terms of institutional charging, be that by their titles, production or by pedagogical competence (p. 373).

[...] because teaching does not involve only the teaching classes matter, it involves whatever else from the university, institution in which I am... so, from the relations that are there, from power plays that are constituted, from the organizations, both from my class, and ... finally, from my work in general, so it is necessary to adapt many things (Professora AL- ES)

These strains demand from the professor an attitude of personal balance and serenity which allows him/her to resist and find possible alternatives to realize their work. In teaching narratives, different routing regarding these aspects are noticed, characterizing distinct ways of facing situations, which go on being elaborated and rebuilt throughout the events the individual goes through. As the voices/sayings from AC and LU exemplify:

[...] I think that maybe because I feel as a teacher and very confident of what I do, I have no fear of the challenges my working field can bring to me with the people I will have to deal with (Professora AC- ES).
I did exactly what good part of the teachers who are in a managerial position do, they void their lives and start virtually living inside the university. We all do that. They spend much longer here and then it seems that the university is every thing and family is second plan [...] I made an option I want life, I don´t want to let this institution to kill me because at the most they will send me a funeral wreath (Professora LU- ES)

These matters link us to what Souza (2009) denominates resilience. This author highlights this concept to be related to a differential and evolutive component, which "would explain why certain individuals in identical situations deal with adversity in a more adequate way than others" (Souza, 2009, p.79). An ability susceptible of evoluting through the activation of certain mediations, which happen in the different contexts the individuals are inserted. The narrative of professor AC illustrates this process:

[...] I suddenly found myself in higher education with adult individuals, who questioned much more and there are other kinds of challenges and questionings and arguments and all that, right? I did not fell right there without having a previous experience [...] so I had been through other experiments that, I believe so gave me basis for these challenges (Professora AC- ES)

These considerations allow us to indicate that **teaching learning** is related to the development of this ability, involving the building and rebuilding of the experiences an individual brings along him/herself, producing new senses and meanings for the experiences they have. This process is about the ability in a teacher/professor who, however in hard challenging unfavorable situations, is capable of dealing with the situation, overcoming them and using them for his/her personal and professional development. This way, related **teaching resilience** is named:

[...] the ability of a teaching individual's internal reorganization face the challenges and conflicts evidenced both in the organization of pedagogical work and in the teaching study activity in which he/she gets involved. It presupposes the facing of hard situations lived in the classroom, implying the surpassing of conflicts come from the appropriation of new ways of knowing and doing teaching (Bolzan, 2010).

A process which can make viable the change and the [re]signification in the ways of being a professor, understanding new horizons for the teaching activity. It is observed that the sharing between pairs emerge as an important element in this process. Such consideration can be evidenced in the narrative that follows:

*Let´s rethink this which is bad! It is interesting because we go on constituting ourselves, learning, changing, seeing ourselves some other way. Because we see ourselves one way, then there is somebody who says **no**, seeing you some other way, it is important to us this shift, so that we qualify (Professora GA- ES).*

The done studies put into evidence the sharing between pairs as an important tool in this process. According to Bolzan (2008), the shared reflection process is fundamental allowing the building of ideologies and conceptions which go on re-designing themselves, and thus creating a net of interactions which is produced as the participants of this process have the opportunity of confronting their points of views regarding the knowledge and work they produce daily, favoring then the process of learning to be a teacher/professor.

These aspects are evident in both the basic education teachers' narratives and in the IES professors' voices. However, there are recurring manifestations in the Basic Education teachers' narratives, which make it possible to infer the interaction between pairs as a highlighted element in the process of reorganization in the teachers' teaching practices in this level of education.

It is also pointed out that the basic education teacher manifests his/her teaching reorganization based on elements present in their daily teaching, that is, it is the school floor, the space capable of providing the necessary elements for his/her teaching production, being the interactive processes established with their co-workers and students, defining factors in the way they work in the teaching activity. The narratives which follow show these aspects.

> *[...] I worked this way for years until I realized it was not like this [...] you see with people what works out, somebody comes to you and says "maybe you should do like this." So you dare to do different (TA-EB)*
>
> *[...] So I saw it was working. And that is how I kept on going each year thinking about what I could change, what other alternatives I could use to fill my job, I went on searching, finding alternatives (...) it is in your daily life, in your dedication, your involvement and in the expectations that I create with them and we try to create, to idealize together, it is not alone, it is together, together (SI-EB)*

Regarding higher education professors the sharing is highlighted, however, it is not as frequent as it is expected. It is highlighted in the IES working professors' narratives distinctive devices in the production of spaces/times of pedagogical alternateness and teaching resilience, which refer to the theoretical deepening, the research, as well as the written productions resulting from this process. The narratives which follow illustrate these aspects:

> *[...] so suddenly you review your ideas, your ideas will form a new element of course, obviously, you are arguing with what you have taken possession of, isn´t it, or about what you have interpreted over what you have appropriate, so you establish this internal dialog. I think this reflection is the process of basic feeding for the teacher as you reflect and evidently new questions come up and that is what guides you to search new information or read again this or that author, go back to discussing this or that; so I think reflection is a fundamental element that is what you learn [...] when you are reflecting (RO-ES)*
>
> *[...] I usually write; I've always had the systematic habit of writing; I think before entering university ever since 1965 I used to write systematically every day and to keep some discipline [...] it is some kind of reflection that you put into a paper; then you can dialogue with other people that agree, disagree; or write to newspaper, this is they way I write. So this is a way, if you don´t keep it only to yourself you have to share, right?   (VA-ES).*

Through the voices of the higher education professors we can check that sharing emerges from dialogue with different authors, with supposed readers of their productions, and also with themselves, enabling us to indicate a differentiated teaching production process based on an individualized and auto-guided perspective. Regarding individual perspective, we believe this situation comes from a strong binding this space of teaching working has with research. That is, the fact that an individual is a good researcher would be some guarantee of his/her success in the teaching performance. These aspects are evident both in what is referent to the legislation that normalizes the entrance to the higher teaching career and in the assessment and productivity criteria in higher education. This conception, in turn, has provoked by the institution the lack of commitment with continued education and with its professionals' teaching role, leaving this responsibility of education to each one individually. Thus, the spaces of sharing focused on professional education, or even the discussion of aspects which belong to the teaching practice, in a more systematic way, are restrict in the IES (Powaczuk, Santos & Bolzan, 2010).

Concerning auto-directing, this process can be understood as resulting from an intense elaboration exercise about the professor's working field, having in mind that these professionals, besides the matters that surpass the classroom daily routine, have the responsibility of scientific production in the field they work. The professor when mentioning this teaching working field emphasizes:

> *[...] I felt the necessity of deepening even more the theoretical field. And I ended up emerging through the curriculum field where there is an intersection of public politics and the epistemological issue and I end up searching for the researcher profile. A researcher profile is not about the one who*

researches for the sake of the research only, but about the one who develops the ability of a researcher […] which is this sensibility, the ability to observe, the transparency of what he sees and not a misleading idea of if, which is to have a serious theoretical analysis not only with the idea of reviewing it, but of having the critics also showing what can be done (...) (AR-ES)

In this way, when analyzing the moves of teaching building and rebuilding which configure in the two levels of education, the production of different mechanisms is highlighted, characterizing distinct professorial drawings which get built from various sources, spaces/times of alternation and ways of facing the situations in the teaching daily routine. Thereby, the configuration of this dynamics gets teachers involved in a reflexive process which demands regaining teaching movements, being this process basis for teachers to build and legitimate new knowledge regarding the teaching activity.

CONCLUSIVE DIMENSIONS
The reflections and discussions established in the research development make it possible to indicate professorshipness to be constituted from movements which surpass the teaching production, having reflection as intrinsic component to the process of teaching, learning, getting educated and, consequently, developing professionally. as a result, three elements constitute as guidelines in this process: teaching learning, pedagogical work, the study teaching activity (Bolzan, 2008).

Teaching learning is characterized by the gain of awareness process on constructive movements that individuals in the professionalization process produce to learn and teach. We highlight in this group of elements the understanding of incompleteness and the search for education continuity revealed by the gain of awareness that in this process we are educators and learners simultaneously. This way, the emphasis on the teaching practice is based on experiences which unfold from reflections and interactions established through events and facts reproduced in the pedagogical relation.

Regarding **pedagogical work** it touches upon processes involved in the teaching practice in operation, involving ways of organization and reorganization of didactic strategies. It implies reflection and the constant redimensioning of pedagogical actions developed by the teachers/professors with the objective of promoting autonomy and the mobilization to search knowledge (Bolzan, 2008). And, **the study teaching activity** involves built educational movements, which emerge as demands of the teaching profession. The study teaching activity consists of getting involved with doing the teaching and, mainly, the mobilization of the individuals to search qualification as a strategy capable of collaborating to the pedagogical work progress.

This way, we identified from our studies distinct professorial types being produced from a peculiar composition which involves the three elements mentioned above. As aspects which boost this composition we identified the **pedagogical alternateness** movements and **teaching resilience** (Bolzan, 2010).

When we highlight these movements we emphasize teaching learning related to the own teaching-in-operation retake processes, having the teacher/professor to face different circumstances and challenges which are established in the daily teaching. This process shows the effort of a teacher/professor guided to go beyond and achieve his/her own way, outlining singular contours of teaching learning. This singular learning gets amplified as the teachers/professors, in interactive situations, discuss and re-elaborate their capacities of facing situations with their pairs, so the sharing spaces emerge as a highlighted element in teaching learning.

Therefore, in an effort of understanding the complexity which involves the dynamics of teaching and learning we judged that these elements are capable of qualifying the educational processes as an investment in interpersonal relations and in the collaborative work.

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286 - Academic Self-Efficacy and Learning and Study Strategies: Brazilian Students´ Perceptions

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Abstract: The objective of this study was to analyze the correlations between Academic Self-Efficacy and the use of Learning and Study Strategies of Brazilian high school students, considering the specific characteristics of each grade, each period, and the conditions about students who also work or not. 534 high school students from nine public schools participated in this research. The following instruments were used: High School Students Academic Self-Efficacy Scale and Learning and Study Strategies Inventory, having used its dimension named Information Processing. Results presented positive, significant and moderate correlation between Academic Self-Efficacy and Learning and Study Strategies. The correlations showed a difference of intensity when considering the school grades, periods and whether the students also worked or not. For the Brazilian sample, Academic Self-Efficacy is associated with the prediction of actions towards the use of Learning and Study Strategies. Important educational implications shall be discussed.

Key-words: Self-Efficacy; Study Strategies, High School, Motivation

INTRODUCTION

The belief of academic self-efficacy has been identified as a predictor of desirable actions to promote school learning. Studies have demonstrated that students with high perception of academic efficacy are more cognitively engaged during classes, and this fact helps them to develop educational competencies. They are also more persistent against school challenges, besides demonstrating higher availability for tasks related to studying even when there are other social activities to do. However, the belief of academic self-efficacy involves something bigger than the perception that effort can conduct to success. It encompasses the judgments about one´s knowledge, one´s capabilities, the strategies one dominates, and the way one uses them in order to manage the stress related to the educational tasks, affecting the students' aspirations and their levels of interest in intellectual subjects, mediating, thus, the motivation to learn. (Bandura, 1993, 1995; Zimmerman, 1995).

High levels of academic self-efficacy have also been associated to the capacity of learning to learn, so necessary these days. The setting of learning objectives, self-monitoring and self-evaluation are actions that guide the process of learning how to learn, and these processes enable the self-judgment about one´s understanding regarding the learning that occurred. Students who perceive themselves more capable tend to understand that skills can be built, and they self-regulate their own process of learning. To do so, they select and use diverse learning strategies, trying to find the most appropriate one for each kind of activity to be developed (Bandura, 1993, 1995; Zimmerman, 1995).

Metacognitive strategies are fundamental to self-regulated learning, because they provide the selection of the appropriate strategies, test the individual comprehension about one´s own knowledge, allow the corrections of the individual weaknesses and the perception of the cognitive strategies (Boruchovitch, 2004). There are diverse strategies which are characterized by different types due to the cognitive resource applied by the student, especially the ones denominated information processing (Boruchovitch, 1999). Pozo (1996) defined that study strategies refer to the means or ways the students use to learn or as a sequence of planned activities performed by the subject in order to learn something.

In the research made by Bartalo (2006) the verification of the use of the information processing strategy by the students consisted of evaluating the "use of imagery and verbal elaboration, monitoring of comprehension and reasoning", and also, "the building of bridges between what the student already knows and what he is trying to learn and remember". This has as steps the "processes of acquisition, retention and future application of new knowledge and information" (p.75). The operational way these study strategies can be performed requires from the student the use of meaningful and organized means, for example, to

paraphrase and summarize texts, or even to elaborate analogies, notes and schemes, as well as the use of analytical, inferential and synthetic thinking.

Valle and colleagues (2009) indicate the need for the students to become more strategic with their studies, so as to act intentionally and achieve the expected results. These authors investigated students from 12 to 16 years old from secondary school in Spain. They used instruments to verify cognitive strategies (selection, organization, elaboration and memorization of information) and self-regulation strategies (planning and supervision-revision); also, they used students´ academic achievement through the grades from varied school subjects. Among the results, a higher use of different cognitive and self-regulatory study strategies brought a positive consequence and improvement in academic performance. In contrast, a lower use of these is associated with lower levels of academic performance.

Another study that associated study behavior and academic performance was developed by Rosario, Ferreira and Guimarães (2001). It was observed that the students with high performance presented a different study profile from the others. They found that they present deep motivation to learn, which is centered in the understanding of the information in a general way and supported in strategies that allow them to reach their objectives. The researchers state that one reason that makes a strategy to be operational is set in a deep approach, not a superficial one, instead. The results of this investigation reinforce the idea of understanding why the students study and how they do it either for building knowledge or school success.

The use of study strategies seems to be a promising way to make learning happen. The mastery and use of different strategies bring benefits for the learning process, which have been approached by several authors (Rosário, 2001; Rosário, Ferreira e Guimarães, 2001, Souza, 2010, Valle et al. 2009, Bartalo, 2006, Pozo, 1996). Motivational factors have been associated to the use or not of study and learning strategies, and among these, there is academic self-efficacy.

Souza (2010) affirms that self-efficacy is one of the constructs most associated to the use of study and learning strategies. The reason for this comes from the fact that students with high self-efficacy demonstrate positive expectations to their own academic results, which push them to make efforts to find more favorable strategies for the execution of the different school tasks, even in the presence of difficulties.

Regarding self-efficacy, Azzi and Polydoro (2010) discuss that when people believe that their actions can produce desirable attainments, they feel motivated to act and persist when they face potential obstacles. It is possible to bring this focus for the school context, which may require diverse study strategies, especially when the young is confronted with a new level of study, namely, high school. Nevertheless, it is important to alert that the academic self-efficacy belief by itself does not guarantee school learning. Self-efficacy has been shown to predict the necessary behavior for such learning to happen, but if the student does not have the skills and knowledge that constitute the prerequisites to learn, it will not be enough for this student to believe in his own capacities, because he will act towards this learning without success (Bandura, 1993; Schunk, 1995; Zimmerman, 1995).

The student´s self-efficacy belief is built along his school life, through the interpretation of his own school attainments and the dedicated behavior to these achievements. It is also built by interpreting the answers that are provided by his peers, teachers and other educational agents, which constitute the environmental influences.

It can be also mentioned that this belief is not static. It is different across time, because the self-efficacy belief may present oscillations, becoming stronger or weaker, demonstrating thus the dynamic feature of the belief. Azzi, Guerreiro-Casanova e Dantas (2010), warn that, because specific tendencies for each grade have been observed, there is the necessity of increasing the understanding about the academic self-efficacy under the proper characteristics of each year of high school, which can help the development of pedagogical actions.

According to Bandura (1993, 1997) the self-efficacy belief exerts influence in one´s development path. That could mean that the reflex effects of academic self-efficacy are demonstrated besides the behaviors related exclusively to learning tasks. Pro-social postures, with standards of desirable interpersonal and emotional behavior are associated with the strong intensity of academic self-efficacy belief. The opposed belief is related to harmful behavior, verbal and physical aggression (Bandura, 1993, 1997, 2006).

The occupational aspirations and the processes that guide the career decision are also influenced by the belief of academic self-efficacy (Brown & Lent, 2006). This belief has been shown to be a better predictor of career decision than the facts related to the socioeconomic aspects. In the final years of basic education, it has been demonstrated that the male students see themselves more self-efficacious than female students (Faria, Taveira & Saavedra, 2008). The experience during the three years of high school seems to alter the students´ perception concerning the capacity to plan actions to achieve professional objectives, which becomes stronger along the school years (Azzi et al., 2010).

From what was exposed, it is possible to see the important contribution of academic self-efficacy for the activities that are related to learning, and among these, the use of study and learning strategies. However, the correlation between academic self-efficacy and the use of study and learning strategies is still incipient in the Brazilian context, especially for the high school years. The objective of this research was to analyse the correlations between Academic Self-Efficacy and the use of Study and Learning Strategies from public high schools located in an important State in Brazil. As specific objectives, analyses were made of the correlations between Academic Self-Efficacy and Study and Learning Strategies considering the particular features of each year of high school and the students' condition about whether they also have a paid job or not. It is important to clarify that this study delimitates academic self-efficacy as the domain referring to the student´s perception in relation to the perceived confidence in the capacity of organizing and executing required courses of action to produce certain attainments regarding the educational formation. It is considered, therefore, the students´ perceptions about their own capabilities related to learning tasks, perform school life and career choice.

METHOD

Participants

This study was developed in nine public schools in the State of São Paulo, Brazil. In order to obtain diversity in the sample, schools in several different regions of the State were invited, in a way that big cities and small towns could be represented, in the interior of the State. The participation of the schools was assured after the authorization issued by the principal, through an Authorization Letter.

For this research, 534 high school students participated, being 64.6% (n = 345) female. From the whole sample, 183 students were taking the first year of high school, 192 the second year, and 153 the third and last year. About the age, the sample had students between 14 and 24 years old. In the first year, 25.1% (n= 14) of the students were 14 years old, 60.1% (n = 110) were 15, and 14.8% (n = 27) were between 16 and 19 years old. In the second year, 27.6% (n= 53) of the students were 15 years old, 52.1% (n= 100) were 16 and 20.3 % (n = 39) were between 17 and 19 years old. In the third year, 28.1% (n = 43) were 16 years old, 51.6% (n = 51) were 17 years old, and 17% (n = 26) were between 18 and 19 years old, and 3.3% (n= 5) were between 20 and 24 years old. All participants who were under the age of eighteen were authorized by their parents and/or responsible to participate in the study through the signature of a Free Informed Term of Consent. For the participants who were over 18 years old, it was asked them to grant permission by signing the Free Informed Term of Consent.

From this sample, 51% (n= 272) went to school in the mornings, 41.1% (n = 219) in the evenings, and 7.9% (n = 42) in the afternoon. Basically, all the students who participated in this study intend to finish high school (99.6 %, n = 529) and enter in higher education (93.4%, n = 499).

As to the condition of having a paid work, 30.8% (n = 163) of the students plead to be workers. From these, 42.2% (n= 70) said to work full time, 39.2% (n = 65) said to work part time and 18.7% (n = 31) said they did not have a fixed working schedule.

Materials

For this research three instruments for collecting data were used, which are the following:

(1) Characterization questionnaire: this instrument was elaborated by the researchers, with the objective of obtaining information about the personal characteristics of the students who participated in the research, such as, age, sex, year, period and working condition.

(2) High School Academic Self-Efficacy Scale: this scale was developed from the Higher Education Academic Scale (Polydoro & Guerreiro-Casanova, 2010), and was submitted to necessary adaptations of language and context for the understanding of high school students. After this initial adaptation, it was realized the process of spoken reflection with 10 high school students, in which their opinion was asked about the comprehension of the items that integrated the scale and about the applicability of these items to high school educational context. This procedure promoted small adjustments in the writing of the items of the scale. After the evaluation of the psychometric properties, the scale was set with 16 items. The Scale presented internal consistence of 0.886. The items were organized in three dimensions, as observed in Figure 1.

Dimension	Meant to understand	Number of items	Example of item
Self-Efficacy to learn	Perceived confidence in the capacity of making efforts to get involved in school activities, considering the cognitive, motivational and behavioral aspects related to the process of learning and academic performance.	8 items	How much can I motivate myself to do the activities/tasks related to this school subject?
Self-Efficacy to perform school life	Perceived confidence in the capability of performing school life, considering the collaborative engagement with peers and the school/institution	4 items	How much can I contribute with ideas to improve my school?
Self-Efficacy for choosing career	Perceived confidence in the capability to search information and plan relevant actions for deciding a career.	4 items	How much can I define with security what I intend to follow as my profession among the several existing diverse possibilities?

Figure 1 – description of the dimensions of the High School Academic Self-Efficacy instrument.

In order to answer them, the students were guided to think about the current school situation. Then, the respondents had to indicate how much they could perform the proposed situation in each of the items, ranging from 1 for the least capable to 7 for the most capable.

(3) Learning and Study Learning Strategies Inventory. This instrument was originally elaborated by Weinstein e Palmer (1990) and after, it was translated into Portuguese from Portugal by Figueira (1994). In Brazil, it was translated and validated by Bartalo (2006). For the present research only the dimension Information Processing was used, which can be observed in Figure 2. It is composed by 12 out of 88 items of the mentioned instrument. This dimension presents internal consistency of $\alpha = 0.82$.

Dimension	Meant to understand	Exemple of item
Information Processing	Identify the use of verbal and symbolic strategies, the monitoring of comprehension and thinking, as well as the establishment of bridges between what they know and what they are trying to learn and remember.	I try to identify the main ideas when the teacher of this school subject is teaching.

Figure 2. Description of the Information Processing dimension from the Learn and Study Strategies Inventory.

Before starting to answer to the dimension of the Learn and Study Strategies, the student was explained to think about his usual behavior related to the strategies mentioned in the instrument. In order to respond, the student could choose from 1 to 5, meaning that 1 represented the behavior never performed by the student, and 5 the behavior always performed by the student during his study and learning activities.

Procedures
The research project was submitted to the Research Ethics Committee of Campinas State University and after its approval (letter nº1185/2009) the data was collected. The researches contacted the Boards of Education and the responsible in command of the schools with the purpose of presenting information about the objectives of the research and ask authorization to collect data. The schedule was organized according to the availability of the Portuguese teachers, because the students had to answer the instruments during the classes of this school subject.
The researchers went to the respective schools in the scheduled days. They introduced themselves and invited the students to answer the instruments. Initially, the students were invited to voluntarily participate.

They were explained about the content of the research, that data would be kept confidential and with either no harm for the ones who participated, or benefits for those who decided to respond. Those students who accepted in taking part in the research were explained to take the Free Informed Term of Consent to their parents or so to be signed and brought back to the researchers the following day, so that they could answer the instruments. The collection of data was collectively made, inside the classroom, during the class of Portuguese. The students were oriented to answer the questions of the instruments according to with their perceptions about that school subject. The participants answered the three instruments following the same order, starting with the Characterization Questionnaire, then High School Academic Self-Efficacy Scale, and finally Study and Learning Strategies Inventory. The instruments are self-explainable, however, the researcher stayed inside the classroom in order to clarify possible doubts. There was no time limit to answer, therefore, the average time was 20 minutes. The collection of data happened in only one meeting with the different groups because of the school year and period. It happened between the months of April and August 2010.

Data analysis procedure
The protocols answered by the students were visually checked by the researchers to see if all the answers were completed. The ones that were had less than 90% answered were discharged. The answers were inserted in the statistic program SPSS (version 18.0) and 20% of the sample was randomly checked. It was verified that the data was non-parametric by the Kolmogorov-Sminov test, and the Spearman correlation test was applied among the variables according to the objectives, besides the descriptive data of the characterization.

RESULTS
The results are presented below starting from the correlations between Academic Self-Efficacy (SE) (total result, self-efficacy to learn, self-efficacy to perform school life and self-efficacy for career decision), and Study and Learning Strategies (SLS), followed by the correlations according to with the school year, the period of study and the students´ conditions about working. It is interesting to clarify that the strength of the correlation discussed here was classified as: weak ($\rho \leq 0.399$), moderate ($\rho \leq 0.400 \geq 0.699$) and strong ($\rho \geq 0.700$) (Dancey & Reidy, 2006), and all correlations found were positive and significant. It is worth mentioning that the answers given by the students were based on the Portuguese school subject.

Table 1 - Correlation between Study and Learning Strategies (SLS) and Academic Self-Efficacy (SE) – general result, by school year, by period and by working condition. ($**p < 0.0001$)

		Academic Self-Efficacy	Self-Efficacy to learn	Self-Efficacy to perform school life	Self-Efficacy for career decision
Study and Learning Strategies		0.638**	0.648**	0.394**	0.494**
	1st year	0.648**	0.607**	0.449**	0.493**
	2nd year	0.678**	0.682**	0.386**	0.574**
	3rd year	0.602**	0.651**	0.375**	0.417**
	Morning	0.624**	0.558**	0.350**	0.470**
	Afternoon	0.718**	0.841**	0.509**	0.624**
	Evening	0.629**	0.660**	0.427**	0.503**
	Works	0.676**	0.712**	0.447**	0.571**
	Does not work	0.619**	0.618**	0.363**	0.461**

It was observed that the correlation found between Academic SE and SLS was weak only for the dimension "perform school life". About the correlation between total Academic SE and SLS, it was moderate for the

dimensions "learn" and "career dimension", having "learn" a higher score between these two. These correlations were significant.

As can be observed in Table 1, the correlation between Academic SE with SLS was moderate, positive, and significant for all school years. The dimension SE to learn also presented moderate, positive and significant correlations with SLS for all school years. The dimension SE to perform school life presented moderate correlation with SLS for the first year students, and demonstrated weak correlation for second and third year students. The dimension SE for career decision presented moderate correlation with SLS for all school years. The correlations between Academic SE and SLS was positive and significant for all periods, as seen in Table 1. In this same Table, it is possible to verify that the correlation between SE and SLS was moderate for the afternoon and evening periods, being the latter one strong. The dimension SE to learn, presented moderate correlation with morning and evening periods, with strong correlation with the afternoon period. The dimension SE to perform school life presented weak correlation with the morning period, but moderate with afternoon and evening periods. The dimension SE for career decision had moderate correlation with the three school periods.

The correlations between Academic SE and SLS was positive and significant for students who work and for the students who do not. The lowest correlation was between SE to perform school life and SLS, either for the students who work (moderate correlation) or for those who do not (weak correlation). The only strong correlation found was between SE to learn and SLS for the students who work. Generally, the students who work presented higher correlations between total SE and SLS and its dimensions.

DISCUSSION

Overall, the results found in the analysis between Academic SE and SLS Strategies indicated positive and significant correlations with moderate magnitude in Academic SE, SE to learn and SE for career decision (ρ= 0.638, 0.648 e 0.494, respectively), which suggests that those students who judge themselves academically more capable, also use study and learning strategies for the Portuguese subject more intensively. These findings reinforce the data found by Neves and Faria (2007). The authors investigated Academic Self-efficacy of Portuguese and Math in 207 students from the 9th and 10th school year in a city in Porto. They used instruments to analyze self-efficacy, the causal attributions and academic performance in these two school subjects. The results found revealed significant and positive correlations between self-efficacy and school achievement. Thus, it seems that academic self-efficacy exerts a relevant role in the motivation and school accomplishment. This role is in a way that psychopedagogical interventions can be planned towards creating conditions to promote motivation and school achievement driven to specific and related domains. These conditions must be realistic, and promote the use of learning strategies which are adequate to the task.

When considering specifically the correlation between SE for performing school life with SLS, weak intensity was observed (0.394**). This low intensity may be a result of the inexistence of items to measure the study and learning strategies that consider learning strategies performed cooperatively with one or more peers. The dimension SE for Performing School Life is meant to verify the students´ perceptions about, for instance, the capability to work in groups or ask for help for a colleague, in a way to consider the necessary attitudes to learning, considering the social and interpersonal aspects that surround the learning, as suggested by Bandura (1993:1997).

Regarding the correlations verified between SE and SLS according to the school years, it was found positive and significant correlations for all of them. Only the dimension SE to perform school life presented differences of intensity for the years, being moderate in the 1st year, and weak for the 2nd and 3rd years. This result indicates the importance of investigating the aspects which are involved in the lowering of the intensity of this correlation. This dimension analyses the perception of the capacity about the aspects involved in performing school life (working in groups or search information about the infrastructure and facilities of the school the student goes to) therefore, related to social life. The instrument that was used in this research to identify the use of SLS has only items related to learning strategies that are developed individually, and this might have contributed to lower the observed intensity.

When the correlations between the periods were analysed, it was observed that the evening students (strong correlation) demonstrated a more intense correlation between Academic SE and SLS than the morning students (moderate) and the afternoon ones (moderate) in all dimensions. In this regard, it is important to consider that the self-efficacy perception is built by contextual issues, so that, eventually, the environmental conditions that are different in each period (for example, different school agents, less researched students in the evening) might have contributed to raise the intensity of the observed correlation. It would be interesting to analyze whether those differences in intensity of the correlation may be associated to the students´ working condition. From the information gathered, 42.2% (n= 70) of the students work full time, which

allowed to infer that they went to school in the evening. Also, 39.2% (n = 65) of the respondents said to work part time but there was no possibility to understand whether they went to school in the mornings or afternoons.

The correlations found between the variables researched considering the condition of working or non-working students were all positive and significant as well. When compared, a difference is observed, because there are more intense correlations when considering the working students. It is important the strong correlation observed between Academic SE and SLS for the condition of the working students, what seems to indicate that they use more those strategies as more self-efficacious they become. The correlations observed between SE for career decision and SLS were moderate for both the working and non-working students. The experience with a working activity may represent clearer objectives for one´s personal aims. It may also contribute to greater efforts towards the achievement of goals, for example, the exercise of studying. Rosário and colleagues (2006) propose that helping the students to design possibilities and realistic professional proposals is an important educative feature, associated with thinking about a challenging future, in order to make the student manage his school life and build his own school path. The authors state the need of going beyond helping them solve problems, but to give them a sense of being able to change the course of unsuccesses, with a more preventive rather than remedial attitude.

CONSIDERATIONS

The perception of Academic SE and the use of SLS seem to be relevant constructs in the context of the Portuguese classes, as investigated here. It is important to be aware about the clarity and objectiveness of the definition of these constructs, and the specificity of the domain to be investigated. This is proposed by the study of Torres and Neves (2010) that investigated these constructs associated to school performance with elementary students in the city of Braga. The results indicated that there may be influence of use of learning strategies when forming efficacy expectations, being significant when it is considered self-efficacy in Portuguese and not in Math because they can differ as to the use of strategies. They also mention that the expectations of academic efficacy towards the specific attainment domains that were studied (Portuguese and Math domains) influenced in a positive and significant way the score to Portuguese and to Math.

In the correlation between Academic SE and SLS under the focus of the school years, it is pointed out the decrease of the intensity of the correlation about SE to perform school life from the 1st year to the 2nd and 3rd ones. Besides the considerations already made about the instrument, it is worth investigating about the practices of incentives for the execution of collaborative and participative activities, considering peers and the school context, corroborating Azzi and colleagues (2010).

When considering the focus of the school period, the correlation found between Academic SE and SLS seems to indicate that the time the students go to school has to do with the motivation to learn. It is stressed the need of considering the environmental and contextual differences for each period, for the realization of the pedagogical activities developed in the classroom and/or at school.

The students´ condition about working or not seem to be an important variable about the aspects of perceived SE and the use of SLS, once the observed correlations for these were more intense. As mentioned before, researches have highlighted the contribution of academic SE for career decision (Brown & Lent, 2006; Faria, Taveira & Saavedra, 2008), over other aspects, as the socioeconomic one.

As to limitations, it can be mentioned that the sample does not represent the whole diversity of Brazilian public schools. The range of this sample was limited by the difficulty to obtain authorization from parents or responsible for the students who are under 18 years old.

As to contributions, the correlations of this study indicate that also in the Brazilian population, the belief of Academic SE is associated to the prediction of actions toward the use of SLS. From the obtained results, important educational implications must be discussed for the Brazilian reality.

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327 - Support to Educational Leadership From School Counselors. The Spanish Case

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Astract: This paper presents the results obtained through a research project I+D, funded by Ministry of Education. It has been used a multi-case-study methodology that combine interviews data to principals, teachers and counselors of different schools. The aim is to understand cultural and professional identity keys that facilitate o difficult the development of a coordinated action principal-counselor to practice and distribute the leadership of learning to the community. It gives a revision of the current literature about the subject. It is offered an overview of the interaction between educational counseling and leadership for learning. We describe and discuss the duties and possibilities of the support services and school counselors. We analyze the organizational structures that will be able to enhance the educational principles in a culture of change and improvement of results. And finally, we contribute with some conclusions and implications to appeal for an academic and professional debate.

Keywords: leadership for learning, distributed leadership, school counselor, school improvement, relationship counselor and principal.

RESEARCH PROBLEM

There are empirical proofs about the effectiveness of leadership for learning and its impact on outcomes (Leithwood, 2009). Principals can influence on results and give to the school a strong pedagogical leadership in order to improve the school and the relationships between teachers, students and curriculum (Elmore, 2010).

As emphasized in the report "Improving School Leadership" (OECD, 2009), the issue is now a priority for the system (Pont, Nusch, & Moorman, 2008) that must be addressed. But it is not returning to the romantic lead, but to explore new options. A distributed educational leadership within the community (Harris, 2004), supported by supervisory and advisory functions, can be an important element for cultural change at the school. In this sense, it is interesting to explore how to make possible and efficient the support for educational leadership in order to be shared by work's teams within a community educational project.

TALIS results (OECD, 2009) show the controversies for this leadership in Spain. It is evidence that in Spanish case does not exist educational and management leadership. The principals in this country have had few powers to get an educational leadership.

Perhaps there are enough global diagnoses and specific stories to know the reasons of this situation (Coronel & Fernández, 2002; Gago, 2006; Viñao, 2005). So, it is necessary to redefine duties in order to recompose the principal's leadership. The improvement of secondary education institutions is a priority, even if it is complex and needs the concurrence of internal and situational factors. Educational administration should be involved for subsequently to promote, develop and support the leadership for learning. This requires a professional debate about what leadership is, and what we need to make viable and maintain it over time.

Promote a professional performance, in line with what the current pedagogical knowledge as the most relevant points to promote the improvement of schools and learning outcomes is a task is highly complex. And it must be done in a realistic and possibility. The romantic speeches blaming or victim and little can bring.

In this context there are significant changes, supporting the transition from a bureaucratic model to a pedagogical orientation, designed to improve learning and schools' outcomes (MEC, 2007; DOGC, 2010). But still there are overregulations and limitations that cannot be ignored (Bolívar, 2004, 2006). Next to it there is a current of "best practices" in this sense. There are inquiries about how learning leadership is produced and in which circumstances by scholar principals (Bolívar, Domingo & Caballero, 2011).

The evolution of the principal's role in the Spanish case is accompanied of some singularities: There is not only a principal, but a management team, and responsibility for education improvement has to be distributed among teaching teams. In our context there are participation and coordination structures among teachers, support structures and other communities that can offer a new horizon. Many of them have an interesting repertoire of "good practices" to support the improvement, serving as example to go on its way.

Out f those, we are interested in the figure of the school counselor and more particularly on that of the guiding counselor of Secondary Education. The reasons are obvious. On the one hand, they have a real presence in all secondary schools, stage that changes on all reforms. And, secondly, their psychological training and the role of the norm that defines their functions and field of work, gives them special educational vision and a strategic position.

Along with this, it is important to bear in mind that the school management in Spain is not professionalized and that is performed by a teacher chosen by their colleagues who have a certain profile. For this reason, in certain circumstances, some support, advice and strategic and programmatic tools might be welcome. This supports may be perceived as irrelevant interferences. Life histories, professional and institutional culture and another set of circumstances are intertwined and weave complex scenarios for or against the professional meeting. For this reason it is appropriate to enter into the professional life experiences of counselors and managers.

THE WAY OF COUNSELORS IN SPAIN: THE EXPERT INTERVENTION TOWARDS ADVICE FOR IMPROVING AS AN AGENT OF CHANGE

If the idea that support services were necessary but not claimed is already antique, so it is the fact that the times in which one had to earn a place are already. Today virtually no one disputes that the support and advice are a key factor in the improvement process. Educational guidance in secondary schools has pass from being seen as something new start to get valued. Many teachers recognize the importance of the advisory role of the school counselor. Counselors start to get involved in the school and play a necessary role, especially in the Action Tutorial and in its usual "quarters" of professional and personal counseling, and in areas related to the special educational needs. But they are still left aside. Hence the complaint voiced by De la Oliva, Martín & Vélaz de Medrano,

> "The psycho pedagogic intervention is contributing to the improvement of education, but still due to the marginal performances schools, the jump to the core of the task in the classroom and in the center is to be given" (2005, p. 67).

It is true that initially their role in improving schools has been seriously eroded, both by the expert guidance in problematic and marginal areas that has governed them and also by the difficulty to fit in the organizational and pedagogical structure of the centers. They don't seem to be placed on the hard dimensions of life and educative change. Voluntarily or not, the role of the counselor has been confined to the periphery of the educational activity. Internships are often inadequately developed within the ambit of the center, have inherited inertia that seem difficult to change and address specific issues that do not concern what should happen in classrooms on a daily basis (Solé, 1998, Del Rincon, 2001). They have not done significant impact on the institutional and professional culture, in order to make out of tutoring something inherent in the teaching. Apart from that, promotion of good teaching for all does not create professional and institutional consensus and commitment.

The guidance counselors construct their social role in each context, depending on what "all" think they should do about the needs they perceive, and their conception of the tasks of the counselor. Although the norm, is clear on that sense and enables them to go further and make a change. Boza, Toscana & Salas (2007, p. 125), doing a revision about the counselors' duties, they observe that "the advisory role to the different members of the educational community seems one of the most defined and repeated".

One of the controversies is how to manage the difficult balance between give an expert answer to the daily problems and breaking with these dynamics looking for new professional spaces more committed with the improvement of the education and the centre, generating new frictions with colleagues who do not completely accept this new role or interference.

> "In our opinion, counselors, although they are concerned about the issues related to the organization and coordination of the educational guidance in their centers, continue to struggle between the direct intervention on the typical recipients of guidance, either through individual assessment and advice, or through programs and the indirect intervention characteristic of the advice, as a consult or as collaborative and systemic advice" (Boza, Toscana & Salas, 2007, 127).

With the arrival of programs intervention models, specifically to influence on specific issues, but with an overall view and integrating efforts, a new perspective has been opened as well as a new, more diverse horizon. However, the results are still uncertain. There are some isolated successes: one works with a

systemic vision supporting the management team activities and creating self-review dynamics around those new improvement fields (Domingo, 2010). However, most of them are just names (programs, counseling, self- review...) for the same marginal actions.

In Spain school counselor figure is well established with broad functions that go beyond the purely technical or clinical intervention. As highlighted in other contexts (Stone & Clark, 2001, Clark & Amatea, 2004), school counselors perception as educational leaders, students counselors, and agents of social change is changing, with higher degree of intervention and collaboration with those people who are important in the lives of students and with a systemic vision and mission (ASCA, 2008). One starts talking about the counselors as "change agents" (Santana, 2008) and goes one step further empowering the professional figure when describing it as "a leader committed to continuous improvement of the school" (Martínez, Krichesky, & García, 2010, p.107; DeVoss & Andrews, 2006).

In this context, having lost the innocence about change, but having certain theoretical and practical support as well as new approaches (Monereo & Pozo, 2005; Domingo, 2009), we are positioned on the assumption that you can resize the current role of school counselors to contribute more strongly, to internally prepare schools in improving education for all students (Domingo, 2006). It is not about creating more structures and services, or overloading the already existing, but to redirect and enhance the existing ones to more productive ones in school improvement, empowering counselors (McMahon, Mason & Paisey, 2009).

THE SCHOOL COUNSELOR AS AN AGENT OF CHANGE. WORKING CLOSELY WITH THE MANAGEMENT TEAM FOR THE IMPROVEMENT OF LEARNING

The ultimate purpose of the "new" internal support services is to mediate, and give technical support to the mobilization of the internal capacities for change (Hopkins, 2007). Especially those aimed at developing the core teaching (Elmore, 2010) with "good" teaching-learning processes that give rise to commitments and reflective processes in which they learn together without a complex change (Hargreaves, Earl, Moore & Manning, 2001). It would be a professional support to strengthen and operationalize the learning needs of the community starting from supportive and collaborative statements (Bolan et al., 2005) and distribution of leadership (Harris, 2004; Spillane, 2006, Leithwood, 2009).

We agree with Martinez, Krichesky & García (2010) conception of the figure of the school counselor as

> "an educational agent implicated in the school improvement, working with teachers to improve students' development in a comprehensive manner, working closely with the management team and promoting the improvement in daily practice" (p.110).

For this reason, the practices of these professional advisers should arbitrate and revitalize processes that allow the critical analysis of basic grammars at all three levels of action (Domingo, 2010b): 1) institutional dimension to set directions, 2) strategic dimension to bring together the teacher's actions around areas of improvement, from redesigning the organization, and 3) Instruction management and interaction in the classroom or in formal and informal contexts. Bolivar & Romero (2009) indicate that the goodness of support services is to determine on how they are able to:

> Articulating the community individual and collective teaching action in a joint project along the lines of the basics that promote the education system.
> Helping to set the school as a project.
> Influencing on the core of the improvement, this is, the teaching and learning processes.

Ultimately, it comes to promoting a climate of collaboration and learning community, supporting work dynamics, potentially formative about dimensions, dynamics and relevant content for the development of an intercultural project group. These actions become a unique opportunity for self-revision, reconstruction and integration of the center. It is a unique opportunity to get and give advice on overall planning, development, evaluation and innovation of the curriculum processes and at the same time, mediating on the appropriation and use of proposals from teachers.

Along with this global perspective, the community and center approach, the reality is that, without losing sight of this goal, increases the functionality to find this integration of voices, concerns, efforts and perspectives on more tangible things. Thus, it is about specific programs, or particular task projects or globalizing tasks linked to the classroom, where this process of (re) construction becomes a more real perspective to work on a shared vision.

All in all, this professional is now located in a strategic position which, while working very close to the classroom (Domingo, 2001), has a broad overview and systemic vision (House & Hayes, 2002), allowing the collaboration between faculty and management team (Stone & Dahir, 2006; Janson, Stone & Clark, 2009).

Thus, Martínez, Krichesky, & García (2010), indicate that work counselors do with management teams must be in line with the supporting the role of educational leadership and also finding support to develop their programs that permeate the life of the school. For this aim, they cannot enter into dispute and must make a solid and interrelated team, with an open, sincere and permanent communication, and combine their strengths and skills towards the improvement of a global learning.

With all this, we can say that is well documented that these support services, without being the key element of change, have a supporting role on the exercise of leadership for learning, and vice versa (Lambie, & Williamson, 2004; Wolker, 2006). The American School Counselor Association (ASCA, 2008), when defining new professional skills for counselors, argues that these can greatly contribute in this regard, although this reality is far from be considered achieved (Amatea & Clark, 2005). And in that sense, for better or for worse, there are involved a lot of different sets of perceptions that occur between counselors and managers (Kirchner, & Setchfield, 2001).

METHODOLOGICAL FRAMEWORK: DESIGN AND RESEARCH DEVELOPMENT

If principals and counselor experiences in educational leadership are important, we must deep on them. We are not interested in the landscape, such as understanding the most important dimensions and circumstances which may render both support elements such as distorting professional relationship. We approach through a qualitative study as part of a wider research, tackled in other place (Bolivar, Domingo, & Knight, 2011).

Counseling and pedagogical advice are carried out in complex ways. They are dynamic, flexible and a panoramic issue which can be understood through biographical and narrative approaches Bolívar, Domingo & Fernandez, 2001), especially appropriated to the current time of disappointment postmodern of narratives and vindication of the relevance of the personal subject (Bolívar, 2002).

It is not ignore or belittle the contributions of basic research into counseling, but to claim that you can also learn from concrete facts, from what it is said of them, from constructed discursive reality or anything that is not said or hidden within a logical story (Domingo, 2005).

It would be good to approach this issue through ways closer and more human. We promote the interpretation in first person as relevant and definitive in the human action (Ricoeur, 1996). Having their own experiences and interprets such events is a source of training that projects the future from the accumulated knowledge and experience. The biographical narrative research provides a conceptual and methodological framework to analyze key aspects of the education development (Connelly & Clandinin, 2000). The personal stories of the experience provided the biographical framework that makes intelligible the professional development of teachers, becoming a new form of knowledge.

Only hearing and understanding "the lives and experiences", with respect, it is possible to establish meaningful bridges between "their knowledge" and the others, between their truth and what is objective... With that we can walk towards the construction and appropriation of a significant change (Fullan, 2007).

A professional life story can give relevant information about research interests, clues about the kind of discourse and reasons that justify it. Everything within a textual logic that gives sense and coherence to the memories of a global and professional distributed in episodes.

The complexity of counseling profession can be seen through the set of responsibilities and challenges. In many cases these duties are not specific to the profession and can become an inconvenient (which operate in the opposite direction of improvement), although there are promoted by educational administrations. It is a practice likely vulnerable to a collateral, uncontrolled and unwanted effect, sometimes accompanied by a pessimistic adaptation to the reality of the profession.

The hide side of counseling lets us to analyze the circumstances, interests useful for assessing the impact of professional practice in order to reconsider it (Domingo, 2005).

If we could not know the stories that describe and explain these situations within the profession, we will only have idealized, stereotypical and unrealistic views of this profession. Listening voices, we can make possible the change (beyond cultural and contextual differences) through reflection.

Therefore, we carry out a study –in process-, in which 10 secondary schools, characterized by educational administration as examples of good practices, were selected for interviews. We approached them, asking to teachers, counselors and principals the followed processes to get a high quality level. We started with a number of principals and counselors, but after, we increase the informants in order to contrast and deep on different perspectives and discordances.

We took the interview process proposed by Kelchtermans & Vandenberghe (1994), based on the realization of different interviews with individual goals to deep in different aspects of the life stories. The process had the following phases:

- First phase: to identify who they are and why they do what they do in order to understand their beliefs and professional experiences.
- Second phase: to analyze the information and return it for validation.
- Third phase: to deep into dimensions, milestones, conditions, circumstances, etc. It is about understanding and depth, while they identify supports and discrepancies of their thoughts.
- Fourth phase: A new analysis and validation is realized, this time deeper (narrative and paradigmatic, lineal and transversal), to join it with the rest of voices that talk about the same circumstances, in the same school and time, although with different roles and personal perspectives.
- Fifth phase: We conclude with a group interview, to contrast and check overall positioning.

PRESENTATION AND DISCUSSION OF FIRST RESEARCH RESULTS

From the biographical narratives of professional and institutional experience, we did a dialectic reconstruction to give sense to the different stories. We analyzed the dynamics and factors that promote change and the effects they produce. From these results, we have identified some key dimensions of qualitative improvement of secondary education. It is outstanding the strong role gave to the counselors. These professionals' activities, properly focused, can contribute to internal training to schools in order to change. To do this, although we only have some preliminary results, it seems this work should be based on:

(1) Collaborating with the head team in order to do a school project and to value the practices and activities that help to promote a good learning.

"In our case, the most important has been to take the counselor's role in the group, in order to delegate and ask for tasks, but not from the imposition, but from the responsibility and making people think: what's going on?, Is this true?; to listen critics that occur in the school ... "(DIR09).

"I cannot get into the departments, plans or almost nothing, I am not an educational authority. They respect me and they let me take decisions, but also because the principal supports me and we are on the same line of action "(SC03).

"It is vital that we work together and coordinated by a shared vision of the school. Each one must work in their area, but within a common educational project. So we add up. But if not, you could say that counselors, instead of orienting, they disorient "(DIR01).

"I could not count on principal; I could not help to departments or cycles. The result was that I was not able to create conditions and processes to pressure for change "(SC08).

"It is very important to foster and improve the visibility of connection between counselor and principal, and the participation of both in the educational project" (SC07).

(2) Supporting educational activities of the departments as a platform for innovation in education and professional development;

"The most important for getting improvement is the staff collaboration, communication and teamwork. Teachers and didactic departments must participate and get involved. And the principal and counselor must support them "(DIR10)

"The most important thing that counselor can do is to facilitate the teamwork and define the north and orientation in order to not get lost" (DIR04).

"In this raging storm, we cannot doubt of ourselves as teachers. We must have a point of credibility and professional dignity and work together in which is basic, doing what we have to do" (PRO08).

"The response to the challenge of innovation requires connecting the psycho pedagogical knowledge that counselors have with the knowledge of the rest of teachers" (DIR5).

"Get in their teaching teams does not mean to take them to our field. We do not want to take their space. It is better to think with them on what works and what students get when they do what they do, and from there, all of us must take appropriate decisions together" (SO09).

(3) (Re) constructing their professional performance in order to move from superficial to basic problems, from specific to systemic actions.

"Now you ask me, looking at my life, I would change the priority of our duties and activities. We did a lot of tasks, which were marked as priority and necessary, when in fact the necessaries were other very different" (SC12).

"If we cannot jump out of our particular problem to the common problems of improvement that needs to be worked together, it is very difficult to overcome and transfer to everyday life. We have to make this jump a philosophy to work on a new framework of what should be an educational project "(SC04).

"We never start from nothing; there is a previous history that influences. Wanting or not I have to live with the memory of previous counselor. Peers perceive me as a continuation of their work. Anything you do outside of that continuity is too difficult" (SC03).

(4) Sharing tasks, responsibilities, chats and good stories of learning, perspectives and arguments.

"Listening to us, talking and seeing what is behind it ... helping us to structure and analyze the problems we have and give a solution. That helps us a lot. I do not know if it is self-evaluation or self-reflection, but it is useful and, ultimately, it gives us tools to face new caseloads" (PRO13).

"I remember a counselor who knew a lot, but we did not understand him. It was as if an unknown object, which spoke of unrecognizable terms and so far from practice, in the end we did not listen to him"(PRO7).

"If we do not know the daily rules, stories of everyday life, interests and patterns of living in the community, in a tolerant way, it is impossible to share common spaces with diverse people" (DIR06).

(5) Acting with a dialectical approach, collaborative processes that help the community to engage with the improvement;

"From the perspective of teachers, the role model that they prefer is quite close to a procedural guidance and collaborative, although this trend tend to be lesser in comparison with demands of specialized counseling for particular issues and problems" (SC02).

"After living experiences of joint elaboration of Action Plan Tutorial, from the reality, concerns and colleagues' problems, I understood the value of the process and the trust on the team, giving it time but always so careful without losing interest or perspective" (SC05).

"It seems we agree on thinking that the best way of work is to pay attention to the processes and to reflect in action, promoting teamwork and coordinated actions" (DIR06).

"The strategies to use are not the most important, but the effects they produce for the school improvement and development and the increase of autonomy and teachers' professionalism" (SC01).

These snippets of voice only make a preliminary approach. There are not decisive evidences that can be extrapolated. But they are alerts, notices and invitations to go on researching and to participate in the debate. These voices coincide with international studies and current literature. With appropriate changes in counselors' duties, focused on advising and a team' work between principal and teachers, it is possible to get a leadership for learning, the school's improvement and its development as a community of learning. The process to get it should be a shared way based on collaborative reflection and commitment.

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339 - Challenges to Promoting Quality in Pre-Service Practicum Experiences

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Abstract: This paper arises from our concernsthat, while the practicum continues to be perceived as the single most important and valuable element of our preservice program, the practicum still falls far short of its full and necessary potential in preparing new teachers for their full-time teaching responsibilities. We draw on relevant literature, personal experiences in schools, and perceptions of associate (mentor) teachers expressed in a focus-group discussion. Qualitative data from the perspectives of associate teachers, teacher candidates and a faculty supervisor lead us to suggest that promoting quality in practicum experiences is far more complex than meets the untrained eye. Promoting such quality requires teaching candidates how to learn from their practicum experiences in ways that make explicit the perspective of school as a culture and the inherent complexity of creating classroom contexts of productive learning. Promoting quality also requires that teacher educators improve the quality of their own teaching.

Keywords: apprenticeship of observation, learning from experience, culture, assumptions

INTRODUCTION

This paper arises from our concerns, developed over 10 years of practicum supervision experiences, that while the practicum continues to be perceived as the single most important and valuable element of our preservice program, the practicum still falls far short of its full and necessary potential in preparing new teachers for their full-time teaching responsibilities. We draw on relevant literature, on personal experiences in schools, and on perceptions of associate (cooperating or mentor) teachers expressed in a focus-group discussion. Qualitative data from the perspectives of associate teachers, teacher candidates and a faculty supervisor lead us to suggest that promoting quality in practicum experiences is far more complex than meets the untrained eye. The reality that preservice programs can never fully prepare a new teacher for school realities has been acknowledged by the creation of induction programs for new teachers. Connecting messages from education classrooms to in-school contexts is one rationale for promoting the quality of learning from practicum experiences. Promoting such quality requires teaching candidates how to learn from their practicum experiences in ways that make explicit the perspective of school as a culture and the inherent complexity of creating classroom contexts of productive learning. Promoting quality also requires that teacher educators improve the quality of their own teaching. The ultimate folly of teacher education institutions involves trying to improve schools by filling new teachers with dreams of new research-based practices without first attending to and improving the teacher educators' own teaching. Darling-Hammond (2006, pp. 279-280) cites the only-too-plausible criticism that "one reason professors spend so much time trying to change K-12 schools is that they know they cannot change their own organizations."

We all approach the practicum experience with traditional assumptions of which we are typically unaware. In our own program, major re-structuring generated many new expectations as well as new challenges. As expectations failed to materialize and as challenges proved to be more complex than anticipated, we personally were forced to re-examine our own practices and to move beyond the default perspectives of teaching as telling and learning as listening. We have no simple recipes, but we have far greater understanding of the reasons why promoting quality in practicum experiences continues to be an elusive yet worthwhile goal. A conceptual change approach that supports many new pedagogical strategies is often recommended to new teachers. This raises major challenges for the basic structural premise of most teacher education programs that new strategies are first learned in university classes and then practiced in school placements (Korthagen, 2010). Until teacher education programs begin to come to terms with the fundamental authority of experience for all types of learning, their structures are likely to contradict their research-based premises and rhetoric, leaving candidates discounting the significance of their formal courses in education. Our efforts to inquire into our own teaching and to listen to teacher candidates and associate teachers on the topic of improving the quality of practicum learning experiences have generated a robust agenda for further exploration and the paper concludes with that agenda.

The ultimate folly of teacher education institutions involves trying to improve schools by filling new teachers with dreams of new research-based practices without first attending to and improving the teacher educators' own teaching. Darling-Hammond (2006, pp. 279-280) cites the only-too-plausible criticism that "one reason professors spend so much time trying to change K-12 schools is that they know they cannot change their own organizations." The reality that preservice programs can never fully prepare a new teacher for school realities has been recognized by the creation of induction programs. Connecting messages from education classrooms to in-school contexts is one rationale for promoting the quality of learning from practicum experiences. Promoting such quality requires teaching candidates how to learn from their practicum experiences in ways that make explicit the perspective of school as a culture (Sarason, 1996) and the inherent complexity of creating classroom contexts of productive learning (Sarason, 1998).

Objective and context

This paper arises from our concerns developed over 10 years of practicum supervision that, while the practicum continues to be perceived as the single most important and valuable element of our preservice program, the practicum still falls far short of its full and necessary potential in preparing new teachers for their full-time teaching responsibilities. In constructing our argument, we draw on relevant literature, on personal experiences in schools, and on perceptions of associate (cooperating) teachers expressed in a focus-group discussion.

We offer recommendations for promoting quality in pre-service practicum experiences by interpreting teacher candidates' and associate teachers' perspectives. Darling-Hammond (2006, p. 279) cites the longstanding concern that "candidates do not learn deeply about how to understand and handle real problems of practice." Nuthall reviewed his own extensive career in educational research and drew these insights:

> It is important to search out independent evidence that the widely accepted routines of teaching are in fact serving the purposes for which they are enacted. We need to find a critical vantage point from outside the routines and their supporting myths. . . . The approach I have learned to take is to look at teaching through the eyes of students and to gather detailed data about the experiences of individual students. (Nuthall, 2005, p.925)

Through conversations with teacher candidates and associate teachers, we are trying to create critical vantage points for ourselves and others to challenge familiar myths associated with practicum learning. We take Nuthall to be seeking a critical vantage point that recognizes that the cultural features of schooling tend to be invisibly embedded in the daily routines of the teacher-student relationship. Routines are both necessary and inevitable, but any efforts to create more productive contexts for learning will necessarily fail if the cultural features of schooling are not identified explicitly and addressed directly. This paper documents our initial efforts to help teacher candidates interpret their professional learning experiences in terms of the cultural features of practicum settings and our attempts to understand more fully the complex challenges of learning from practicum experiences.

Theoretical perspectives and mode of inquiry

We begin with literature on conceptual change and development (see also Duschl & Hamilton, 1998) that is linked to literature on reflective practice, because changes in thinking and changes in practice go hand-in-hand with the development of new understandings. Kagan (1992) summarizes the recommendations of Posner et al. (1982) for how teachers can promote students' conceptual change. Teachers must (a) help students make their implicit beliefs explicit, (b) confront students with the inadequacies of their beliefs, and (c) provide extended opportunities for integrating and differentiating old and new knowledge, eliminating brittle preconceptions that impede learning and elaborating anchors that facilitate learning.

Hodson (1998) makes the case that, in science teaching, creating conditions for cognitive conflict where teachers challenge students to look for limitations in their views or deliberately provide examples of discrepant or surprising events, often through hands-on demonstrations or activities, can spur reconceptualization. However, we question the extent to which preservice teacher education anchors the practicum within a conceptual change framework, explores conceptual change theory, probes the concepts that teacher candidates hold about teaching and learning, provokes cognitive conflict, and supports candidates with approaches and strategies to encourage and sustain conceptual change. Unless prospective teachers are *directly* challenged to confront their own alternative conceptions and work through the process of conceptual change, it is highly unlikely that they will be able to support their own students in doing so. Unless learning from practicum experiences is *explicitly* supported and interpreted, those learning to teach are not likely to move beyond what they have already learned from a long "apprenticeship of observation" (Lortie, 1975). Lortie named some of the reasons why practice teaching cannot be allowed to just happen:

Because of its casualness and narrow scope, . . ., the usual practice teaching arrangement does not offset the unreflective nature of prior socialization; the student teacher is not forced to compare, analyze, and select from diverse possibilities. The risk is, of course, that practice teaching may simply expose the student to one more teacher's style of work. The value of practice teaching is attested to by many who have participated in it, but there is little indication that it is a powerful force away from traditionalism and individualism. It may be earthy and realistic when compared with education courses; but it is also short and parochial. (Lortie, 1975, p.71)

Clift and Brady (2005, p. 311) offered the following conclusion that we find essential in recognizing the importance of attending systematically and explicitly to the individual teacher candidates' beliefs about teaching and learning as they attend education courses and participate in practicum experiences:

Although it is well documented that prospective teachers often feel conflict among the messages they receive from different university instructors, field-based teacher educators, and school settings, it is also the case the prospective teachers resist coherent messages when they find it difficult to engage in recommended practices. When field placements reinforce and support the practices advocated by the teacher education program, individuals may still resist changing beliefs or practices because they are personally uncomfortable with the competing beliefs and practices. Practice and beliefs are mediated by their prior beliefs and experiences, course work, and current perceptions of curriculum, students, pedagogy, and other factors.

We believe that the degree of resistance to new practices is widely underestimated by teacher educators. Quite simply, teaching practices are hard to change, in part because they generate uncertainty for both the prospective teacher and for the students being taught.
We draw on Sarason's (1998) discussion of "contexts of productive learning" as a powerful way to think about educational experiences. Finally, from Nuthall's (2005) account of his journey as a researcher, we construct an image of teachers, teacher educators and researchers as potentially "lost in school," unable to see the critical features of the culture in which they carry out their work. One element of this perspective involves the traditional view that theory is first taught and then practiced (Russell, 2005). The possibility that many prospective teachers are in some sense lost in school has helped us to see more clearly what we want to avoid and what we want to achieve in our teaching and in a teacher education program. Korthagen and Kessels (1998) have highlighted the risk of emphasizing procedural knowledge over the perceptual knowledge they refer to as phronesis:

The danger of an overemphasis on procedural knowledge in teacher education is that student teachers learn a lot of methods and strategies for many types of situations but do not learn how to discover, in the specific situations occurring in everyday teaching, which methods and strategies to use. (p. 7)

We see further elaboration of the idea of being lost in school in the following conclusions drawn by Segall (2002) in a discussion of what is typically missing from teacher education classroom experiences:

Because prospective teachers are not invited to critically examine the underlying assumptions in educational conventions and practices (Kincheloe, 1993), they tend to ignore not only how those aspects impact their own education as students but also how they will structure their own classrooms in the future. As a result, ..., student teachers become more interested in learning how to perform expected actions than in analyzing those actions or the expectations that generate such actions. (Segall, 2002, p. 159)

Similarly, Bullough, Knowles, and Crow (1991, pp. 189-190) have described a need for preservice teachers

to be helped to become simultaneously students and architects of their own professional development. They need assistance to develop frameworks for thinking contextually and reflectively about their development; they need to become students of schooling and those aspects of institutional life, school practice, and interpersonal relations that are likely to enable or inhibit their development as professionals.

Working against teacher candidates becoming architects of their own professional development are the assumptions that may be held by a teacher educator:

> As teacher educators we must resist the tendency . . . to view ourselves primarily as theorists in specialist areas, leaving practice to be addressed by others or figured out by student teachers on their own. Theory and practice are inextricably connected: if we are not familiar with practical realities, we are ill-equipped to develop sound theories or teach it to others. (Kosnik & Beck, 2009, p. 9)

When Munby and Russell (1994, p. 94) analyzed the views of a group of teacher candidates, they arrived at the following insights about the authority that derives from experience:

> The basic tension in teacher education derives for us from preservice students wanting to move from being under authority to being in authority, without appreciating the potential that the authority of experience can give to their learning to teach. The challenge for teacher education is to help new teachers recognize and identify the place and function of the authority of experience. If this is not done, the authority of experience can fall victim to the danger that accompanies all versions of authority: mere possession is not enough because authority can be abused.

Becoming aware of the implications of one's teaching of children is virtually impossible without first becoming aware of the implications of how we ourselves were taught. Awareness is only the first stage in the process of making teaching explicit, because awareness immediately begs analysis, interpretation, re-thinking and action. Without awareness, one is likely to remain lost in school, oblivious to assumptions about student learning implicit in one's teaching actions. Making explicit our assumptions about teaching and learning experiences in education classrooms is an essential prelude to enacting similar analyses of practicum experiences. Once personal assumptions become more explicit, one can move on to confront more productively the dilemmas of practice and to develop the ability to see the classroom links between teaching and learning (Hiebert et al., 2007).

Following arguments offered by Loughran (2006), we used these perspectives to establish principles for a productive teaching-learning relationship. These principles would then guide our day-to-day support and supervision of candidates during their practicum placements:

- Teaching and learning must be seen as a relationship, and our relationship with each teacher candidate must be a focal point of our work.
- The tyranny of talk must be challenged by using a range of structured procedures for listening to candidates during their practicum experiences.
- We must go beyond the technical by showing teacher candidates how to situate their practicum experiences in relation to their formal education courses.
- We must see learning to teach through teacher candidates' eyes and encourage an inquiry stance toward professional practice.
- We must make the tacit explicit by acknowledging the complexities of incorporating new strategies into one's teaching and by identifying features of the school culture that make change difficult.

RESEARCH METHODOLOGY

Our modes of inquiry are qualitative, seeking emergent themes and patterns in interview and self-study data. In this paper we report two types of data. Data of the first type are drawn from a focus-group conversation with associate teachers; data of the second type are drawn from a self-study of the work of a faculty practicum supervisor. The focus-group discussion included six elementary teachers who were invited to share their perspectives on practicum learning in a 2-hour discussion structured by a set of questions. A verbatim transcript of the focus-group discussion was prepared and subjected to reading and re-reading by several individuals to identify points of convergence and divergence. Data were coded to establish categories and methods of constant comparison were used to identify themes and patterns in the focus-group data. The self-study portion of our study attended to guidelines for quality in self-study research outlined by Bullough and Pinnegar (2001). We took particular note of the following point:

> Quality self-study research requires that the researcher negotiate a particularly sensitive balance between biography and history. While self-study researchers acknowledge the role of the self in the research project, such study does not focus on the self per se but on the space between self and the

practice engaged in. There is always a tension between those two elements, self and the arena of practice, between self in relation to practice and the others who share the practice setting (p. 15)

We believe that two quite different types of data related to quality of practicum learning experiences provide complementary perspectives on a complex and challenging issue.

DATA
Insights from a Conversation with Associate Teachers
Four themes, each with sub-themes, emerged from analysis of the focus-group data.

1. The teacher candidate's teaching persona is crucial.
   ♦ Park your ego at the classroom door. The practicum is a humbling experience.
   ♦ Be collegial—teaching is a political business.
   ♦ Learn as much as you can, then share it with others in classes.
2. Early and energetic engagement in the practicum setting is imperative.
   ♦ Show initiative. Be willing to engage, and be willing to rise from the ashes when you crash and burn.
   ♦ Connect with kids, even the ones you don't like or understand; challenge and engage the students.
3. The contexts of classroom, school, curriculum, and parents are just as significant as the context of the university program itself.
   ♦ "School-university partnership" is so much more than the countless details of what the university expects when it sends teacher candidates to schools that agree to receive them.
   ♦ Teachers and teacher educators must share the big picture of helping candidates learn to teach by learning from experience.
   ♦ The theory-practice gap is more complex than we thought. So many daily responsibilities of teachers and faculty are invisible unless one is personally present and enacting them. Practical responsibilities can become all-consuming in an environment that offers few opportunities to focus on the big picture as well.
4. The teacher candidate's relationships with students, associate teachers, and university supervisor are central to productive practicum learning.
   ♦ Collegiality is essential at every level.
   ♦ Share with everyone, learn from everyone.
   ♦ The practicum is not about associate teachers transmitting a set of directives from the university. Productive practicum learning requires constructive relationships among candidates, associate teachers, and faculty supervisors. Productive practicum learning also requires a dynamic process in which associate teachers and faculty supervisors meet as colleagues with the shared purpose of assisting and guiding the teacher candidate.

Each teacher candidate, associate teacher, and faculty supervisor is unique and speaks from both beliefs and experiences. Learning to do well in the practicum setting has little in common with learning in a university classroom, if that classroom focuses narrowly on transmitting elements of a professional knowledge base for teaching. In the practicum there are no right answers, only complexities and puzzles that have the potential to provoke conceptual change if those learning to teach are open to learning from students, teachers, and teacher educators.

Feiman-Nemser and Remillard (1996, p. 78) framed the challenge thoughtfully:

> We have separated the "what" from the "how" of learning to teach in order to focus on the question of what teachers need to learn. Ultimately, content and processes of learning to teach must be brought together, since how teachers learn shapes what they learn and is often part of what they need to know. Unfortunately, we know even less about the processes of learning to teach than we do about the content.

Our particular interest is in better understanding those learning processes as well as improving their quality. By listening to six associate teachers, we were reminded of the importance of humility on the part of everyone involved in learning from practicum experiences. Helping people learn to teach is *not* about demonstrating how much we know about teaching; helping people learn to teach *is* about putting our own on-going professional learning at the service of those just beginning the required unlearning, learning and

relearning. Similar conclusions emerged from the self-study of the activities of a faculty supervisor interacting with teacher candidates and associate teachers.

Insights from a Faculty Supervisor's Self-Study

In a self-study of his own work as a supervisor of teacher candidates' practicum experiences, Russell (2002) attempted to understand the consequences of a new program structure that made significant changes to the traditional expectations for the role of faculty supervisor.

> The central question that emerged for me was: *"How can I help each candidate improve the quality of professional learning during the early extended practicum?"* Although this central question focuses on candidates, a second question was always prominent: . . . *"How can I help to improve the quality of the professional relationship between this school and the Faculty of Education at Queen's University?"* My self-study, then, is based on an action research design with a view to documenting and understanding each individual's experiences of learning to teach. (p. 77, emphasis in original)

The process of studying his own behaviour in a role that involves at least 30 individuals (associate teachers and teacher candidates) in one school helped Russell realize how easy it is to take events for granted. Self-study opened his eyes to the complexity of the new program structure and the many dimensions of improving the quality of practicum learning.

> With the clarity of hindsight, I realize that there were many moments when I tended to assume that simply *being in the school* was the basic requirement for success in the new role, in the eyes of those learning to teach and in the eyes of the experienced teachers to whom the teacher candidates were assigned. Personal experience and self-study of that experience have taught me how much more complex the matter is. We continue to tinker with the structure as we also attempt to re-examine and re-define its underlying assumptions and our collective beliefs about learning to teach. Predictably, teacher educators are no better at changing their practices than are teachers anywhere else. (p. 74)

The gathering of data from those he was supervising led to the following challenges to familiar assumptions:

> This self-study has forced me to reconsider my early premise that visits to schools to observe pre-service candidates are, in and of themselves, valuable to all concerned. School visits are made with the best of intentions, yet we have little evidence of the impact of a faculty member's school visits on candidates' professional learning or on the school-university relationship. We would be foolish to assume that visits are good, in and of themselves. Spending more time in schools does not automatically contribute to candidates' professional learning, but *time spent in schools is a fundamental base on which broader goals and relationships can be constructed.* (Russell, 2002, p. 84)
>
> While experience is powerful, learning from experience is far from automatic, perhaps because all levels of formal schooling pay little attention to learning from experience. Candidates' initial mindsets now seem even stronger than I realized. (p. 84)

Richardson-Koehler (1988) captured several familiar features of the supervisor's role in words that continue to ring true:

> The role of the university supervisor is ambiguous at best, and that role in relationship to the expectations for the cooperating [associate or mentor] teacher is even more confused. . . . The degree to which the university supervisor can affect the classroom practices of student teachers, given the structure of the experience, is questioned by supervisors themselves . . . Like the supervisors in an earlier study that I conducted, . . . I felt that as a supervisor I was not affecting the student teachers' classroom practices very much, at least in comparison with the cooperating teachers. Short observation and feedback sessions once every two weeks do not constitute adequate supervision. . . . I therefore began to describe my role as that of supervising a process, rather than the student teachers. . . . A discussion of routines constituted a potential criticism of the cooperating teacher's performance (Richardson-Koehler, 1988, p. 32).

In other words, the familiar practice of short bursts of observation and discussion is inadequate. Familiar school routines are not about exploring the big picture. Initiating and supporting productive learning from practicum experiences requires us to unlearn familiar practices in order to invent new supervisory practices that centre on the process of learning from experience. In this vein, Russell's self-study concluded as follows:

> My most compelling insight is that teacher candidates, experienced teachers, and faculty liaisons can be expected to approach supervisory interactions with "default" assumptions driven by unexamined personal experiences. At the outset, self-study is a way to bring such assumptions to the surface; over time, self-study is a way to keep one's focus on the goal of extending our professional understanding of what it means to learn from experience in the classroom and school settings. With that long-term end in view, genuine partnerships may emerge from a base of significant time spent with candidates and experienced teachers, unpacking not only observations of candidates' teaching but also our fundamental premises about teachers' professional learning. (Russell, 2002, p. 86)

CONCLUSION

Data from the perspectives of associate teachers and a faculty supervisor as well as focus-group conversations with teacher candidates (Martin & Russell, 2005) lead us to suggest that promoting quality in practicum experiences is far more complex than our everyday assumptions would suggest. We all approach the practicum experience with traditional assumptions of which we are typically unaware until dissonant experiences compel us to notice and examine our assumptions. Program re-structuring generated many new expectations as well as new challenges. As expectations failed to materialize and as challenges proved to be more complex than anticipated, we were forced to re-examine our own practices and to move beyond the default perspectives of teaching as telling and learning as listening. We have no simple recipes, but we have far greater understanding of the reasons why promoting quality in practicum experiences continues to be an elusive yet profoundly important goal. A conceptual change approach that supports many new pedagogical strategies often recommended to new teachers raises major challenges, given that a basic structural premise of many teacher education programs is that new strategies are first learned in university classes and then practiced in school placements. *Until teacher education programs come to terms with the fundamental importance and authority of experience for all types of learning, their structures are likely to contradict their research-based premises and rhetoric, leaving candidates continuing to overlook or discount what they could, with teacher educators' support, be learning from practicum experiences.*

Our efforts to inquire into our own practices and experiences and to listen to teacher candidates and associate teachers on the topic of improving the quality of practicum learning have generated the following action plan:

- Challenge directly and powerfully the implicit, unexamined assumptions of teacher candidates about how they learn from experience and about how they make sense of their previous school history (Lortie's "apprenticeship of observation").
- Expose the cultural myths that prevent new teachers from making sense of classroom routines and interactions (Nuthall, 2005, p. 918).
- Acknowledge the inherent and necessary complexity of becoming a teacher (Darling-Hammond, 2006, pp. 38-40).
- Recognize that a candidate in a preservice program necessarily follows a trajectory that requires a long-term perspective on practicum learning (Clift & Brady, 2006, p. 331).
- Challenge our implicit assumptions about the nature of school-university partnerships, assumptions that can compromise efforts to support productive practicum learning.
- Create opportunities for on-going dialogue among associate teachers and faculty supervisors about the nature of professional learning and the process of learning to teach.

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350 - Efficacy Beliefs at School: Perceptions of Principals, Teachers and School Collective

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Abstract: This research starts from the assumption that principals with a strong sense of management efficacy will contribute to the establishment of strong perceptions of school collective efficacy and teacher self-efficacy, resulting in a higher rate of school performance. As a general objective it is intended to analyze and explore the relationship between teacher self-efficacy, principal self-efficacy, school collective efficacy and school performance recorded by the Index of Development of Education of the State of Sao Paulo, Brazil. Participants in this research will be teachers and principals of public high school located in São Paulo, Brazil. Data collection instruments used include: Questionnaire of Characterization, Teacher Self-efficacy Scale, Principal Questionnaire and Collective Efficacy of Teachers Scale. The data analysis will be conducted through descriptive, correlation analysis, ANOVAs and path analysis. This research seeks to contribute to enhancing knowledge about efficacy beliefs in school, still incipient in Brazilian literature.

Keywords: self-efficacy; collective efficacy; high school; motivation

INTRODUCTION

This paper is a brief presentation of the *Eficácia Individual e Coletiva de Docentes e Gestores no Ensino Médio Paulista* research piece*,* still in development. This research starts from the assumption that the manager with a strong sense of management efficacy will contribute to the establishment of high school perceptions of school collective efficacy and teacher self-efficacy, resulting in a higher rate of academic achievement and aims to examine and explore the relationships between teacher self-efficacy, principal self-efficacy, school collective efficacy and school performance recorded by the Index of Development of Education of the State of Sao Paulo, Brazil. The individualized teaching culture hinders the collective work necessary for the effective implementation of the Curriculum Guidelines for High School (Zibas, Tartuce & Ferretti, 2006). This seems to be minimized in schools with stronger identities, which leaders and faculty are recognized as committed. These aspects are considered as facilitators for the implementation of projects, involving administrators, teachers and students, consisted with the curricular of secondary school. The Social Cognitive Theory (Bandura, 1997, 2008), namely in the concepts of school collective efficacy, teacher self-efficacy and principal self-efficacy, has portrayed contributions to understanding the teaching-learning scenario in high school.

In Brazil, a considerable amount of research conducted from the perspective of Social Cognitive Theory in educational contexts is about the field of teaching self-efficacy (Bzuneck, 1996, 2000; Iaochite, 2007; Macedo, 2009; Rocha, 2009; Azzi, Polydoro & Bzuneck, 2006). These research pieces have highlighted the need to investigate the school collective efficacy construct (Azzi & Rocha, 2010; Bzuneck & Guimarães, 2009, Iaochite, 2007; Rocha, 2009; Russo & Azzi, 2010), since the teacher does not act alone in the environment education, but integrates an institution formed by teachers, administrators and staff. They have also highlighted that high perceived self-efficacy has been related to teacher perceptions about support provided by their principals (Iaochite, 2007; Macedo, 2009).

The Self and Collective beliefs

Teacher`s Self-efficacy beliefs are defined as "a judgment that teachers make about their own capabilities to achieve desired results for student learning and engagement, even among those that may be difficult or unmotivated" (Tschannen-Moran & Woolfolk Hoy, 2001, p.783). The Teacher`s Self-efficacy beliefs has been related to: teacher's behavior in the classroom, the effort invested in the education process, the establishment of the goals of teachers, an openness to feedback, the persistence of teachers, the highest levels of lesson planning and teachers organizations, the greater tolerance for students who have made mistakes, the greater dedication to teaching designed for students with learning difficulties, the performance of a more humanistic approach in the control of the student and the administration of conflict, greater willingness to

implement new teaching practices, conscience of the teacher's responsibility for student learning, friendly and attentive behavior dedicated to students, establish a positive environment to promote learning and the promotion of better student performance in various disciplines, supporting autonomy of students, the value of academic tasks, the stimulation of the student's academic self-efficacy beliefs, stimulation of student motivation, general enthusiasm, commitment and satisfaction with the teaching profession (Tschannen-Moran & Woolfolk-Hoy, 2001; Azzi, Polydoro & Bzuneck, 2006, Bandura, 1997; Bzuneck, 2000; Iaochite, 2007; Azzi & Polydoro, 2010) and the time spent in the teaching profession (Rocha, 2009). Research shows that the school principal plays a role of great importance in order to contribute to perceptions of school collective efficacy (Azzi & Rocha, 2010; Caprara et. al. 2003; Tschannen-Moran & Barr, 2004). The information presented by Caprara and collaborators (2003) points out that school collective efficacy is related to educational judgments that teachers have in relation to managers, whose perception had the highest correlation (0.41) with the variable school collective efficacy. Some researchers highlight the need to investigate the relationship between the principal and the school collective efficacy (Goddard, Hoy &Hoy, 2000; Hoy et al., 2002)

The belief of collective efficacy is defined as a group shared belief in their joint capabilities to organize and execute courses of action required to produce certain levels of tasks (Bandura, 1997). Caprara and colleagues (2003, p.16) highlight the belief that collective efficacy "refers to the judgments that people make about a social system (family, team, organization or community) and their level of performance and effectiveness in specific areas shares". The group function is a product of interactivity and dynamic actions of its members, which creates an emerging belief that "it is more than the sum of the individual attributes of each member" (Bandura, 1997, p.478). It is built through direct experiences, vicarious experiences, social persuasion and perception of physical and emotional states. The collective efficacy belief is not static and can therefore change over time.

In the educational context, perceptions of School Collective Efficacy has been defined as the judgments of teachers from a school whose faculty are capable to organize and execute courses of action required to achieve positive results with students (Goddard, Hoy & Hoy, 2004), promote learning and stimulate academic self-efficacy and self-regulating learners (Bandura, 1997). Thus, school collective efficacy can be understood as the perception of faculty about their own ability to achieve certain goals (Goddard & LoGerfo, 2007) and deal with specific tasks to teaching (Adams & Forsyte, 2006), in order to make a difference to promote learning and student achievement (Hoy et. al., 2002) .

The literature's analysis verified that the results of investigations carried out have emphasized the mediating role of school collective efficacy belief for school performance (McCoach & Colbert, 2010; Goddard, Hoy & Hoy, 2000; 2004; Goddar & LoGerfo, 2007; Hoy et. al. 2002; Parker, Hannah & Topping, 2006; Skaalvik & Skaalvik, 2007, Tschannen-Moran & Barr, 2004) and motivation of students (Hoy et. al. 2002; Skaalvik & Skaalvik, 2007). According Goddard, Hoy and Hoy (2004) this can be explained by theoretical understanding, which provides that a robust belief in school collective efficacy contributes to the establishment of expectations for success, helping those involved to be resilient in order to achieve their goals. Moreover, the belief that school collective efficacy can have great influence on teaching efficacy belief, especially for the tasks of teaching (Caprara, et. al. 2003; Goddard, Hoy & Hoy, 2000; 2004; Skaalvik & Skaalvik, 2007 ; Tschannen-Moran & Barr, 2004) and in the motivation of teachers (Hoy et. al., 2002). It has also been found that school collective efficacy is positively related to educational differences in perceived effectiveness of individual teachers between schools (Goddard, Hoy & Hoy, 2004). The school collective efficacy has been shown to be the strongest predictor of teacher's self-efficacy among schools, so the more the faculty of a school judged themselves collectively effective, more members believe they are self-efficacy as teachers. The largest possible participation of teachers in the process of choosing teaching materials, as well as in shaping the educational policies of school units, has been related to higher perception of school collective efficacy (Goddard, Hoy & Hoy, 2004).

Regarding emotional aspects that permeate the work relationship in educational institutions, research found significant results. It may be noted that the school collective efficacy serves to encourage some behaviors and discourages others (Goddard, Hoy & Hoy, 2004), and that trust in peers is positively related to perceived school collective efficacy (Goddard, Hoy & Hoy, 2000). According to Caprara and colleagues (2003) the school collective efficacy is directly related to affective commitment to the school unit in which the teacher works, as well as satisfaction with teaching. Thus, the school collective efficacy may contribute to decreased perception of pressure resulting from job tasks (Goddard, Hoy & Hoy, 2000; Skaalvik & Skaalvik, 2007) and burnout (Skaalvik & Skaalvik, 2007).

Specifically aimed at teaching tasks, research has shown that the high perception of school collective efficacy belief helps to direct the school teacher behavior (Tschannen-Moran & Barr, 2004). Behaviors that

are influenced by the belief of the faculty include setting high and appropriate goals and how to overcome problems and failures which are related to students persistence (Hoy et. al., 2002).

As implications, research indicates that: (1) to improve the performance of students, they should be encouraged to develop school collective efficacy (Goddard, Hoy & Hoy, 2000; Adams & Forsyte, 2006; McCoach & Colbert, 2010; Hoy et. al., 2002), (2) intervention programs should be conducted to promote school collective efficacy in order to optimize the operation of school (Caprara, et. al. 2003; Goddard, Hoy & Hoy, 2000; Goddard, Hoy & Hoy, 2004; McCoach & Colbert, 2010), (3) the school collective efficacy should be built through the sources of direct experience and social persuasion, using intervention projects specially designed for this purpose, emphasizing the importance of principals as agents responsible for this task (Caprara, et. al. 2003; Goddard, Hoy & Hoy, 2000; Goddard, Hoy & Hoy, 2004; McCoach &Colbert, 2010), and (4) the school collective efficacy must be stimulated through vicarious experience, by analyzing other schools that could be considered models, which have similar goals and structures (Caprara, et. al. 2003; Goddard, Hoy & Hoy, 2000; Goddard, Hoy, Hoy, 2004) as well as through videos, which provide guidance on school collective efficacy (Goddard, Hoy & Hoy, 2000).

METHOD

After approval by the Committee of Ethics in the Research and Regional Board of Education, contact with the high schools will be established. Schools will be selected taking into account the Education Development Index of the State of Paulo. The population in this study will consist of teachers and administrators of state run schools that work at high schools, located in São Paulo. This research will be conducted with a sample composed of 10 high schools, with the estimated participation of 240 teachers and 30 administrators (principals and vice principals). The data collection will be held during the weekly pedagogical meetings. All data will be collected with the presence of researchers, which will guide the participants not to exchange information regarding the instruments used in research during the time of applying them in order to ensure the reliability of responses. In addition, participants will receive a guarantee under the secrecy of the answers, as well as ensuring that the answers will be used solely as a means of research.

This research will use as materials for data collection: (1) questionnaire of characterization, which seek information on participants, such as age, length of the teaching profession, type of training, type of employment, time devoted to the journey work, among other personal characteristics, (2) Teacher Self-Efficacy Scale (Polydoro et al. 2004; Tschannen-Moran, Woolfolk Hoy, 2001), which will be used to identify the perceptions of teachers regarding their beliefs of teaching efficacy. The scale has internal consistency of 0.937 and explains 54% variance in the construct studied, consisting of 24 items, Likert 1-6, arranged in two factors: Efficacy as *intentionality of teachers' action* and *effectiveness in managing the class*, (3) Principals'' Questionnaire (Tschannen-Moran & Gareis, 2004), which will be held by the identification of perceived self-efficacy of managers, to be translated, adapted and validated for the Brazilian reality. This scale has 18 items in Likert format from 1 to 9, organized into three factors called self-efficacy to manage (explained variance 41.12), self-efficacy for instructional aspects of the director (explained variance 51.84) and self-efficacy for moral leadership (explained variance 59.64) and (4) Collective Efficacy of Teachers (Tschannen-Moran & Barr, 2004), used to identify the perception of collective efficacy of teachers and administrators. This scale will be translated, adapted and validated for the Brazilian reality. There are 12 items in Likert format from 1 to 9 and internal consistency of 0.97. It is structured in two factors with six items each, called instructional strategies (internal consistency of 0.96) and disciplined students (internal consistency of 0.94). It is noteworthy that the authors have already authorized the use and adaptation of scales cited.

Data Analysis Plan

Data analysis will be performed using quantitative analysis, aiming to measure these variables as well as to verify and characterize their possible relationships. Descriptive analysis will be used to characterize the sample and the presentation of the results obtained by means of scales. The descriptive analysis will included the frequency, mean, minimum and maximum values for each response to the participants. The scales will be considered by factor and by the totality. Correlation analysis will be performed between variables. To analyze the difference between the averages for each school ANOVA will be used, in which the school unit shall be considered as an independent variable. Path analysis will be used to test this research's hypothesis.

CONSIDERATIONS

As might be perceived by the studies mentioned previously, the school collective efficacy presents itself as an important variable for school change processes. Although some studies point out that the school collective

efficacy is related to school socioeconomic status, so that schools with more needy students show low school collective efficacy (Goddard & LoGerfo, 2007; Hoy et.al., 2002), there are results that indicate that school collective efficacy is independent of socioeconomic status (Tschannen-Moran & Barr, 2004). The fact that school collective efficacy can change, by means of intervening actions, is the mainstream aspect in this discussion. Thus a school initially identified with low perception of school collective efficacy can experience a process of mobilization and build a new school perception of collective efficacy, stronger, able to help improve the performance and motivation of its' students. For educators to promote this change is less complex than changing the socioeconomic status of the school community in which they operate (Goddard & LoGerfo, 2007; Hoy, et.al. 2002; Tschannen-Moran & Barr, 2004). In order to achieve such a mobilization, intervention strategies for enhancing perceptions of efficacy at school should be performed to develop teacher professional competence and rekindle the motivation and enthusiasm, considering teachers as a social group that seek to recover their sense of social commitment (Bzuneck & Guimarães, p. 12, 2009). This emphasizes the considerations of Russo and Azzi (2010), who warn of insufficient research on the school collective efficacy in the Brazilian reality, as well as the contribution that the propositional models of integrating more than one dimension of the phenomenon education can take to promote the coordination of individual actions with the collective effort in order to improve the process of construction and development of the education program of the school unit.

Given the above, it is possible to realize the need to investigate the contribution of school collective efficacy and its relationship with teacher self-efficacy and principal's self-efficacy, especially in the Brazilian reality. It is believed that this research may help broaden the understanding of all variables. Moreover, considering the theoretical organized here, it is believed that this research will be able to contribute to the dissemination of knowledge about the efficacy beliefs at school.

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THEME 3
Learning Communities and Networks

40 - Service-learning as a Model for Establishing Partnerships between Student Teachers and their School Communities: Opportunities and Challenges

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Abstract: The purpose of this paper is to present a model implemented at a South African university to assist the institution in developing a closer relationship with the community through science education. This model is defined as service-learning and was implemented through a teacher education programme. Kolb's experiential learning theory (ELT) is the lens through which the research is conducted and is conceptualised as Kolb's experiential learning cycle. The particular science education module selected is a method module in Biology Education. The service-learning component of the module was the design of an environmental policy by the student, in collaboration with the school. Evaluations by students revealed that they experienced the process as being more of a personal and social benefit than academic benefit, while teachers' evaluations revealed that they felt that students had made sufficient effort to understand the context of the school and that the audit students conducted were realistic and captured the environmental conditions of the school correctly. This model is appropriate for establishing working relationships with schools as the participants collaborate with a view of improving the community. A number of challenges were identified; most of which stemmed from the fact that very little opportunities exist for the implementation of service-learning into programmes in higher education institutions. However, in spite of these challenges opportunities do exist for incorporating service-learning into an existing module and programme.

Keywords: Partnership; community; service-learning; science teacher education; environmental policy.

INTRODUCTION

One of the challenges facing Higher Education in South Africa is the way in which Higher Education institutions interact with the communities in which they are situated. Traditionally universities focused on research and teaching, with little attention being paid to community involvement. In the light of transformation of Higher Education institutions, service to the community has gained more prominence. However the question is raised as to how this service is to be enacted.

This paper discusses the integration of a model of community engagement referred to as service-learning into a module that is part of a teacher education programme. The module referred to is a science education module and it demonstrates how service-learning may be used to create partnerships between communities and universities. Opportunities that arose from this integration, as well as the challenges that threatened the initiative are explored. The notion of service-learning as a model of community engagement in teacher education is not widely known or practiced in South Africa, but local interest is growing and this reflects international trends (Castle & Osman,2003).While the incorporation of this model of service-learning provides opportunities for students to engage with communities in ways that enhance their personal growth and develop social responsiveness, a number of challenges with regard to implementation emerged during the course of developing the module.

The questions addressed in this paper are:
- How does service-learning enhance the establishment of partnerships between a university and schools?
- What challenges and opportunities emerged when integrating service-learning into a science education programme?

THEORETICAL FRAMEWORK AND LITERATURE REVIEW

The pedagogical foundation for community engagement is experiential education as it informs the design and delivery of various training events (HEQCOM, 2006). David Kolb's experiential learning cycle is an appropriate learning theory for community engagement as it views experiential learning as the process that links education, work and personal development. This concept as developed by Kolb, 1984 (HEQCOM, 2006) views learning as a cyclical pattern from experience through reflection to conceptualising and action,

returning to further experience. This theory of experiential learning has been adapted and applied as a process model in numerous fields and training endeavours.

While experiential learning may form the pedagogical foundation for community engagement, the theories of constructivism underpin community engagement as well. Learning occurs at best if it is grounded in the learners own experience. John Dewey's view of education contributed to the pedagogy of service-learning as it emphasised the link between experience, learning and society, (HEQCOM, 2006.) In formulating his model of experiential learning Kolb drew on the work of Dewey. At the heart of Kolb's model is a simple description of how experiences is translated into concepts that can be used to guide the choice of new experiences (Atkinson & Murrel, 1988).

The experiential learning discussed in this paper is a form of community engagement that is underpinned by a conceptual framework where the learning is situated midway between the beneficiaries(community and student) and where the goal is located midway between service and learning. Furco (1996) describes this model as Service and Learning goals of equal weight and each enhances the other for all participants. In his view service–learning only occurs when both the providers and recipients of service benefit from the activities. Service-learning, as applied in this study, is underpinned by Dewey's model of linking knowledge and experience, individuals with society and reflection with action (O'Brien,unpublished).

One of the challenges in implementing service-learning in the curriculum is the disagreement as to what service-learning really is. It is useful to define service-learning in this context and to distinguish it from other models of community engagement such as volunteerism, community service, internships and field education:
A substantial body of research reports on the outcomes of service-learning courses in higher education. Research on the outcomes of service-learning in a political science module revealed that students emphasised their learning with regard to the communities they worked in with a significant effect on values, but at the same time achieving some academic learning as well (Marcus, Howard &King, 1993). Eyler, Giles and Braxton (1997) report on research that showed positive development of students' attitudes, values and a better understanding of social issues. Van Wynsberghe and Andruske (2007) report that service-learning contributed both to development of students' discipline concepts as well as to their understanding of community issues. In addition students were willing to engage in service-learning again. One approach to service-learning is educating students for life rather than a career. Service-learning should enrich communities, while the academic component is optional (Bringle & Hatcher 1996). Within the South African context Castle and Osman's research explored various models that could guide institutions to develop service-learning and concluded that service-learning, combined with school experience, is an appropriate way to prepare students for the professional demands laid down in national policy on teacher education (Castle & Osman, 2003).This approach could simultaneously contribute to the student's career as it would build capacity with regard to the future teacher's pastoral role- one of the 7 roles of the teacher as set out in the Norms and Standards for Teacher Education (2000).

A substantial number of researchers in the field of service-learning, irrespective of the specific models applied, emphasise the importance of reflective practice. Deep reflection is essential for service learning to be effective. A lack of deep reflection often results in reinforcement of stereotypes, the support of presuppositions and a failure to critically guide future action (Hatcher & Bringle, 1997). Students should be able to meaningfully consider their service experience in the light of the curriculum. While reflection has traditionally not been an integral part of tertiary pedagogy, service-learning creates the opportunity for reflective practice.

The purpose of this paper is to present a model implemented at a South African university to assist the institution in developing a closer relationship with their communities through science education and to present the challenges and opportunities that arose in the design and implementation of the model.

CONCEPTUALISATION OF THE COURSE

Within the context of transformation, academic staff at the institution where this model was implemented are encouraged to engage with communities, but few structure are in place to facilitate this process. When the decision was made to include service-learning in the science curriculum with the view of establishing a relationship with the community, several options were explored which would facilitate the process.

The fact that the pedagogy of service-learning emphasises socially responsible and responsive teaching, research and service activities (O'Brien,unpublished), made it the logical choice for integration into the teacher education module discussed here. Of the five models of service learning defined by O'Brien the approach used in the design of this module most closely resembles the Pedagogical Discourse Model. This model foregrounds knowledge as teaching and learning. In this model service-learning becomes one of a number of learning and teaching activities within an accredited university module. This model made it

possible to integrate service-learning with content from an existing module. The result is a module that is 70% service learning and 30% original content. The service learning in this module is therefore of necessity defined within the framework of the curriculum for Biological Science Method as well as within the framework of the B.Ed curriculum. Knowledge acquired and skills developed are related to the teaching of Biology (the specialist role of the educator), as well as to the educator's pastoral role. As a science education module, the focus has to be on the pedagogical content knowledge required to teach Biology/Life Sciences at senior school level.

As one the critical outcomes of the South African curriculum states that learners should demonstrate an understanding of the relationship between science and society and one of the Learning Outcomes of the Life Sciences curriculum states that learners should demonstrate an understanding of the interrelationship between Science, Technology, Indigenous knowledge, Society and the Environment, an understanding of Environmental Education is a crucial element of Life Sciences education.(National Curriculum Statement, 2003). Based on this premise, the service-learning component of the module was the design of an environmental policy by the student, in collaboration with the school.

Although the acquisition of knowledge and skills is central to the pedagogical discourse of community service-learning, strong emphasis was placed on the promotion of personal growth and social responsibility. This approach has an impact on the curriculum as it stimulates thought about changing the curriculum. It also sets up a new relationship between the institution and the community that gives the curriculum a dynamic quality. Students bring something back into the classroom.

One important aspect that was included in the redesign of this module, was that of reflective practice. Reflection is used to actualise service and learning (HEQCOM, 2006). Not only does reflection serve to develop students with regard to their personal growth and development of social responsibility, but it links learning outcomes and assessment. Students reflect on their practice and on their achievement of Learning Outcomes. This reflection is not a superficial activity, but is assessed to determine whether service-learning outcomes have been met. Reflection in this context should be a structured reflection, where students reflect intentionally and in the process analyse concepts, evaluate experiences and postulate theories. Critical reflection provides students with the opportunity to examine and question their beliefs, opinions and values. It involves observations, asking questions and putting together facts, ideas and experiences to derive new meaning (HEQCOM, 2006). Hatcher and Bringle (1997) describe deep reflection as having 4 stages: linking experience to learning objectives, being guided, occurring regularly, allowing feedback and assessment and lastly, the clarification of values. The purpose of this structured reflection in service-learning is to promote the development of the whole person. In this process the feelings of each individual is validated. For instance individuals who are discouraged during this experience need to share their feelings and realise that they are not alone (Axt, 2007). By reflecting on their practice in this way, it was envisaged that students' personal growth would contribute to their development as professionals who are able to take on the pastoral role of the educator with greater confidence than before.

DEVELOPMENT OF THE COURSE
A number of aspects were considered in the process of integrating service-learning into an existing module.

Design
Once the purpose of service-learning in a science education module was established, the task of designing a module incorporating service-learning began. First the main outcomes of the module pertaining to service–learning were defined. They were:

With regard to academic learning
- Development of an environmental policy for a school
- Development of a Learning Programme on the theme 'environment'

With regard to personal growth
- Working in a team
- Collaboration skills
- Development of reflexive skills

With regards to social responsibility
- Understanding their responsibility to engage in a broader context with schooling communities
- Developing responsible environmental behaviour

The environmental policy included a section which assisted teachers in using the curriculum to teach environmental education. In this regard, students were advised to develop a short leaning programme in which they demonstrated the possibility of integrating Environmental Education in the curriculum. The outcomes pertaining to personal growth and social responsibility were outcomes that could be developed by engaging with the community. In this context the community was the school where the student was placed during the school experience period.

As mentioned earlier, students are familiar with the concept of experiential learning. As student teachers they are required to spend a number of weeks each year in a school. However this form of experiential learning benefits the student much more than the schooling community. It was therefore essential that students develop an understanding of service-learning as an activity that happens outside the classroom and benefits the community to the same extent as the student. The service–learning built into this module therefore serves to develop students in terms of their personal growth and their responsibility to society as teachers, as well as serving to develop their understanding of integrating Environmental Education into their teaching –inside and outside the classroom. Academic learning and service to the community therefore underpin the learning in this module. Environmental Education is used as the focus of the community service. Students design an environmental policy for a school, serving the school community by facilitating the establishment of an environmental committee and conducting an audit of the school environment.

Implementation

The first step in the process was to meet with the school principal to establish a relationship between student and school. The notion of service-learning was discussed with the principal. Although the general thinking was that principals would welcome the initiative as it would benefit the school community, it was deemed prudent to ask permission to conduct an audit of the school environment. Principals were also asked to assist the student in establishing a committee consisting of teachers and students who would work collaboratively in developing an environmental policy for the school. The student facilitated the appointment of an environmental coordinator who was requested to convene an environmental education working group that could initiate the development of an environmental policy. Documentation that serves as a guideline for the development of an environmental policy was supplied by the lecturer who taught the course. The important aspect that needs to be emphasised here is that the policies that students designed were based on the available resources at their respective schools and not some idealised version of what we think an environmental policy should be. Students conducted an audit of the school environment, identifying strengths and weaknesses. The policy was drafted using the schools' strong points as the main focus. Together with the committee, decisions were taken, based on the needs of the school community, as well as the available resources in the school. The policy clearly demonstrated that the environment is not only the biophysical environment but includes the socio-cultural, economical and political environment as well.

Reflection and assessment

Students were briefed as to the nature of the reflection required of them. To facilitate this, students were required to keep a reflective journal throughout the course. While critical reflection was assessed in a number of ways, academic learning also needed to be assessed. Assessment of tasks, assignments, an environmental audit and the final environmental policy gave an indication of students' academic learning. In summary, comprehensive assessment included formative assessment in the form of reflections, tasks and assignments, while summative assessments included a final environmental policy, including a short learning programme of environmental activities in the curriculum.

Evaluation

On completion of the module students were asked to evaluate the module. Students generally believed that they benefited from the experience of engaging in service-learning. It is significant that most students experienced the process as being of personal benefit rather than academic benefit. They felt they could apply their knowledge in a new context, demonstrate some confidence in the improvement of their academic knowledge in spite of the fact that they appeared to think that the process had more social benefit. This may be due to the fact that students, for the first time, engaged in a process that allowed for social and personal development on such a scale. It is significant though that a number of students placed more value on the process that allowed them to become involved with the school community. The fact that most students thought that the site they worked in was appropriate is most probably an indication that this project could be initiated at any physical site. The majority of students reported that they believed the teachers who were

involved in the project developed a better understanding of environment, while three expressed their uncertainty whether teachers had developed a better understanding.

Teachers were requested to complete an evaluation form as well. They were generally satisfied with the students' level of understanding of the concept of service-learning. They were satisfied that most students had made sufficient effort to understand the context of the school and returned after teaching practice to follow up on a number of issues. Most teachers were also satisfied with the audit students conducted; judging it to be realistic and capturing the environmental conditions of the school correctly. Following this, most of them were confident that students were able to develop an environmental policy for the school that was practical and could be implemented by the school community.

OPPORTUNITIES AND CHALLENGES

By incorporating service-learning in a science education course, the opportunity arises to promote personal growth and social responsibility through science learning. Where science education traditionally focused on the specialist role of the educator, service-learning provides the opportunity for science education to contribute to the pastoral role of the educator as well. In this way science education is able to contribute to the holistic development of the educator in a more meaningful way. While developing their knowledge and skills pertaining to science education, they are able to reflect on their roles as educators in a broader community and in particular their roles of agents of change in that community. By becoming involved in this way, student teachers play an important role in establishing a firmer relationship between the university and the schools in the community

While the opportunity exists to incorporate service-learning in a meaningful way in science education programmes, one cannot ignore the challenges that impact on meaningful incorporation. One such challenge is the structure of programmes and curricula at Higher Institutions. This structure prohibits the introduction of new courses and modules in the short term. The only option is to incorporate service-learning in existing modules as described in this paper.

A further challenge is the involvement of management of Higher Education Institutions. Faculty at this point in time does not provide any support. For it to be successful, support from management is important. In the USA for instance, a tremendous amount of resources have been made available in higher education (Bowley & Meeropool, 2003). At this point in time very few Higher Education Institutions have paid much more than lip service to the concept of service-learning.

The establishment of permanent partnerships is also a challenge within the context of teacher education. The most appropriate partnerships are schools, but this type of partnership is seldom permanent as students are required to experience different schools and are therefore in a difficult position to build long term relationships with schools.

For service –learning to be successful, it is important for schools to buy in to the process as willing partners. Experience has shown that schools often view new innovations with suspicion, especially if it involves commitment from teaching staff. Convincing all staff that service-learning will benefit the schooling community remains one of the main challenges in this endeavour.

CONCLUSION

In this paper I have argued that the model of community engagement that is most appropriate in teacher education is that of service-learning as it makes it possible to distinguish between school experience as a form of internship and service-learning as benefiting both students and community equally. The model of service-learning applied in the development of the module described here is the Pedagogical Discourse Model which foregrounds knowledge as teaching and learning. This model is most appropriate as service-learning was incorporated within the constraints of an existing module where academic content was important within the context of science education. The model is also appropriate for establishing working relationships with schools as the participants collaborate with a view of improving the community. The school community is consulted and their views taken seriously.

A number of challenges were identified; most of which stemmed from the fact that very little opportunities exist for the implementation of service-learning into programmes in higher education institutions. However, in spite of these challenges, I have attempted to demonstrate that opportunities do exist for incorporating service-learning into an existing module and programme.

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79 - Social Networks as Spaces for the Professional Development of Teachers

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Abstract: The study presented in this paper integrates a research project whose main goal is to explore new approaches to teacher education and professional development that emerge from the Web 2.0 paradigm. In this paper we present three different experiences on the use of social networks for the creation of a virtual community whose main goal is the professional development of teachers. The first experience is a Portuguese project named dajaneladomeujardim – (http://janelajardim.ning.com/). The second example is a north american project created and managed by Steve Hargadon and called Classroom 2.0 (http://www.classroom20.com/). The third project cames from Brasil and is called Eadamazon – Portal de EAD e e-learning da Amazónia (www.eadamazon.com). Lessons learned from the analysis of those projects will be presented and discussed.

Keywords: social network, technologies, Web 2.0, professional development.

INTRODUCTION

In the last few decades, the rise in digital technology influenced in such a significant manner the way people live and relate to each other, that knowing how to use and master those technologies is a sine qua non condition for any responsible citizen of the XXI century.

The advent of ICT's and the Internet favored great changes in educational paradigms, a new global network use philosophy being introduced, known as Web 2.0. This philosophy leads to new paths, diversifying the ways we communicate and interact in the network. In this context, many tools where developed with this goal, as in the case of social networks, which are increasingly used, and with more aims: communicate, relate, share, interact and… learn!

That being so, the Internet, as a connecting network, has become a society development factor, contributing to the rise in creativity, productivity, and to the creating of new knowledge. According to Fernandes & Araujo (online), the economical and socio-cultural ambient of the individual is marked and based mostly in the use of Information and Communication Technologies (ICT's), that, in a way, ensure the diffusion of new information distribution strategies, as the appearance of new communication models, generating a wide group of human behavioral and attitude change possibilities related to education processes.

At the speed in which these mutations occur, we felt the need to develop a reflection about the role these new technological environments may have in the education and formation of adults, more so on the training of teachers. In fact, teachers on duty today have at their disposal a growing offer in training opportunities that only demand having a computer with Internet access and a basic level of ICT knowledge. Accessing online training spaces allows the development of new competences and skills, needed by any XXI century citizen, who will no longer see school as the only space where learning occurs, but also in the new ways to communicate and the virtual communities themselves (Social Web), as alternative models to communicate, share and collaborative knowledge construction (Veen & Vrakking, 2009).

On the other hand, changing an educational system is a task that requires will, motivation and, most importantly, political will. In the European case, especially in Portugal, the Technological Plan – TP appears, as a way to coordinate the policies of the government, to make the economy more competitive, thru the stimulus of creation, diffusion, absorbance and use of knowledge, as an element of change, in order to consolidate Portugal in international and global economies.

The project of certification of Portuguese teachers in ICT competence may be considered one of the biggest challenges of the Technological Plan for education, being the cornerstone on the teacher training strategy, as it aims to improve and innovate pedagogical practices of teachers, using ICT's in their day-to-day classes (Costa et al., 2008). The program delivers, as structuring axes, content and training, as it considers that ICT competence development is directly linked to teaching-learning processes, also ensuring some flexibility,

that, in a way, takes in consideration the pedagogical contexts, and also the different levels of ICT competences the teachers already have.

Costa *et. al*. (2008:p.16), present three scenarios in respect to teacher's training in ICT's:

1. **"A" Scenario** – In respect to the TPE foreseen activities, each teacher gets involved in self and externally provided training;
2. **"B" Scenario** – The school's directive body, in conjunction with the Training Center, promotes a modular training program;
3. **"C" Scenario** – The teacher develops an autonomous training course, beyond the school offering.

Taking as reference the "C" scenario, that emphasizes and values the teacher initiative in individually developing his own training course, we realize that many initiative that explore the potential of social networks to create informal training spaces for teachers, that, by sharing and interacting with colleagues, promote self professional development and theirs, are already in action.

The present article has as main objective to show some on course experiences that display how social networks can function as informal spaces to professional development and to teacher training in ICT's. We believe that an analysis and reflection about these experiences may be an important step in grounding and justifying the project we are implementing in the state teachers network of Maranhão state, Brazil, which advocates the use of a social network as an online space, able to promote the professional training of teachers, and their capacities, in order to integrate ICT's in the curricula of Brazilian schools.

TEACHERS, TECHNOLOGIES AND TRAINING

Use of digital technologies is consolidating and assuming a prominent position, as necessary tool of the contemporary world, contributing to us being informed and in constant communication.

They assume a great importance role in getting all socioeconomic background persons together, allowing for the appearance of information exchange and knowledge sharing spaces. This becomes a challenge for schools, as teaching in the middle of the digital era contributes to create "never before seen opportunities to make teaching a motivating and passionate profession, which makes a difference to the future society. Such opportunities relate with new roles, new content and new methods of teaching and learning" (Veen & Vrakking, 2009, p. 14).

According to Ferreira (online), it is important to note that the use of technologies in a teaching context won't resolve all educational problems, but its use in a responsible way, with clearly defined objectives, is related with "the human and professional competence of the one who will intermediate the teaching and learning process: the teacher". So, that implies the construction of a new identity to the teacher, who, in face of technologies, must be prepared to act, in this new scenario: a teacher that can reframe learning and stimulate the collective production, in an autonomous and organized way, through digital networks.

According to Moura (2003), the scenario for change and teacher training must take into account the following criteria:

1. Take a position regarding information, selecting it;
2. Integrate diversified technological resources;
3. Adapt to the new characteristics of the school (active, participative and free);
4. Understand learning is not conclusive;
5. Comprehend school as a re-maker of critics.

These criteria may be considered as good practices that must be followed by all in the educational scene, both at national and international level. Because of this, the continuous training of teachers is a theme that assumes great relevance in public educational policies, that mobilize authorities to search alternatives and ways to qualify teachers that aim the concept improvement, the teaching and learning processes operationalization, since initial training only represents a phase, that anticipates the beginning of the teacher's professional actuation, them being – initial and continuous training - "nuclear components of professional development and curricular practices innovation" (Simão *et al*., 2009, p. 64)

These authors also emphasize that the European Commission has given special attention to teacher training as a way to fulfill the strategic objectives of the Education and Training for 2010, which aims to put Europe in the knowledge based economy route, making it more competitive in a global level (Antunes, 2007).

In this context, which is understandable, there are numerous efforts to consolidate a teacher training policy that must include a series of competences that not only take in to account the teaching methods, but which is also filled with training courses that allow the teachers to explore the opportunities delivered by

technologies, making them a resource to come up with individualized ways to learn, enabling the development of attitudes on investigation, deepening and reflection on developed work (Simão et. al., 2009)

The success of that training can only be exacted thru the commitment of educational managers and the school itself, in the sense of given the necessary conditions for its operation, searching responses to the problems felt in the school day-to-day, as with the need to get external support through interaction with other professionals, making teacher become active agents in their training process.

It is in this context that Costa *et. al.* (2008) underline that teacher training in ICT's will be more effective if it was given more training time followed by continuous accompaniment, thus reducing anxiety levels and teacher's fear of the new. To the authors, that accompaniment would be of great value, because, more than encouraging teachers, would make for experience changing moments, in the use of those technologies in an educational context.

So, what is expected from teacher training is, on a first level, that it tries to familiarize teachers with the technologies and, starting from there, a training program can be launched that can fulfill their necessities. Allied with the already mentioned factors, it is indispensable for "teachers can count on a support structure that is available at all times, beyond training sessions and formal moments" (Costa *et. al*., 2008, p.45). In a way, this contributes to ensure them because "the fact that they are more comfortable in the experiences they do with their students if they know they can have help when they need it" (idem).

We realize there is much to be done for ICT training to satisfy teacher's demands in the matter of disseminating a participating pedagogy, because, according to Ponte (2000, p. 67) "without a great dissemination of ICT in the places where people live and work, it will never be possible that these are used in a fluent and natural way. It's a resource managing and educational policy problem, where almost everything is to be done yet."

It is indispensable to make ICT a part of the teacher's life, aiming his involvement in "the student's learning, with the colleagues and other people of the society in general, so as to stop being the one that teaches, to become, mostly, the one that (co)learns and promotes learning" (Ponte, 2000, p. 89).

So, it would be interesting to create a space to live and share experiences, where teachers of the Portuguese speaking community could trade information, contributing to the construction of a training plan that goes in the direction of their wills and needs.

VIRTUAL SOCIAL NETWORKS

Virtual social networks have their concept based on participation and collaboration. Franco (2008), in his studies, says that networks are multiple paths, that have as a main characteristic the inexistence of a hierarchy, and that are constituted by various nodes or connections, favoring that communication flows in all directions.

Nowadays, networks have become keen environments to multiple informal learning, giving in, in some way, to the lifestyles of the people in this new model, that search the most diversified ways to communicate and share with a wide and culturally diversified universe.

Networks have taken a proportion never before seen, because some of them were conceived as relationship spaces, others as a way to store mp3 music, as a photo album. Orkut, MySpace and Facebook, as an example. But, with the passing of time, they assumed a quite different configuration from their main goal, incorporating some tools that contributed to increase interaction between people, as are forums, chats, news lists, among others. Ning, example giving, started as a Web services platform, but, more precisely in the beginning of 2007, it got a new configuration, allowing users to create their own personalized networks.

They reunite people interested in various themes. Some simply search for entertainment, other search for places to end doubts, share knowledge, others are moved by a common cause, and others search them to, through collaboration and interaction, build know-how and be the main character in their formative course.

This software allows people to group and organize around a defined theme, forming all kinds of community as: interests' community, interests' objectives oriented community, learning community and practice community (Henri & Pudelko, 2003).

Many professionals see them as a democratic space, and, because they are without a hierarchy, it seems to us that they create some kind of encouraging in participating and showing their anxieties.

SOCIAL NETWORKS FOR ICT TRAINING OF TEACHERS

As previously stated, networks can be a mean of expression and communication for professionals in any area. In education, they are becoming accepted by a major group of teachers' communities. Surely, there are those resistant to change, who prefer the "traditional" way to communicate and build knowledge.

But this reality has become modified. There are a lot of teachers that search for them to enhance knowledge and, mostly, to acquire competences in digital literacy.

And it is on this aspect that we present some networks, namely: dajaneladomeujardim, classroom2.0 and eadamazônia.

"dajaneladomeujardim"social network (http://janelajardim.ning.com/), was conceived in the Ning tool, it is active since October 2007 and has 612 members. This network is a part in a doctorate investigation from University of Minho – Braga – Portugal, and has the objective of providing a space to show the work of the children in kindergarten, share knowledge, mainly with teachers and others interested in the field. More than that, it has the objective of allowing the professional development for teachers in this level of schooling. (see image 1)

Image 1: Layout for the "da janela do meu jardim" webpage

Presently, the network shows 63 discussion topics in the forum, ranging themes related to child education methodologies referring all knowledge area, and also digital technologies, which constitutes, in our opinion, a plus, because it can contribute to digital inclusion and literacy development in the network members.

It also has 75 links to other sites. Something we feel is extremely important is the way it got the parents involved, by offering them a space so they could post the activities they develop. That space goes from a home meal recipe blog to those that discuss security of children in the Internet. Beyond that, it also has a space named "window to grow reading" with 6 links to other sites, and 74 videos.

We can say it is a network which is growing exponentially and that it gains more users every day. We say this based in statistical data provided by an application used by the network creator called RevolverMap, which showed us, in the day of our research, that the network, by that time, had 3070 visitors.

"Classroom 2.0" social network (http://www.classroom20.com) created by Steve Hargadon in the United States. Presently with 51.203 members, it's a network meant for people interested in the Web 2.0 tool that have as an objective to share and build knowledge in the technologies area. According with the author of the network, it's a space meant for educators to have the opportunity of being part of a digital dialogue, in order for them to acquire competences and skills in the handling of Web 2.0 tools and in that way have a personalized learning.

It's quite a big network, with 596 discussion groups, 7.314 forum topics, that also offers a language filter, which leads us to believe it's the most advanced model from Ning, "Ning Pro".

Image 2: "Classroom 2.0" social network webpage layout

The main page presents a profusion of links that point to other sites that work directly with other tools applied in an educational context, which can be searched by tool type, by subject or also by tags.

According to information collected in the environment itself, the network was nominated for three Edublog 2010 awards: "Best Educational Webinar Series", "Best Educational Use of a Social Network", and "Best Use of a PLN". That shows that the network is really being effective and, most importantly, is being recognized as a multiple-learning providing environment.

With all the tools available, we believe that this social network could be helpful in aiding teachers find new ways to integrate digital technologies and, in that way, develop more innovative classes, approaching school and the world as experienced by young people, which is filled with technological resources.

Eadamazon – Amazonia portal for OSL and e-learning (http://www.eadamazon.com). This portal is meant to divulge Amazonia's Of Site Learning and e-learning initiatives. From observation and analysis of the portal we realize that, more than courses, tutorials, videos, lectures, e-books, job announces and links to other sites connected with the theme, it is a space where people who take an interest on the matter can interact, sharing their professional and personal experiences.

Based on the studies of Grande (2003, p.19), and from the contents and proposal that it shows, it seems to us that it is a "vertical" portal, since it is specialized on only one theme, responding to the interests of a specific group.

Image 3: Eadamazon social network webpage layout

We can also classify it as an educational portal, since it presents communication tools that enable cooperative learning between its members, significantly contributing for the teacher to draw its own formative journey.

CONCLUSION

The social network concept has today a new meaning, since the appearing of the Internet and, mostly, since the Web 2.0 applications generation. When we talk, today, of social network, we think of relationship sites, that are not well regarded by parents or teachers that, thus, ignore many of the educational potential of these environments.

This is an additional reason to show how social networks can be spaces where knowledge is built by sharing and interaction between its members. In the three examples given, the social software was used constructively and in a teacher's professional development logic; in the first case, parents participation was always encouraged and that was, without a doubt, one of the factors to justify the success that the experience keeps through the almost three years it is working. The presented examples show that many teachers, citizens of the XXI century, seek informal spaces for their professional development that transcend the walls of their school, community or geographical region; that, in those environments, they can personalize their formative journey according with their time and professional interests; that there are strategies that assure the permanence of the virtual community members, even if they know they are not getting any type of certification for the training they receive.

We believe that social networks can be an enabling space to the sharing of multiple educational experiences and a space that favors the interaction between teachers that can, that way, learn from one another. Being part and communicating in these spaces can be an additional enhancer so digital technologies become part of the teacher's day-to-day in the classroom.

The teacher's participation on collaborative social networks may help the professional on identifying the weak and strong spots of his practice, develop a taste for learning how to learn, as well as sharing knowledge and contribute with learning to the whole community, in a communal constructivism perspective as recommended by Holmes *et. al*. (2001).

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85 - Teacher Professionality and Professional Development in Communities of Practice – The Case of Collaborative Groups

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Abstract: When analyzing the constitution of teacher professionality in the interior of a collaborative group of reflection and study about its teaching and learning practices in basic school, Fiorentini (2009; 2010) found among the participant teachers a singular way of being in the profession and qualified it as being interactive, reflective and investigative. The emergency of this type of teacher professionality instigated us to investigate how the same is constituted in these *communities of practice* and how its participants develop professionally. In this paper we present and we argue some theoretical conceptions that serve as the framework for this research project such as: teacher education in communities of practice; teacher professionality, professional development and collaborative groups. The methodological procedures of the research are also presented, underlining the processes of gathering and analysis of data.

Keywords: Communities of Practice, Teacher Professionality, Professional Development, Mathematics Teachers

INTRODUCTION

Researches and discussions about teacher education have undergone great advances in the three last decades. Currently, different conceptions of teacher learning coexist, including varied images: of knowledge; of professional practice; of the relations between knowledge and practice; of the social, intellectual and organizational contexts where the learning of the teachers takes place; and of the way in which this learning connects with the educational change and the intentions of the school (Cochran-Smith & Lytle, 1999).

Fiorentini (2008, p. 59-60), based on António Nóvoa, points two basic models of teacher education: *structural* and *constructive*. In the structural model, the teacher education is structured from the perspective of the rationality technique or of kind of top-down, in which the education is organized from a model that assume the previous appropriation of knowledge, generally distanced of the practices of the teachers, to be later applied in the school practice. Even in the case of continued education, in this model, a previous update of the knowledge considered basic for the exercise of teaching is foreseen, without the demands of the teachers and the challenges or problems of its field of work being taken into consideration.

On the other hand, the constructive model of teacher education estimates the existence of a continuous process of interactive and contextualized reflection about the pedagogical and teaching practices, articulating the educational and professional practices. This implies a relation of partnership between the educator and its students, that can collaboratively act in the search of understanding of the problems and challenges of the teacher work in the current context, and can also act in the construction of alternatives of intervention in the school practice. It is common, in this context, the formation study groups and research-action, which analyze the practices that are in effect and innovative, elaborate together projects of intervention in the practice, followed by moments of registering/documentation of the educative activities and of reflection/systematic analysis of the same ones. That is, in the *constructive* model, the starting and finishing points of teacher education are the practices and the knowledge brought, produced and mobilized by the teachers in different contexts of school practices.

From the 90's, guided by this constructive conception of teacher education and from the initiative of university professors/researchers, and later from the initiative of the school teachers, appeared in Brazil collaborative groups of work and teacher education that are dedicated to the study of the ways of teaching and learning mathematics in the schools. We can consider that such groups constitute *communities of practice* (Lave & Wenger, 1991) or local *investigative communities* (Cochran-Smith & Lytle, 1999) formed by school teachers, university professors/researchers and/or future teachers who study, share, argue, investigate and write about the pedagogical practice in mathematics on the schools in a collaborative environment. These communities, according to Fiorentini (2010, P. 577) have constituted themselves in a

"alternative for the professional development of teachers and the production of a repertoire of professional knowledge based on inquiries about the practice of teaching and learning mathematics".

From this context, we formulate the present research project with the objective of describing and analyzing the process of constitution of the teacher professionality and the professional development of teachers who teach mathematics and who participate in collaborative groups of reflection or of inquiry about their professional practices.

In the following segment we present and discuss some theoretical conceptions that serve as framework to this research project and that are related to teacher education in communities of practice; to the constitution of the teacher professionality; and to the professional development of teachers who participate in collaborative groups of reflection and investigation on practices of teaching and learning mathematics in basic school. The methodological procedures of the research are also presented, underlining the processes of gathering and analysis of data.

TEACHER EDUCATION IN COMMUNITIES OF PRACTICE

In the last decades, one of the biggest concerns related to the politics, to the research and the debates centered in education has been teacher education. On this thematic, we find the defense of many different ways of carrying through this practice, amongst which there is the education of teachers in *communities of practice*. In these communities, it is recognized that the teachers constitute some ways of being in the profession, that is, constitute their teacher professionality and develop professionally.

In recent years, authors as Gama (2007), Nóvoa (2007, 2009), Fiorentini (2009) and Imbernón (2009) have appropriated the concept of *community of practice* (CoP) to investigate the education of teachers.

According to Imbernón (2009, pp. 79-88), a *community of practice* of permanent teacher education would be a group of teachers who interchange, reflect and learn mutually about their practice. The community would start to be formative when it's allowed to the teachers the elaboration of a culture that is proper to the group and not only the standardized reproduction of the dominant social or academic culture.

Nóvoa (2009, p. 21), based on Pat Hutchings and Mary Taylor Huber (2008), points out the necessity of strengthening the *communities of practice* of teacher education that must consist in a space formed by educators compromised with research and innovation, in which ideas about teaching and learning are discussed and common perspectives about the challenges of the education of the students are elaborated.

According to Fiorentini (2009, p. 237), the expression *community of practice* was introduced by Lave and Wenger (1991) to assign the social practice of a collective of people who participate of "a system of activities in which they share understanding about what they make and what this means in their lives".

Wenger (2001, pp. 99 - 114) points that a CoP has three basic characteristics: *the mutual commitment*, a *joint practice and the common interest*. Fiorentini (2009) identified of the following way these characteristics in a collaborative group of teachers who teach mathematics that he investigated. The *mutual commitment* inhabits in the participation in the *joint practices* of reflection and inquiry about the *practice of teaching and learning mathematics in the schools* (common interest). According to Fiorentini (2010, p. 581), the *participation*, in the perspective of Wenger (2001), understands the process in which the subjects of a community share, discuss and negotiate meanings about what they make, speak, feel, think and produce together. In this way, to participate in a CoP means to engage in the activity of the community as operating and productive member. This implies to appropriate of the practice, of the knowledges and of the values of the group.

Gama (2007), when analyzing the professional development of teachers in the beginning of their careers who had participated of collaborative groups, underlined that the developed learnings are associated directly to the collective dimension of the group, therefore the collaborative groups can be considered small communities constituted by engaged people, in which a type of learning occurs characterized by Wenger (2001) as *social learning*.

Fiorentini (2009) interprets *social learning* as a social phenomenon loaded by ideologies and values and that it emerges of direct participation in social practice, independent of being organized with the intention to teach something to somebody. About the knowledges and the participation in a CoP, Fiorentini underlines that "the knowledges of a CoP, therefore, are expressed through the shared forms of doing and understanding inside the community, which results in dynamics of negotiation involving active participation and reification of the practice". Still, according to the author:

Reification, for Wenger (2001), means "to become in something". However, this does not mean that "something" is necessarily concrete or material. The reification, for example, can also be a concept, that is, something abstract; it refers to the process of giving shape and meaning to the human experience from the production of objects such as artifacts, ideas, concepts or written texts (Fiorentini, 2010 p. 571).

In this direction, the reifications of the collaborative groups can be perceived and be conferred in the written practices, as well as, in the collective moments of production and negotiation of meanings about the practice of learning and teaching mathematics in the schools.

TEACHER PROFESSIONALITY AND PROFESSIONAL LEARNING

When discussing the specifities of the teaching work, Gimeno Sacristán (1991), searches for support in the professionality concept, which is understood by him as "(...) the affirmation of what is specific in the teaching action, that is, the set of behaviors, knowledges, dexterities, attitudes and values that constitute the specifities of being a teacher" (p. 65).

Contreras (2002, p. 74), based on Gimeno Sacristán and Hoyle, relates the professionality "to the qualities of the professional practice of the teacher in function of what the educative work requires". And clarifies that it is not only about the description of the performance of the work that is to teach, but also of the values and the pretensions that are intended to be reached in the context of the profession.

Fiorentini (2005), based on Fullan and Hargreaves, conceives teacher professionality as a way to produce and to project the work and the profession, that express a quality, in view of the social and politic demands of the students and the political commitment of the teacher. This professionality, however, is constituted in the social interactions of the teachers, that is, it is constructed by means of participation of the teachers in different communities, especially in those that focus on the professional development of the teachers, as it is the case of the collaborative groups.

In this direction, and considering the different meanings of professionality in the literature, Fiorentini (2009, p. 250) distinguishes at least two different meanings of teacher professionality: one in the perspective of the neoliberal educational politics marked by the discourse of the abilities and the logic of the qualification; another one, that defends the construction of a "interactive and deliberative professionality", that attributes to the teachers: autonomy; plurality of knowledges; capacity to analyze and to evaluate, in a critical community, its work, deliberating on the routes of its practice and the values to be cultivated.

Concerning the concept of professional development, Rocha and Fiorentini (2006, p.3) represent a new perspective of conceiving the teachers as an independent and responsible professional who produces knowledge from its practice. In this perspective, the professional development of the teacher can be conceived as a dynamic, continuous process and never-ending. The authors clarify, still, that they understand the education and the professional development of the teachers "as a continuous process that starts before entering college, is extended throughout all the professional life and happens in the multiple spaces and moments of each one's life, involving personal, familiar, institutional and sociocultural aspects" (p. 4-5).

Close to this perspective, Day (1999, p. 20-21) conceives professional development as a result of all the spontaneous experiences of learning and activities conscientiously designed, carried through for the benefit, direct or indirect, of the individual, the group or the school and that contribute for the quality of education in the classroom.

It is from this conception of professional development of the teachers that we intend, in the present inquiry, to understand how the teachers learn professionally and constitute their professionality in the context of the collaborative groups.

THE CONSTITUTION OF TEACHER PROFESSIONALITY AND THE PROFESSIONAL LEARNING IN COLLABORATIVE GROUPS

When analyzing the constitution of teacher professionality in the interior of a collaborative group (called Saturday Group), Fiorentini (2009, p. 251) underlines that there are evidences of the constitution of a way of being in the profession that is characterized as interactive, reflective and investigative. According to the author, the collaborative practices involving school teachers and university educators, or professionals and researchers, emerge as the possibility of the collective construction of a interactive teacher professionality that is renewed permanently.

In these collaborative groups, the teachers constitute their teacher professionality by discussing, analyzing, reflecting, investigating and sharing the underlying questions to the exercise of the teaching profession, having teacher educators and academics of the university as critical partners.

On the organization of the dynamic of these collaborative groups and their relation with professional learning, Gama (2007, p. 144) points that, in his research with collaborative groups, it was possible to identify some practices and/or dynamic that act as catalysers of the professional learning of the participants: coordination and register of the presential meetings in a shared and alternated way; theoretical and methodological studies defined from the demands of the participants; sharing of written and verbal narratives; joint construction of pedagogical materials; publications of papers and books with the

participation of the group; use of virtual space for doubts, exchange of information and socialization of theoretical and pedagogical materials. In the groups that Gama (idem) studied, the meetings are coordinated and described - through documents entitled memories or acts – using a rotation system by the different members of the groups.

On the professional learning of teachers that are in the beginning of their careers and that participate in collaborative groups, Gama and Fiorentini (2008) underline that:

> (...) in the collaborative groups, the look of the other aids in the promotion of questionings and distancing of the practice of the person who tells the group its stories or experiences in the classroom. It also helps to produce new meanings and to evaluate the experience of each other, allowing, thus, the professional development and the constitution of professional identities of the participants (p. 10).

METHODOLOGICAL PROCEDURES ABOUT DATA GATHERING AND ANALYSIS

The data for the development of the research will be collected in a first phase through a questionnaire with open and closed questions to be answered by teachers who teach mathematics and that participate in collaborative groups. In this phase, we intend to identify and to describe the following aspects: which are the contributions of the group for its professional development and teacher education; which are the contributions of the group for the confrontation of the challenges presented by the teaching practice; how the teachers contribute with the development of the group that they participate and which are possibilities or limitations of the collaborative group for the improvement of the teaching practice. The questionnaires will be distributed by the researcher to the teachers who teach mathematics that participate in Brazilian collaborative groups, using electronic means (email), postal (post office) or presential. Considering that, although questionnaires have a low usage frequency in qualitative research, they can serve as a complementary source of information, specially in the initial and exploratory phase of the research (Fiorentini & Lorenzato, 2006, p.117).

In the second phase, aiming at a deeper and qualified investigation of the process of professional development, of teacher learning and of the constitution of professionality, a sample of three to four teachers that participate in collaborative groups will be selected, and these teachers will be submitted to semi structuralized interviews that will be transcribed for analysis. This modality of research, according to Fiorentini and Lorenzato (2006, p.121), is commonly used by the educational researches, being that the researcher, intending to deepen himself on a phenomenon or specific question, organizes a script of points to be contemplated during the interview that can in modified in accordance with the development of the interview. The transcription of these interviews will be a part of the corpus, as well as written publications of these groups and the papers and/or didactic materials produced by the selected teachers, such as: texts, ideas, strategies, didactical materials, digital medias, manifests, etc.

In the third and last phase of the field work, some observations will be done, with notations in a field diary, of the meetings of collaborative groups where the interviewed teachers participate. This material will serve for the composition of the analysis and the description of the dynamics of the collaborative groups where the teachers - subjects of the second phase - participate.

The data will be analyzed in a qualitative way, considering that this way of doing research "tries to portray the reality in the deepest and more complex way possible, emphasizing the interpretation or the analysis of the object in the context where it inhabits" (Fiorentini & Lorenzato, 2006, p. 110).

In this direction we take as base the authors Lüdke and André (1986) that underline the basic characteristics of this way of research and point that it has the natural environment as its direct source of data and the researcher as its main instrument. According to the authors, the gathered data are predominantly descriptive, and the concern with the process is bigger than with the product and the meaning that people give to things and to their life are the focus of special attention for the researcher. The data analysis tends to follow an inductive process.

In relation to the this project, the analysis and the interpretation of the content of the discursive informations will be developed by means of a process of *mix categorization*, because we intend to get "the categories from a confrontation between what the literature says and what the field registers show" (Fiorentini & Lorezato, 2007, p. 135). In this way, we intend to triangulate some instruments of research to compose the corpus of analysis, in a way to guarantee a better understanding and approximation of the processes of professional development and constitution of the teacher professionality of the subjects that participate of collaborative groups.

SOME FINAL CONSIDERATIONS

Being a project in implementation phase, we are open to critics and contributions to its development. We intend, beyond what we already announce previously, to describe the work dynamics of the groups in which the selected teachers are part of in the second phase of the field research; to describe the process of professional learning of the participants from their participation in the group and to characterize and analyze the type of teacher professionality that is being constituted by them. We also intend to describe, to detail and to analyze the reifications produced by the selected teachers and their contributions for the teachers' professional learning and improvement of teaching and learning mathematics practices in schools, as well as, the personal and professional development of their colleagues and of the restricted teaching community (collaborative group or school) or broader (the community of mathematics teachers that act in the schools and the community of teacher educators that act in the universities or centers of teaching education), as well as the public politics of education. For this, we will take as reference, the publication of written works of the teacher, produced videos or didactic materials, their participation in congresses or in the management of agencies or public services (participation in projects of continued education, lectures, and administrative positions in education secretariats).

We consider that the theoretical framework of this study must be extended and be confronted with other conceptions of formation in communities and professional learning, such as the studies and works of Cochran-Smith & Lytle (1999), Jaworski (2008), Fiorentini (2010) and Hargreaves (2004; 2007).

Finally, we underline the context in which this research is developing. Although the research had evidenced the contributions of the collaborative groups for the professional development of teachers and for the improvement of their teaching practice, the public politics have yet to recognized and validate these spaces of work and education. Rarely, these teachers receive aid and validation for the hours of work and study in these *communities of practice*. We agree with Freitas (2007, p.1207) when defending that the politics of teacher education should take in consideration the results of the studies of the researchers who have guided and collaborated with the educators, their movements and entities in the debate about the principles and the framework of education. In Brazil, the politics of teacher education, especially those of the State of São Paulo, still insist on promoting a neoliberal politics of teacher education, as they prefer to invest on a large scale in the (des)continuous education of teachers and in the external control of the teaching work, through evaluations that take in consideration only the curriculum proposed and elaborated by specialists and without the participation of the teachers who act in the schools (Fiorentini, 2008).

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166 -A Model for Utilising Social Networking for Academic Adjustment Purposes

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Abstract: The explosion of mobile technology use within the general population means today's students are often referred to as Digital Natives or the Net Generation (Oblinger & Oblinger, 2005; Prensky, 2001,). Baston (2008) notes that our educational systems are not yet fully recognising the changes which have arisen from this generation - therefore, we should be seeking ways in to embrace social media for the purposes of academic adjustment? By examining extant literature complemented by primary data, two European Institutions (ISEG, Lisbon, Portugal and Northumbria University, Newcastle upon Tyne, UK) have designed models which utilise technology to engage students in support related activity. One such model, using the social networking package *'Facebook'* has been piloted at Northumbria University. This paper evaluates this model and contemplates how social networking could be successfully integrated into future student support and learning mechanisms.

Keywords: social networking, student retention, mentoring, student adjustment.

INTRODUCTION

It is well recognized that students will require a period of adjustment when entering Higher Education (HE) (Dyson & Renk, 2006). Vincent Tinto (1975) was one of the first researchers to recognize how the adjustment process can affect whether or not a student remains beyond their first year of study. Retention, as a topic, continues to have prominence due to its link with widening participation, which has increased from 15% in the late 1980's to 35% in 2000 (Chowdry *et al.,* 2010).

Peer mentoring is one popular form of intervention which is designed to assist in the academic adjustment process (Crisp & Cruz, 2009). The majority of schemes are based on face to face contact once students have entered University (Clark, Andrews and Ingelby, 2010). Peer mentoring in a virtual form is rare and evaluation of any virtual scheme does not yet appear to feature within peer mentoring or academic adjustment literature.

This paper begins to readdress this: firstly by summarizing a scoping study which explored which technology was the more likely to promote and sustain student engagement in a peer mentoring context; secondly, a pilot utilizing the favoured technology is evaluated using mixed methodologies whilst following action research principles.

ACADEMIC ADJUSTMENT

Students' adjustment to HE is one of the more prominent areas of pedagogic research. The most significant authors in this area being Vincent Tinto (1975). Mayhew, Vanderlinden and Kim (2010) recognize that these programmes for improving retention are open to criticism as evaluation rarely makes a direct link to student learning. This is often due to the concentration of many induction (or orientation programmes) focusing on the social dimensions of the adjustment process. This is understandable as Christie *et al*. (2008, p. 567) states *"becoming a university student is an intrinsically emotional process"* and as cited by Dyson and Renk (2006, p. 1232) *"all new students go through an adjustment phase upon entry to a university with each student varied in his or her own pace of development."*

The one factor consistently noted within retention research is the crucial six week period at the start of University where students often decide whether or not to continue studying at an institution (see for example, Heirdsfield, Walker & Walsh, 2008 and Perry *et al.* 2001). As stated by Christie *et al*. (2008) and Stratton *et al*. (2007), amongst others, the adjustment process involves a variety of complex factors. Peel (2000) summarises that there is often a paradox of the part of this adjustment process in that what students often look forward to, independence and freedom, can also be a significant source of anxiety. Empirical data from

a number of studies also indicates there are some factors which can be significant. Students are more likely to withdraw if:

- A student is the first generation in their family to enter HE (Ishitani, 2006);
- Cultural values of international students are not valued by home students (Zepke & Leach, 2005);
- There is no orientation to a campus (Christie *et al*., 2008);
- There is a lack of personal relationships with staff (Peel, 2000);
- The course does not meet expectations (Pendleton, 2005).

Studies generally point to University as being a potential lonely experience and therefore as stated by Christie *et al*. (2008) university cultures need to adapt and become accountable for the adjustment process.

Peer mentoring

Peer mentoring is one well established method employed by HE institutions to assist in the integration of students into university. The topic attracts a profusion of research which is reviewed on a regular basis, most recently, by Crisp and Cruz (2009) and Terrion and Leonard (2007).

The concept of mentoring arose from the work of (Kram, 1983) who looked at the effects of relationships within the workplace. Terrion and Leonard (2007, p. 150) base their own definition of mentoring on this original work:

> *"Peer mentoring is a helping relationship in which two individuals of similar age and/or experience come together, either informally or through formal mentoring schemes, in the pursuit of fulfilling some combination of functions that are career-related (e.g. information sharing, career strategizing) and psychosocial (e.g. confirmation, emotional support, personal feedback, friendship)."*

Peer mentoring has been proven to increase student retention (see for example Boud, Cohen, & Sampson (2003) and Muldoon (2008)), as well as generally improving the first year experience of students (see for example, Farrell *et al.* (2004) and Mee-Lee and Bush (2003)).

The majority of UK peer mentoring schemes work on a face to face basis once students enter university (Clark *et al*., 2010). However, the 21st Century has brought about a change in the way literature describes the typical student age group. Commonly students joining HE now were born in the 1980s or 1990s. Technology is seen now as being an integral part of everyday life and as such these students are increasingly viewed as the Net Generation or Digital Natives (Oblinger & Oblinger, 2005; Prensky, 2001). A number of commentators suggest that this essentially requires educators to make a radical shift in their own use of technology. Baston (2008), for example, notes how learning has shifted from the desktop to the internet with Web 2.0 technologies being more in line with the reality of learning than the book. DeGennaro (2008) points out that educators now need to craft learning design around the technologies which are important to them. This would suggest peer mentoring is one way in which technology should now be incorporated - a point picked up by some peer mentoring commentators. Ensher, Heun, and Blanchard, (2003) believes there are a number of advantages to on-line mentoring such as reduced costs, a counteraction of demographic and geographic issues, greater mentor access and ability to immediately record of interactions. Whilst, Hwang (2004) notes that virtual forms of communication could increase the positive learning benefits which are gained from student networking across all cultures.

In a recent UK report, Clark *et al*. (2010) found that over 80 UK institutions operate some form of peer mentoring. The content analysis conducted indicated that virtual based schemes are a rarity. Only nine institutions appeared to be using some form of virtual support, the majority of which supplemented face to face sessions by email contact. There is some exploration of how technology can provide support, two notable examples are: (1) Glasgow Caledonia University - their initiative on Emergent Technologies for Learning (Anon, 2009) includes a project which explores how the virtual world Second Life can help students become more effective learners. This incorporates an i-CAMPUSS (Internet College Articulation and Mentoring Project for Prospective University Students) initiative where student mentors use Second Life to interact with first year (and even prospective) students to explain things about schools and services that new students need to know; (2) Madge *et al*. (2009) explores social networking for supporting learning and observed how pre-registration engagement with the social networking site *'Facebook'* influences students' post-registration social networks. Students reported joining *'Facebook'* as a means of making new friends at university, as well as keeping in touch with friends and family at home. It was noted that *'Facebook'* formed

part of the 'social glue' that helped students settle into university life. Northumbria University was also interested in exploring how technology could be used in a mentoring context. Three forms of technology were initially considered:

- Virtual Learning Environments (VLE) - an integrated set of tools such as folders, email, quizzes and discussion boards to support learning (Svane & Smedley 2004);
- Social Networking – spaces for personal profiles which can be publically shared (Boyd, 2008);
- Virtual worlds – an example of which is Second life which enables the creation of characters that interact in reality or fantasy based environments.

These technological models were assessed using two methods - a desk-based review of the relevant literature complemented by a traditional survey approach. Selection was based on the following criteria highlighted as facilitating academic adjustment:

- Would the technology allow contact to be made with the students pre induction?
- What technological skills would be required on the part of:
    o A student mentor and/or academic staff;
    o A 'joining' student?
- How established is the use of the technology within HE?
- Is the technology suitable for initiating peer interaction?
- What is the current usage, across all demographic factors, of these technologies amongst the incoming student population?

Table 1: summarises the three models considered against the above criteria, detail of which is reported in a separate article (Smailes & Gannon-Leary, 2011)

Criteria	Virtual Learning Environment	Social Networking	Virtual worlds
Pre -induction	No, access only available after enrolment.	Yes, public access.	Yes, public access.
Skills required Mentor/Staff	Basic skills set required (Gannon-Leary & Turnock, 2007).	Basic skills set required (Boyd, 2008; Tufekci, 2008).	Advanced skills set required. (Browne *et al.*, 2008).
New student	Would require initial training but can operate with basic skills set (ibid).	Basic skills set required (ibid).	Advanced skills set required (Wetsch, 2008).
Current use in HE	Well established (MacLaren, 2004).	At the early stages of adoption (Liccardi *et al.*, 2007).	Increased interest in use (Kirriemuir, 2008; Peachy, 2007).
Facilitates peer interaction	Sole and Lindquist (2001) note the potential for peer interaction. Students are unenthusiastic about VLEs (Conole & De Laat, 2006).	Potential for creating social learning environments that offer 'social communities of practice' (Cain, 2008; Ryberg & Christiansen, 2008). Social networking engagement is culturally dependent (Boyd & Ellison, 2007)	Community based environment that mirrors reality (Kirriemuir, 2008).
Current usage amongst all demographic groups. (Source: Northumbria Survey).	Two-thirds of students used daily further 30% weekly across all demographic factors.	Vast majority of group use daily no cultural difference found.	Negligible usage amongst student cohort, majority not heard of most well known virtual world Second Life.

The evidence indicated that a model involving social networking sites had the greatest potential for supporting academic adjustment through peer mentoring. This was primarily due to its immense popularity

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amongst the student body alongside the ability for the academic adjustment process through mentoring to occur before formal student induction.

SOCIAL NETWORKING FOR SUPPORTING ACADEMIC ADJUSTMENT

Understood to have begun in the mid 1990s, there are copious numbers of social networking sites worldwide, the more populous sites began to emerge from the early 2000's (Boyd & Ellison, 2008). Ronn (2007) notes how social networking sites are the reported to be the most visited pages apart from search engines. Social networking sites are defined as differing from other forms of computer mediated communication due to three notably public features i.e. a personal profile, links to friends and open comments on those profiles (Boyd & Ellison, 2008). Social networking is now a global phenomenon, as noted by Tufekci (2008) a number of studies illustrate that students consider themselves to be heavy users of social networking sites. Boyd (2008, p. 136) comments on how social networking provides an environment for young people to formulate their identity within public forum and the emergence of such sites has provided a *"whole new social realm for youth"*. A number of researchers are now recognizing the increasing potential of social networking in student learning. Huijser (2008) observes how there seems to be a desire from the students themselves for what students regard as their "living technologies" to be used within learning. Berg, Berquam, and Christoph, (2007) suggest universities should be looking at the ways in which social networking can be used in a positive way with students in order for them to see benefit of student: staff communication in a space students think of as their domain. Cain (2008) recognizes the role of social networking as an aid in helping students feel that they belong and hence could aid retention.

Although there is abundant variety of social networking sites, one site dominates in the UK, US and much of Europe above all other namely *'Facebook'* (BBC, 2010 using Nielsen 2010 as a source). '*Facebook*'s' popularity extends to Northumbria's student group. In a survey conducted in 2008 (n=451), 75% of students from all demographic groups stated they used *'Facebook'* on a daily basis, opposed to the next most popular site MySpace used by only 5% of the sample (Smailes & Gannon-Leary, 2011). Boyd and Ellison (2008) note that social networking is culturally dependent. However, Northumbria's primary data showed that although international students used alternative sites, they were used less frequently and alongside *'Facebook'*.

The ISEG *'Facebook'* page[109] is a very active social network, created on July 2010, it has currently about 4200 'friends': students (current and potential; Portuguese and international), teachers and alumni. Its contents include: promotion of all ISEG courses; dissemination of events (e.g. academic, cultural, company presentations, job fairs); information to secondary schools; relevant scientific activities including projects, awards and research papers. It is also a space for discussion and resolution of issues inherent to academic life at ISEG, both in terms of logistics and in terms of academic issues. The discussions and questions are monitored by a team belonging to ISEG Human Resources staff and the questions are answered online at any time. The most popular topics are Information, Notes, Fora and Photos.

Despite its popularity, social networking and its use within education continues to court controversy (Selwyn, 2009). Goodall (2008) notes that despite being comfortable with the technology students are likely to need advice on its appropriate use. A similar point is picked up by a number of authors who consider the negative implications which may arise from the public nature of the sites, these range from personal safety, employment prospects and bringing an institution's reputation into disrepute (Gross & Acquisti, 2005; Kolek and Saunders, 2008; Lenhart *et al.,* 2007; Peluchette, 2010). However, Huijser (2008) believes there is perceived threat of using social networking in learning as it is likely to be due to the lack of control on the part of the educationalist.

Notwithstanding these concerns, on the whole, the evidence led the authors to believe that a model involving '*Facebook*' had the greatest potential for supporting the academic adjustment of students. However, in line with any mentoring programme, mentor training is essential therefore it was imperative in creating a virtual peer mentoring model to include a consideration of how this instruction was designed to include guidelines on how '*Facebook*' could be used in a secure and professional manner (Terrion & Leonard, 2007).

PILOT EVALUATION

The pilot virtual mentoring model involved a small cohort - BA (Hons) Marketing Management at Northumbria University. A mentor was recruited in May 2010 and alongside the principal researcher created materials for August 2010 when the site was launched. In order to host resources, a *'Facebook'* group

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[109] http://www.facebook.com/pages/ISEG-Instituto-Superior-de-Economia-e-Gest%C3%A3o/141467479212632#!/pages/ISEG-Superior-de-Economia-e-Gest%C3%A3o/141467479212632?sk=wall&filter=1

account was created. A *'Facebook'* group was felt to be appropriate due to its advanced security features and the availability of additional features not present on a personal account (e.g. discussion board). These resources included:

- Guide to the campus, including internal room layouts. Information which (Christie *et al*., 2008) believes should not be under estimated in its importance for academic adjustment;
- Photographs of students from Year 2 including quotes passing on advice;
- A guide the academic referencing style use at Northumbria;
- Details of the 'Ask Liz' service. A one stop shop which (Mayhew *et al*., 2010) found to be factor common to successful orientation programmes;
- A guide to interpreting the timetable;
- Details of the Students' Union activities in the Welcome week.

As part of the University acceptance processes, students were sent details of the '*Facebook*' group in the joining instructions. At this stage the researcher began to undertake regular observation of activity in the groups. A similar technique to that used by (Selwyn, 2009) citing (Davies & Merchant, 2007) whom believe as both an observer and an analyst this is viewed as non-participant ethnographic research.

Within days of these letters being distributed, the majority of new students (85%) had joined the *'Facebook'* group. Observations of wall activity showed that the students quickly became *'Facebook'* friends with each other - although, international students were found to have fewer friends. In the following few days, the mentor also received questions from students, the replies to which were posted publically either onto the wall or a discussion page. Examples of queries related to issues such as the number of hours they would be expected to attend and reading lists for the programme's modules.

To assess whether this supporting material had been useful, a traditional survey approach was used. The survey questions gathered both factual information (e.g. resources used, frequency of access) and opinion in the form of Likert statements. These statements were an amalgamation of proven questionnaires designed to measure factors such as commitment to the organization, relationships with peers and mentors, plus persistence towards learning (Cole, Field, & Harris, 2004; Sanchez, Bauer, & Paronto, 2006). Although the cohort was small (n=20) a 100% response rate was achieved.

Demographic analysis revealed that the majority of the group originated from the UK. There were four international students in the cohort, 3 originating from China, one student from the Middle East. More than 50% of the students noted that they were the first generation in their family to attend university - a group known to be more likely to leave HE (Ishitani, 2006).

The vast majority of the cohort (80%) used *'Facebook'* on at least a daily basis. However, cultural differences in use were now more pronounced. In 2009, China banned *'Facebook'*. Although, the students from China had *'Facebook'* accounts, these were used less frequently, had far fewer friends (both from the cohort and in general) registered on the account. *'QQ'* is now the most prevalently used site in China (BBC, 2011) and this was also clearly the more popular and frequently used site for the Students from China – a significant shift from the empirical data collated as part of the scoping study (Smailes and Gannon-Leary, 2011).

All but one, an international student, said that they had visited the *'Facebook'* Group at least a few times although most said that the last time the site had been accessed was within the first couple of weeks of the first semester. Notably, two of the international students reported they had accessed the site recently which may illustrate the additional stress (e.g. 'cultural shock') international students experience (Baron & Carr, 2007). The researchers were aware that students needed to consciously log on to the group to access the information therefore, one line of enquiry was whether a direct newsfeed link via a personal account would be preferred. Opinion on this appeared to be slightly divided with 60% saying this would be their preference but 20% were unsure and the remaining 20% said no.

When questioned about the resources, students listed the practical elements: timetable and referencing guides; building map and Students' Union links as being the most popular, illustrating the importance highlighting both academic and social aspects of University life. There were significant numbers of people claiming they had not used some of the resources. This included the on stop shop ('Ask Liz') service, an element highlighted by (Mayhew *et al*., 2010) as an orientation programme success factor. However, this could also infer that the information on the *'Facebook'* group was sufficient for their needs.

Krause *et al.*(2005) note that successful learning communities rely on successful peer interaction. The virtual mentoring model did indeed appear to assist in this process. As well as the speed at which the incoming students interacted both with the group and themselves indicated this. In addition questionnaire responses from the cohort, students felt they have developed good relationships with their peers which they felt had had

a positive influence on their intellectual growth. However, just under half of the cohort felt they would not feel confident in discussing personal problems with these friends which suggests that any friendships made are not yet considered close. Despite the success of the introducing course colleagues only half of the cohort felt that the information provided on the *'Facebook'* group had prepared them for University life and only one third felt that the group had increased their confidence. Notably, a similar proportion stated they had not felt confident in posting any questions. Responses which explored relationships with the mentors yielded much lower response rates which may indicate that some form of face to face contact may indeed be preferred.

Alongside good peer relationships, Peel (2000) also stresses the importance of students developing personal relationships with staff. This was explored by the questionnaire. The staff very well thought of, with over three quarters of the cohort believing they showed a genuine interest in teaching. Smaller numbers, around half of the cohort, felt that the staff showed interest in them as people. There was also a desire expressed by the cohort for more informal and academic contact with the staff. This could be achieved through future models, where resources and/or advice could be posted to *'Facebook'* directly by the staff.

Pendleton (2005) notes how experience not matching expectation can be a factor which affects retention. In this case positive results were received. Students showed strong levels of commitment both to their learning and the University. All students noted the importance of getting an undergraduate degree, with 78% noting the grade they wished to achieve was important. Over 80% of the cohort felt they had chosen the right University with two thirds saying they would recommend the University to others and half the cohort, even at this early stage, would consider studying to Masters level. To date, no one has left the programme. However, as part of the observation process, in January 2011, one male student, on his *'Facebook'* wall, clearly expressed doubts about the programme and considered leaving. *'Facebook'* was quickly used by other members of the programme to pass on very balanced advice; this conversation was concluded by the student posting his decision to stay - a pleasing outcome for this project.

However, the observation of *'Facebook'* activity also illustrated, that very few students made use of the privacy settings on *'Facebook'*. Significant numbers of students posted some form of personal contact information e.g. email addresses, phone numbers. In a number of cases the tone and content of many *'Facebook'* wall posts would not be looked upon in a favourable light by prospective employers. These findings are similar to those of a number of US studies which warn of the potential negative implications of this (Gross & Acquisti, 2005; Kolek & Saunders, 2008; Lenhart *et al.,* 2007; Peluchette, 2010). This does indicate that, as postulated by Kolek and Saunders, (2008) there may be a need for institutions to consider the development of advisory policies on the use of social networking.

Despite, the neutral views which appear to have been expressed overall, the viability of utilising social networking to further support the learning process will form the basis of future research. This will include developing through the Treaty of Windsor Anglo-Portuguese Joint Research Programme: Communities of Learning: extending the boundaries of the learning experience through collaboration across different universities (C2LEARN) project, collaborative activity among students in the UK and students on Business and Economics programmes in Technical University of Lisbon (Gannon-Leary & Fontainha, 2010).

CONCLUSION

The previous scoping study conducted at Northumbria indicated that social networking, and in particular *'Facebook'*, had the greatest potential for supporting the academic adjustment of students. This was due both to its immense popularity amongst the student body, including international students, alongside the ability for contact with students to commence before formal student induction. A pilot virtual mentoring model utilising a '*Facebook*' group was introduced in August 2010. Action research methodologies were used to evaluate the pilot. Incoming students were sent a link to the group as part of the joining instructions and the majority of the cohort joined this group and posted queries within days of these letters being distributed. It was also observed that students quickly became *'Facebook'* friends with each other. Questionnaire results illustrated that students did engage with the materials on the *'Facebook'* group but this appears to have been over a short-time scale. Unlike, the scoping study, international students were found to use *'Facebook'* less frequently than their UK counterparts. However, this is believed to be linked to the current *'Facebook'* ban in China which in turn has led to an increased use of another site *'QQ'*. Students reported that there was less engagement with some of the resources as expected and a number of students did not feel that engagement with this group had particularly increased their confidence in starting University. However, questionnaire analysis illustrated that good relationships had been made between the students and they indicated that they had a strong commitment to the University. The programme has to date achieved a high retention rate.

Observation of students *'Facebook'* pages revealed that the vast majority of students share or post information which may be considered to not be totally safe or appropriate in a publically available context. Although, the overall outcome of the pilot has not been as positive as hoped, the researchers believe there is enough potential indicated through the strong cohort identity formed at a very early point to take forward the virtual peer modelling concept as a pre induction introduction to the University. Future models, would still utilize *'Facebook'* but a non-personal account will replace the use of a *'Facebook'* group. To account for the current ban in China, *'QQ'* will also be investigated for its potential to host pre induction materials. The resources provided could be improved to include video introductions and it is believed that academic staff could also use the resource for communication purposes. Students will also be advised on the use of *'Facebook'* privacy settings as this can protect both themselves and the institutional image. In parallel, other avenues of development will be explored including extending the use of social networking and examining opportunities for collaborative activities between Economics students in the UK and Portugal.

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185 - Signs of Construction of a Professional Development Community in Language Education: A Case Study

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Abstract: The project "Languages and Education: constructing and sharing professional knowledge" evolved around the development of a community-based environment organised in thematic working groups of teachers, educators and researchers. The research purpose was to study the construction of such community, as well as the professional development trajectories of its members.

The community's dynamics were mainly based on face-to-face communication through regular meetings. Notwithstanding, the *Moodle* platform, particularly the discussion forums were used to bridge the gap in-between meetings. This study analyses the interactions (discussion forums and chat) and the documents shared in the *Moodle platform* of one thematic working group, in order to identify signs of emergence/construction of the aspired professional development community.

This investigation seeks to contribute to knowledge generation about professional development communities in language education, and puts forward possible routes to follow-up networks or partnerships which may enhance and nurture the culture of collaboration initiated within the project.

Keywords: communities, professional development, language teachers, discussion forums

INTRODUCTION

What are communities of professional development? How can their construction be studied? Questions such as these inhabit the mind of many who have interest in figuring out the most relevant settings for teacher education and educational innovation. As Zeichner (2008) points out, settings for teacher preparation and education are diverse, and involve universities, schools and communities, and teacher education programmes. In this panorama, over the years many scholars have dedicated to understanding what communities are, how they emerge, develop and become or not sustainable over time, as well as their potential to the professional development of its members and the benefits to organisations where they live in (Wenger, 1998; Wenger, McDermott & Snyder, 2002; Westheimer, 2008).

Research in this field has also focused on how technologies and internet tools contribute to the "experience of togetherness that extends through time and space" (Wenger *et al*., 2005: 2) within communities, since they strengthen familiarity and socialization in-between face-to-face encounters, fostering the experience of togetherness and sense of belonging and identity within the community.

The project "Languages and education: constructing and sharing professional knowledge"[110] shared many of these interests, and intended to understand how to cultivate professional development communities made of diverse actors in language education (researchers, teacher educators and teachers). The purpose of this project was materialised in the launching of such community, which gained existence during a whole year (2008/2009). During that period, one of the most frequent questions among the core group of the project was: is it possible to identify signs of community edification? Are we indeed cultivating a professional development community?

The study presented in this article pursues answers to such queries. Taking one of the thematic working groups of the community as an exemplificative case, we analyse the interactions of the *Moodle* platform (discussion forums and chat), as well as the shared documents, in order to identify signs of emergence/construction of the above-mentioned professional development community.

Therefore, after presenting the theoretical framework and the project "Languages and education", we describe the study carried out, which seeks to contribute to knowledge generation about professional development communities in language education. Bearing in mind the findings, the article makes considerations regarding the process of creation and nurturing of such environments, and puts forward

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possible routes to follow-up networks or partnerships, which may enhance and nurture the culture of learning and collaboration initiated with the project "Languages and Education".

PROFESSIONAL DEVELOPMENT COMMUNITIES

The proliferation of the theme of communities in the context of teacher education roots in the paradigm change regarding how knowledge is constructed in education. This change of perspective emerges of socio-constructivist theories of learning (and authors such as John Dewey, Leo Vygotsky or Jerome Bruner), of anthropologist and cultural theories, which stress the cultural and symbolic nature of knowledge and knowing, as well as of situated learning theories, which highlight the relevance of the context and situated experience in learning processes (Lave & Wenger, 1991). As Cochran-Smith & Lytle explain about teachers' learning,

> "it is assumed that the knowledge teachers need to teach well is generated when teachers treat their classrooms and schools as sites for intentional investigation at the same time that they treat the knowledge and theory produced by others [and themselves] as generative material for interrogation and interpretation" (1999: 272).

Teacher professional learning/development is multidimensional, often conceptualised as a personal (individual-cognitive dimension) and collective (social-interactive) process, rooted in the school context, or in the context of action, and therefore deeply intermingled with teachers daily activities (Marcelo, 2009). Some authors stress such learning as related to change in cognition (knowledge, beliefs) and teaching practice, while as others highlight the socio-interactive nature of such process (Illeris, 2009; Pinho, 2008). Teachers' development is dependent on the individual's active role, and connected to processes of renewal and improvement of knowledge and action, heightened by teachers' self-involvement and commitment, and sustained by reflection, experimentation and dialogue with others (Day, 1999: 16, 19). Through such processes assumptions can be examined, beliefs challenged and professional practice strengthened (Allard *et al.*, 2007: 312). In such dynamics of professional development, Marcelo (2009) argues, different types of opportunities and experiences (formal or informal, natural or planned) are implicated and shape teachers' professional identity.

In this realm of teachers' professional development, collaboration and collaborative settings, such as communities, are pointed out as valuable strategies and contexts for enhancing teachers' knowledge construction and improving teaching practices (Allard *et al.*, 2007; Vescio *et al.*, 2007; Westheimer, 2008). Such settings can become spaces for meaningful practices, accessing to resources, opening horizons, building new trajectories and identities, or getting involved in innovative actions, discussions and reflections. Simply put, communities are considered settings where teachers would engage "their own knowledgeability" (Wenger, 2009: 215), "assume responsibility for colleagues growth" (Aubusson *et al.*, 2007), as well as develop a culture of intellectual inquiry (Fullan, 2001; Westheimer, 2008: 761).

Moreover, the above mentioned paradigm shift is also visible in the way researchers face knowledge construction in and about teacher education, realising the importance of working with teachers and of establishing new relationships and approaches between educational research and practice, as ways to overcome gaps and favour mutualism (in the sense of fostering the benefits for both parts in interaction). As Westheimer (2008) points out, the idea of community is closely connected to overcoming professional isolation and alienation, as well as to the cyclical nature of knowledge co-construction and the synergic effect related to the increasing of professional dialogue among participants (teachers, researchers, educators, administrators, students...).

But what are communities of professional development? How can they be defined and characterised?

From the proliferation of terms to a working definition

Many are the specifications associated to the term 'community'. When looking at the literature on the theme, we find references to communities of practice, professional learning communities, research communities, virtual professional communities, communities of interest, amongst others. This multiplies the problems to conceptualise community. Amin & Roberts (2008) explain what they consider to be the impreciseness of the term:

> "The status of the term as a keyword of new thinking on the sources of learning and knowledge generation seems to rest upon a certain loss of the original awareness of context and habitus (Mutch, 2003), careless use of the word community (Lindkvist, 2005; Roberts, 2006), and speculation on the

link between situated practice and learning or innovation outcomes (Handley et al., 2006). Thus, social practices of all kind in all sorts of collaborative setting and all manner of learning and knowledge outcomes are becoming folded together into one undifferentiated form" (2008: 355).

The term can therefore become an umbrella for many forms of acting in teacher education and research. As regards the notion of professional development community, we took into account that it should congregate characteristics of 'community' and those of 'professional development'.
According to Wenger, McDermott & Snyder, communities can be seen as

> "groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis. (…) These people don't necessarily work together every day, but they meet because they find value in their interactions" (2002: 4-5).

According to these authors, members of a community
- Help each other diagnose and solve problems;
- Get involved in discussions (about their situations, aspirations, needs…);
- Reflect upon and explore common concerns, issues, ideas;
- Create relevant artifacts to their practice;
- Share information, develop an intellectual capital and steward knowledge ("a body of common knowledge, practices, approaches");
- Value the community as a way to keep up with the rapid pace of change and create innovation in their work;
- Develop a shared tacit and explicit understanding of their domain;
- Treasure the time spent together, value joint enterprise and collaboration;
- Cultivate processes such as coaching, apprenticeship;
- Create bonds, personal relationships, and particular ways of interaction;
- Foster diverse levels of participation and leadership, and promote negotiation (for instance, in the pursuit of interests);
- Feel a growing personal satisfaction allied to a combination of energies;
- Develop a common sense of identity, belonging, confidence and empowerment (e.g. to take risks), and direction or mission.

Moreover, communities make knowledge "an integral part of their activities and interactions, and they serve as a living repository for that knowledge" (Wenger, McDermott & Snyder, 2002: 9). They are aware that disagreement, debate and controversy are important processes for such knowledge generation. Also, communities are viewed as a setting for both commonality (homogeneity) and diversity (differentiation among members), since "each member develops a unique individual identity in relation to the community" (*idem*, 2002: 9).
Wenger (1998) considers communities are characterised for having a particular *domain*. In the case of the community referred to in the project described in the next section, this domain of knowledge is language education, i.e. the broader topic the community members focused on and developed their *practice* about. It is their "*raison d'être*" or the common ground for action, as well as the setting for the community's identity. This *practice* is, as Wenger, McDermott & Snyder explain, "a set of frameworks, ideas, tools, information, styles, language, stories, and documents that the community members share", or put differently, "the specific knowledge the community develops, shares, and maintains" (2002: 29) and that helps the community to deal with the domain.
When referring to a community of *professional development*, this development is also at the very core of the community's concern. In this sense, the community is not only devoted to knowledge generation about their specific domain, but also committed to the creation of opportunities for its members to develop professionally. Professional development, as Guskey & Huberman explain, is "a 'development process' that allows teachers to expand and elaborate their professional knowledge base" (1995: 7). Day (1999) considers it a lifelong learning process that allows the individual to keep up with change, review and renew their own knowledge, abilities and perspectives, very much interconnected with the individual's professional identity (Pinho, 2008).
Among other aspects, a professional development community creates opportunities for its members to

- Have their educational/professional practice as a source of reflection and theory generation, thus become theory builders (Lytle & Cochran-Smith, 1994);
- Validate new theories and ideas, putting them in action and assessing their feasibility, and thus develop new repertoires of/for practice;
- Reflect about themselves (their mission, identity, professional project, themselves as professionals, their representations, their prior and current life experiences), and collaboratively discover new ways of be(com)ing;
- Develop an inter-contextual and situated knowledge, namely based on the ability to interpret their worlds (Freeman, 1996), and how they respond to their context of work (Tsui, 2003);
- Get involved in supervision processes (self-supervision, hetero-supervision and co-supervision) (Vieira *et al.*, 2006);
- Foster reflexivity, criticality, enlightenment, interpretative dialogue, supported by collaboration, cooperation or collegiality (Day, 1999; Schön, 1983);
- Get involved in research, inquiry (Carr & Kemmis, 1986) or evidence-based problem solving (Cochran-Smith, 2002);
- Develop their professional autonomy and empowerment (Raya & Lamb, 2008), and to commit both to social and personal transformation by means of their practices.

Development stages of communities

Communities are living things and one must not exclude *time* when considering their development. As Wenger, McDermott & Snyder (2002) mark out, communities have a natural cycle of birth, growth and death, and the transformations that occur during that process are neither smooth nor stable. According to the authors, such development encloses stages that go from starting to sustaining the community. Thus, there are early stages of development, such as planning and launching the community, and more mature stages, which involve growing and sustaining it. Summarising, the authors mention that

> "As members build connections, they coalesce into a community. Once formed, the community often grows in both membership and the depth of knowledge members share. When mature, communities go through cycles of high and low activity, just like other living things. During this stage, communities often take active stewardship of the knowledge and practices they share and consciously develop them. As communities evolve through these stages, the activities needed to develop them also change." (Wenger, McDermott & Snyder, 2002: 68).

In this evolving process, the community experiences challenges or tensions that can be seen either as problems or conflicts, or as opportunities to create alignment among members and foster the community's growth.

In developmental perspective of Wenger, McDermott & Snyder (2002), the stages' sequence is mainly representative of what happens in community's edification and nurturing, since variations can be found according to the specificities of each community. These stages are briefly schematised in the following table:

Table 1: Community's Stages of Development (abridged from Wenger, McDermott & Snyder, 2002)

	Stages	Description
Early stages	Stage 1 **Potential**	• It begins with a group of people interested in a significant topic for their practice/professional development. This group tends to be the community's core group, which introduces the idea of forming a community to others. • People direct their attention to the prospect of creating a community and create relationships in view of a potential community. • As a sense of shared domain and passion develops, and systematic interaction emerges, members are driven by the value they get from having common interests, similar problems, and common knowledge needs. • This planning stage is characterised by: - discovery and imagination ("discovering what you can build on and imagining where this potential can lead"); - creation of preliminary community´s design and definition of a work plan, by identifying the community's focus, the topics and projects that captivate the community members; - Identification of potential coordinators and leaders (the community coordinator plays a critical role in helping the community evolve to the next stage).
	Stages	Description
	Stage 2 **Coalescing**	• The community is officially launched as it hosts community events, activities that foster members' relationships, awareness of common interests and needs, and trust, which is paramount at this stage. • The community combines already a good understanding of what already exists with a vision of future paths. • The main effort is to generate enough energy for coalescing and to reinforce the value associated with knowledge sharing. • Determinant in this incubation period is the "development of deep insight into each others' individual practice (...) and a collective understanding of the practice as a whole" (p. 85). • Coalescing also involves nurturing the community by means of a series of activities which will concur to solid foundations of the community. The leader and coordinator play a relevant role. • This is the stage in which the community shows its viability.
Mature stages	Stage 3 **Maturing**	• The main focus is the clarification of the community's focus, role, and boundaries, assuring it is not distracting from its core purpose. • There is a shift from the simple sharing of ideas and insight to the organisation of community's knowledge and its progressive stewardship. • Members develop a stronger sense of the community and the need to be more systematic in defining its core practice. • There is a simultaneous expansion of the community's domain, membership and practice. It involves the identification of gaps in knowledge and the development of a learning agenda, the organisation of a knowledge repository. • It's a very active stage for community coordinators and support staff, since many tensions emerge and the community needs to be reorganised and its energy sustained.
	Stage 4 **Stewardship**	• Besides the importance to maintain the community's energy, liveliness and freshness, this stage's main concerns are: to maintain the relevance of the domain to its members, to keep the tone and intellectual focus of the community lively and engaging, to keep it on the cutting edge. • In this stage it is crucial that the community develops the ability to have a balance between a strong sense of ownership of the domain and the openness (a solid foundation of expertise and relationships). • It requires receptivity, i.e. considering new opportunities for learning, and be open to and soliciting new influxes of ideas, approaches and members. Important in this process is not to widen the community's boundaries excessively and risk diluting its focus.
	Stage 5 **Transformation**	• This is a stage in which the community may: come to an end, by losing its members and slowly fade away; merge with other remaining communities or transform itself, and enable new communities or niches to edify. It may split into distinct communities or become institutionalised. • How these processes flow depends on the coordinator's and core members' judgment call: whether to have a 'soft ending' (avoid conversation about the community's future and let is naturally drift apart) or to keep the community alive (decide how to live on, which parts of it to foster, and the genuinely relevant issues to its members).

PRESENTING THE PROJECT "lANGUAGES AND EDUCATION"

The project "Languages and education: constructing and sharing professional knowledge" was a research project about teacher education developed between 2007 and 2010, and assumed that collaborative research and professional development in language education are powerful means of developing a working culture capable of transforming the work of teachers, teacher educators and researchers, as well as a prerequisite for environments and networks of innovation and creativity in (research in) language education. This project's main objectives were:

1. To characterize language education professionals (primary school teachers, language teachers, and researchers/teacher educators) of the geographical area of intervention of the University of Aveiro, with respect to motivation and representations about teacher education, research, professional development, collaboration and language education.
2. To build knowledge about professional development communities (henceforth, PDC) in language education, in terms of construction dynamics (organization, management, roles, etc.), as well as regarding professional development paths in the context of collaborative work.
3. To envisage future PDC development scenarios.
4. To contribute towards teacher education and research policies in the area of language education.

Main theoretical axes

The project had three main fundamental theoretical axes, as presented below (cf. http://linguaseeducacao.web.ua.pt/):

- The qualitative transformation of linguistic education practices is enhanced when those involved carry out research into their own activities and build new understandings based on the research they have done. Recognition is given to the role of research for decision-making in language education, and language education practices as a source of knowledge towards the construction of research know-how and knowledge.
- The professional development of teachers, teacher educators and researchers was seen as a priority, and it was thought that language education practices which are most able to transform participants, contexts and communities in general, depend on the ability of these educational actors to enter into dialogue with social changes, educational institutions, language learning contexts and then learn to integrate these new theories and practices into their own repertoires.
- Communities, which function as spaces where collaborative relationships and sharing take place (Day, 1999), as well as locus of construction of new professional identities (Wenger, 1998), may become change environments around joint projects in language education.

These action principles informed and structured the projects' design in its two dimensions: research and formative.

Projects' design

Research dimension

The development of the project was organised in several tasks, which involved both research and education assignments, as summarised in the following table:

Table 2: Description of the tasks

Tasks		Description
Task 1	01.10.2007/ 31.03/2008	Characterisation of the target public (teachers of pre-school and primary education, language teachers of all teaching levels, teacher educators and researchers of the team).
Task 2	01.10.2007/ 31.03.2008	Organisation of the collaboration/education/research structure (design and accreditation of thematic workshops; development of research/observation instruments).
Tasks 3, 4, 5	01.04.2008/ 31.07.2009	Setting off and development of the professional learning community (of language teachers, educators and researchers distributed through the thematic workshops) and data collection.
Task 6	01.06.2009/ 31.10.2009	Organisation of the data.
Task 7	01.11.2009/ 31.05.2010	Data analysis and discussion of the findings.
Task 8	01.06.2010/ 30.09.2010	Organisation of a national scientific meeting (for dissemination of the research results and definition of future collaborative projects and initiatives).

Formative dimension

In this context, the setting up of the project involved building a PDC consisting of teachers of various levels of education (from the early years of schooling to secondary education), teacher educators and researchers with the purpose of (i) promoting the development of a culture of collaboration between research, teacher education and the practices of language teaching; (ii) contributing to the personal and professional development of its members; and (iii) stimulating reflection on language education practices, with a view to its improvement/innovation.

This collaborative environment was organized around thematic working groups (WG), based around three topics on language education: reading, writing, and plurilingual and intercultural education[111]. These courses took place during the academic year 2008/2009 and accounted for 75 hours of work (face-to-face and autonomous) and were adapted to the blended learning method using the Moodle platform. The face-to-face sessions ran for 7 sessions and were scheduled and distributed throughout the year. They were designed to be a sharing space not only within the WGs but also between the different groups.

In each WG, members were organized in small sub-groups focused on sub-themes, which they jointly considered relevant to their professional development, i.e. to their research and language education practices. These sub-themes resulted in collaborative research projects which would be carried out in schools. The following figure intends to illustrate the interrelationships between the professional development community and the several thematic and self-interest groups:
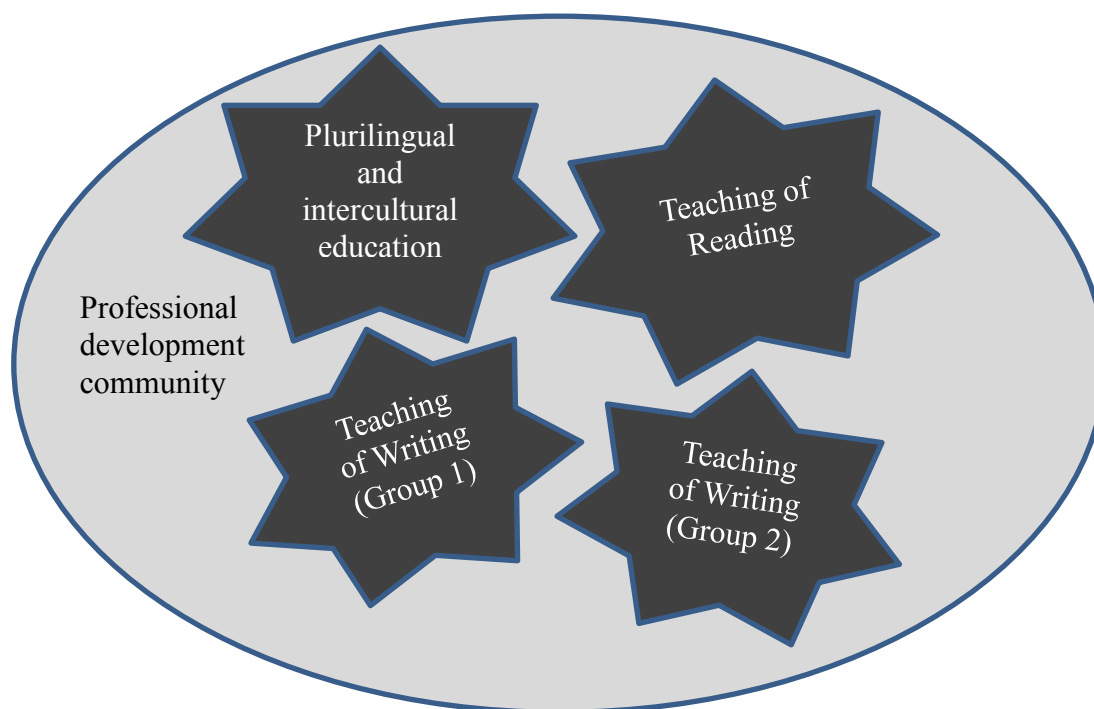
Figure 1: Organization of the professional development community

In summary, the training and collaborative professional development was carried out in relation to the work (i) in PDC (a meeting place where groups gathered, among other activities, to give presentations of the work undertaken, attend conferences and engage in debates on topics of interest to the community members), and (ii) within the WG context (where the professional learning objectives and joint work plan to be developed was defined, a process interspersed with moments of theoretical and practical reflection).

THE STUDY

The context – Working Group "Teaching of Writing" (2)

The study presented here has a specific context featuring one of the working groups involved in the "Languages and Education" project, which was organised around the workshop "Collaborating in practices of teaching of writing: opportunities for professional development".

The group took the responsibility to engage in collaborative learning in order to develop their professional knowledge in the context of a Didactics of Writing. All members were language teachers (of Portuguese, English and/or French, from the 2nd and 3rd cycles of Basic Education and Secondary Schooling).

The main aims of the group were: to create enhancing conditions for the emergence of consensus about the didactics of writing; to turn those common views into a foundation to the conception of didactic devices and materials to the different school levels, as well as to the diverse involved educational contexts and institutions (see Pereira & Cardoso, 2010).

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[111] For each of these three themes, there were three workshops with a work plan approved by the Portuguese Council for Scientific-Educational Continuing Education (http://www.ccpfc.uminho.pt/).

As Pereira & Cardoso (2010) explain, this working group followed the "Languages and Education" project's principles. It centred their work in the promotion of the capacity to collaborate based on a meaningful and systematic inquiry, in a dialogue with the members' contexts of action, in order to lead to intervention processes in schools. The group went through the formative stages common to all groups making part of the project, but developed its own dynamics. These involved:

- The sharing, analysis and questioning of experiences of teaching writing, which could consist of the planning, carrying out and evaluation of a recent writing activity, a paradigmatic writing activity, the description of the worse/better writing tasks developed (many of those practices were posted in the Moodle platform);
- Readings about the topic: writing and didactics of writing;
- Identification of guiding didactic principles of the teaching of writing and about the skills underlying the writing competence;
- Development of intervention projects within the teaching of writing and critical evaluation;
- Personal writing tasks.

In the Moodle platform, this group organised their work around the following 18 discussion forums:

Table 3: Description of the Discussion Forums

Nr.	Title	Description
1	*General forum*	General news and posts
2	*Who are we?*	Characterisation of the group (personal and professional profiles; questions focused on personal research practices and research interests).
3	*Working plans*	Presentation of the groups working plans to be carried out collaboratively.
4	*Journals*	Sharing of didactic practices of teaching of writing that were food for thought: reading and comment of the excerpts.
5	*Readings "Food for thought"*	Sharing and suggestion of reading material (by the researchers/teacher educators) (aim: knowledge expansion).
6 + 7	*1st and 2nd Written reflections*	Sharing of free-writing and guided reflections.
8	*Critical appreciation of articles / books*	Repository of synthesis, reflections, schemes, critical analysis, reading notes.
9	*Guiding principles*	Discussion of the principles guiding the developed work plans.
10	*Research structure*	Presentation of the used research device.
11	*Example of an intervention plan*	Selection of an intervention plan, which was paradigmatic of the work carried out within the workshop.
12	*Analysis of initial versions and analysis grids*	Sharing and report of the main results obtained from the analysis of the students' initial texts.
13 + 14	*Materials of Portuguese Language / Materials of Foreign Language*	Suggestion of exemplificative materials to be presented in the plenary session.
15	*Analysis of final versions*	Sharing and report of the main results obtained from the analysis of the students' final written productions (focus on changes)
16	*Reactions from students and teachers*	Sharing of the reactions of both students (about the didactic interventions) and teachers (about the developed work).
17	*Global appreciation of the workshop*	Shared reflection of the contributions and constraints of the professional development community and suggestions for future work.
18	*Abstracts for the brochure and Posters*	Posts of the abstracts and posters to get feedback (comments, suggestions…)

Methodological design

The present study analyses the interactions (discussion forums and chat), as well as the documents shared in the Moodle platform of the formerly described thematic work group, taking it as an exemplificative case (Stake, 2000) of the community developed under the project "Languages and Education". As a partial study, which needs to be complemented with further studies and the analysis of other data concerning that group's dynamics, it was guided by the following research question:

Which signs of construction of a professional development community is it possible to identify in the group's Moodle platform (discussion forums and chat)?

Methodologically, the present study resorts to a content-focused analysis (Bardin 2000), and adopts a descriptive and interpretative approach, also taking into account the characteristics of communities pointed out in the literature. In order to proceed with the content analysis, there were created 4 categories: (i) collaboration, (ii) sharing and shared repertoire, (iii) communication and interpersonal relationship, and (iv) learning and knowledge.

In the category "collaboration" there are the marks of recognition of the value of collaboration, mutual commitment and involvement in group tasks, existence of joint action in the development of artefacts or ideas and a collective sense of purpose. "Sharing and shared repertoire" relates to the echoes of sharing and the building of a set of communal resources (Wenger, 1998; Vaughn, 2007). Under the category of "communication and interpersonal relationship" are signs of existence of small talk (Gorodetsky, 2007) with the objective of socialisation and strengthening the group as a unity, as well as the marks of affection and cohesiveness within the group, trust building and sense of belonging and the netiquette (Fontainha & Gannon-Leary, 2008). The fourth category, "learning and knowledge", corresponds to the hints of a cognitive and meta-cognitive dimension (Pozzia *et al*., 2007), an atmosphere of reflexivity and criticism through collaborative discussion and the meaning making and conceptual transformation (Gorodetsky, 2007).

Findings
We will present our findings according to the four established categories, trying not only to show the signs which appear in the data analysed, but also some "voices" of the participants in the course.

Collaboration
As far as collaboration is concerned, one may identify marks of recognition of the value of collaborating for the innovation of practices and development of writing skills/competences of the students, where the participants share a common general aim, giving them a sense of identity:

> *"(…)I am really looking forward to cooperate and dialogue with my colleagues".* (F1, M8, Tuesday, 4th November 2008, 13:14)[112]; *"Hello everyone, Very tired, but still aware of our main purpose... to write about our teaching of writing. For us to reflect later on. Cheers."*(F1, M21 - Wednesday, 6th November 2008, 19:04).

The attitude towards collaboration seems to be consensual within the group, as there are no online marks of discussion about what is collaborating or collaboration, although there is a shared linguistic repertoire on collaboration, for instance: dialogue, cooperation, sharing, exchange of ideas, practice analysis.

> *"I am totally for cooperation and sharing, for the saying "union makes us strong". In order to prove this, I state an author […] The only progress is that of mutual help and complementarity. The only change is the change of perspective (Anthony de Mello, Verdades de um minuto, Paulinas)* (F1, M20 - Tuesday, 4th November 2008, 10:25)".

Despite this lack of explicit thought on what is collaborating, one may easily identify the representation the participants have on the roles within the group. When analysing the forums, though there is no role distribution, there are always the same participants to be responsible for giving feedbacks or for writing the abstracts or creating the posters.

However, there are certain tasks and processes which show that collaboration becomes a practice amongst the group, for instance:
- the schedule of meetings and of work sessions both face-to-face and online (chats);
- the organisation of the collaborative work and information about the evolution of the work that is being undertaken;

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[112] Legend: F+number (Forum and number); M+number (Member+number); followed by the date and time in which the excerpt was posted in the discussion forum.

- mutual commitment (Wenger, 1998) and common accountability between the group members, according to the idea of sharing (for instance: *"the grid was created together in a small group. Each one adopted a document to her group of students."* - F3, M11 - Sunday, 29th March 2009, 14:44);
- the processes of negotiation;
- distribution of leadership (for instance in the coordination messages);
- the support to the learning process within a didactics of writing – through feedback, including clues to the development of the work and about the model of didactic sequence. In this particular process of feedback, there is a clear tendency to a vertical supervision (the feedback is always requested to the teacher educators), giving place to a loss of horizontal intra-group supervision within the small groups;
- creation and development of common intervention plans, where the teaching practice is shared and there are individual and collective reflections through the work;
- group discussions;
- collective reflections and research work;
- the enrolment in the research and data analysis procedures.

As far as collaboration sustainability is concerned, one can notice that there is a concern with the continuity of the collaborative work already started. Suggestions concerning the possible paths for collaboration in the near future can be found in forum 17, was well as regarding the possible expansion of interpersonal networks already created within that year. The participants also anticipate future scenarios, giving suggestions based on their experiential knowledge about the construction of the professional development community.

> *"I think it is a pity to stop the dynamic which has been created. (...) now we may try t correct some aspects which we consider that can be improved (...) it would be important to undertake some meetings to share ideas. The paths taken until the middle are so important as the complete route; and we get a better idea of what is going on"* (F17, M15 - Wednesday, 8th July 2009, 19:19).

Sharing
Sharing occurs at diverse levels and this may be a hint of the construction of common repertoire of resources (Vaughn, 2007; Wenger, 1998), and of shared professional practice. There are evidences of sharing of several elements:

(i) references to bibliography, *sites, blogs*, as well as documents, mainly related to writing, the theme of the group, both spontaneously and asked by the participants; (ii) "inspiring" literary quotations and "sayings" on writing (in the reflection platforms);
(iii) strategies and didactic materials (either in draft or in final versions) and practices for developing writing skills:

> *"I was peeking out the materials of our group and I saw the grid. I liked it very much and I will certainly use it in my classes in Portuguese Language class. (...) It also makes us reflect upon what we write in worksheets (...) Thank you for sharing!*
> (F3, M13 - Sunday, 10th May 2009, 20:26)";

(iv) personal contributes, motivations and expectations concerning teacher education and the community, as we may read from the following statements:

> *"my major aim is, as always, to learn through the exchange of experiences. [...] In this workshop, I would like (...) to analyze my practice, because I feel that I already develop much work with my pupils, since their accomplishments are notable. However, I never sat down to write about it and I think time has come!* (F2, M11, Monday, 15th December 2008, 14:14)";

> *"In this workshop I hope to learn more, perhaps to do some (...) to share experiences, to correct "mistakes"... I really want to learn about teaching my students writing skills, so that they see writing activities as a pleasure and not as a duty!"* (F2, M17, Friday, 12th December 2008, 09:12)";

(v) tensions and anguishes towards the tasks to be undertaken, as well as pedagogic questions or doubts in terms of students:

> *"The 'unrest' now is this: I am a teacher, but how may I be a good teacher? I still do not know how to teach my pupils how to write! To correct essays is a drama."* (F2, M2 - Tuesday, 3rd March 2009, 22:30);

(vi) constraints in terms of time, context or personal life; (vi) problems and successes related to teaching practices:

> *"I have some difficulty in making my pupils to write… (...) they have plenty difficulties in the learning of writing"* (F1, M7 - Thursday, 13th November 2008, 15:07);

> *I had to share with you what I am feeling... some days ago I suggested my pupils to create an acrostic in English (...) and it worked so well!!! (...) I am delighted!"* (F1, M17 - Thursday, 20th November 2008, 12:19);

(vii) personal and professional information (for instance through self-characterisation) and (viii) sub-group plans and materials under constructions and correspondent reformulations.

Moreover, members value this sharing and consider it an enriching way to create bonds and to find common interests, views and foster alignment.

Communication and interpersonal dimension

Regarding communication and interpersonal dimension, there are signs which are characteristic of community edification. We refer to the existence of "small talk" (Gorodetsky, 2007) with the aim of breaking the ice (in an initial phase), socialisation, reinforcement of the sense of group, and also of motivation for the work that is to be done, showing clear group cohesion (typical of coalescing).

In the initial phase, and because the participants did not know each other, forum 1 became the place to get some information about the others and a first step to create bonds and start to develop a common confidence, in a clear complement to the face-to-face interactions.

During the project, there was a positive reinforcement and motivation for the work, mainly from the teacher educators (as a sign of vertical supervision, again). There are hints of incentive to the sharing of doubts and of opinions about how the group work is evolving:

> *"If there are any doubts, expose them, share them... If any group wants to set a time to come to my office at the University, you may do it (...) We ask you to upload your didactic planning on moodle, for sharing and mutual help. (...) The idea is that groups share ideas, materials, doubts... and we may give some orientations to each group which may also serve for other groups."* (F3, M14 - Friday, 30th January 2009, 17:15).

In order to support and sustain the flux of communication amongst the members, one may notice the existence of some technologic strategies of enrolment (for instance, the "calls for participation", the "user-friendly language" or the operational information). The role played by some members, either as facilitators, informants, animators or group-speakers, also helped to cultivate communication.

The interpersonal dimension is thus motivated by means of tasks which aim to foster the mutual knowledge and the development of sense of belonging.

Learning and knowledge

The analysis under the third category, learning and knowledge, focused mainly on the collaborative sphere. This is enhanced by means of "dialoguing activities", which indicate the presence of a joint cognitive and metacognitive dimension (Pozzia *et al*., 2007).

The collective/collaborative discussion in the forums happens in a reflexive atmosphere, but due to the blended nature of the work, there are hints that such cognitive and metacognitive dimensions have occurred more intensely outside Moodle platform, in the working sessions. As we see for instance in forum 4, there are messages which would open up the path for the development of a greater attitude of questioning and to

the sharing of divergent opinions, or even the negotiation of different visions about the feedbacks given. As this excerpt clarifies,

> *"Last Saturday it was consensual the recognition that, despite the dynamic nature of our moodle, there are more individual messages then feedbacks, mainly in diaries. We reflected upon the importance of being read and of receiving comments... And so, we are sensitive to the need to promote retroaction. We agreed that each one of us would try to give feedback at least to one diary [...] it helps us to rethink our practices and to find new paths and principles..."* (F4, M14, Tuesday, 25th November 2008, 15:46).

The existence of significant personal and professional meaning construction may be witnessed mainly in forums 4 and 5, as we may see in the following quote:

> *"I have already seen the website you have indicated and I was surprised (...) I really need to go under a 'recycle' and to be more aware to what is going on outside the school books, affection and competences, tutorials or lesson planning"* (F4, M13 - Sunday, 9th November 2008, 21:25).

However, it is more difficult to trace conceptual mutual/shared transformation online.

Regarding learning and knowledge construction and using the perspective of Pozzia *et al.* (2007), one can identity two spheres: the group's cognitive sphere and the group's meta-cognitive one. In the first one, group's cognitive sphere, there are signs in terms of (i) *revelation* (acknowledgment of problems related to the teaching and learning of writing; presentation of opinions – for instance on collaboration), and (ii) *resolution* (search for common solutions for identified problems of teaching and learning; implementation of proposals in real situations and evaluation/reflection about developed work). In the second one, the group's meta-cognitive sphere, there are signs in terms of reflection about the learning process, the professional development and the community (for instance in forums 6 and 7) and also hints of divergence and/or controversy (Dorodetsky, 2007; Tillema, 2007)

One of those moments of tension took place in a chat session, in which the group discussed the focus of the work to be carried out, namely the choice of the textual genre that would generate the planning of the intervention projects. As the following excerpt clarifies, this was a moment of divergent views, which implied the negotiation of interests and existence of flexible attitudes within the group. The following extract is a sign of it:

> *"- We would like to know if it is possible to work another type of text, besides the argumentative one. [...]*
> *- I think that we are not all in agreement [...]*
> *- not even within the sub-groups! [...]*
> *- well...our suggestion in not binding [...]*
> *- we will mature the idea and then figure it out... [...]*
> *- but are people more inclined to the argumentative? [...]*
> *- I think that... if we do not share the textual typology, the methodology should be compulsory [...]*
> *- well...and I think it will be... at least there was not controversy about methodology [...]*
> *- it is a pity, the resistance... [...]*
> *- but in such huge groups the unity is extremely difficult"* (Chat session).

Episodes like this are considered essential in learning processes and crucial for the alignment within the group and the development of members' as well as the coordinator's conflict management capacity.

Until now, we pointed out what we considered to be the signs of community cultivation in the context of the analysed group. But, as mentioned in the introducing sections of this study, attention is needed regarding the specificity of this community. In order words, was it a community of *professional development*?

We believe it is valid to respond positively. In fact, the forums of this particular group indicate the existence of opportunities with potential for its members' professional development within a Didactics of Writing. The group's dynamics involved:

- Focus on practice – it was the starting point for the outline of learning goals and the didactic work to be developed; the practice was a generator of reflection, and therefore a reflexive practice as a shared process;
- Valorisation of theory (in dialogue with practice) (for instance, forums 1, 4, 5, 8);

- Focus on the individual, as well as on the collective sphere/path;
- Reflexive and experimental nature of the work, based on the analysis of cases through the sharing and communication of practices concerning the teaching of writing;
- (de/re)Construction of representations and of tacit knowledge (in a learning process which started from the tasks, accomplished didactical practices and constructed interactions) (for instance, forums 3, 4, 16);
- Centrality given to the planning together and the collaborative work, in a logic which fosters collective creativity (for instance, forums 3 and those related to the final plenary);
- Focus on the context and construction of inter-contextual knowledge (sharing of experiences/practices of teaching of writing and processes of transferability) (for instance, forums 3 and 4);
- Mobilization of the emotional sphere (recovery of the "circumstances, actions and experiences of affective nature", Pinho: 2008) (for instance: forums 2 and 4);
- Focus on the learning process and the students' results (for instance, forum 16);
- Introduction of research processes (in its technical and critical dimensions);
- Promotion of dialogic communication (which concurs to a social knowledge construction), and concern with the creation of spaces for common decision and "distribution" of roles…

DICUSSION AND CONCLUSIONS

The analysis of the discussion forums, as well as the chat session, indicates that such interaction spaces follow the general structure and steps of the education workshop, and of the strategy for the larger professional development community, which the group was part of.

The big number of discussion forums is a hint of the core group's (coordinator and supporting staff, i.e. teacher educators and researchers) awareness of the importance to create sites where negotiation and debate may occur, as well as the mobilisation of the members around the development of tasks, the group's work plan and agenda. As such, these spaces were important to enhance coalescence, as well as a sense of direction and identity. They were also relevant to reinforce the stewardship of the group, and the management of tensions and challenges its members were facing as they walked their path, mainly through face-to-face meetings.

What this study makes clear is that, as also pointed out in the revision of the literature, communities are living beings, and as such have their life cycle. *Time* is a major ally in cultivating communities. This group in particular, which was part of a larger professional development community, mainly emerged as a "community" itself within a specific context: the one of a research and teacher education project, which had a specific time of existence.

As an exemplificative case of what happened in the professional development community associated to the project "Languages and Education", it combined some of the traits of the stages of development described by Wenger, McDermott & Snyder (2002). Steps were carried out in order to plan, launch, and nurture the community. Within the time span of its existence, strategies were designed to assure engagement and avoid dropping out (although it occurred at the beginning), and thus ensure the community's stability. Preliminary designs for the group/community were created and restructured over time. Finding common ground for its members as well as a passion that would drive them to walk forward together was cultivated more strongly at initial moments, and nurtured as the work developed. Members found value in collaborating, and this was accompanied by them seeing new possibilities for their work as teachers and teacher educators. Events (such as plenary sessions, colloquiums) and spaces helped to "anchor" the community. The community's practices were documented, and a repository of knowledge was generated. Finally, leadership was fundamental and seemed to be legitimised by the community members, either implicitly or explicitly.

In some sense, it showed signs of vitality, with its members looking for possible ways to transform the bonds created and give way to other ways of be(com)ing. As part of the broader community, we know that some of its core members keep on working together, either in more informal or formal ways. For instance, some of the group members got involved in another project about the Didactics of Writing (see Pereira & Cardoso, 2010).

A major conclusion is that the professional development community launched within the project "Languages and Education" sowed the seeds of future communities in language education in the dynamics of the higher education institution. We would say that this project was an opportunity to facilitate the networking between teachers, researchers and language educators involved in the project and its professional development

community. People got to know better each member's culture of work, and most importantly developed knowledge about how to work together and collaboratively.

Bearing in mind the study's findings and discussion, we conclude with considerations regarding possible routes to follow-up networks or partnerships which may enhance and nurture the culture of learning and collaboration initiated with the project "Languages and Education". Steps should be taken to capitalise on the bonds and relationships developed so far, namely by developing other projects and involving other contexts and settings.

In other words, besides more informal collaboration between the project's actors, it is important that new teacher education settings emerge, such as inter-institutional networks: inter-schools networks (involving and managed by school teachers themselves, as an opportunity to get to know each others' contexts and departments and to create synergies between them), as well as school-university networks or communities (reinforcing the bonds and relationships between researchers, teacher educators and teachers).

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245 - Gift-giving Technologies as a Learning Tool

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Abstract: This paper explores interaction design, a field of Human Computer Interaction, from the informatics' social and cultural points of view. The digital design and the World Wide Web expanded the contexts of the use of technologies.

This paper focus on describing the technology that changed people lives in terms of communication and interaction. With this scenario in mind, this paper will present the example of the mobile phones and social networks, which became artefacts that contributed to framed culture.

Two case studies were considered. The data gathered and analyses were made using a Grounded Theory Methodology approach.

Finally, the paper concludes by presenting the design of a gift-giving conceptual framework which can be a reflection point to consider within the design process of future interfaces. Conversely, this framework can also be a learning tool either for understanding the usability principles of an interactive interface or as an instrument to teach and motivate students in the knowledge exchange situation of collaborative work.

Keywords: Interaction design, gift-giving technologies, learning, grounded- theory

INTRODUCTION

Today, there is a new vision of the computation where the technology exists as a force that shapes our individual and social lives. The discourse associated with this vision describes a world where technologies invade our lives allowing making things that we never imagined. Interaction changed. We are facing a corporative context where the mobile technologies and the social networks modify the established standards of communication, increasing and substituting them.

It is significant that the social dynamics resulting from the use of some communication tools created a changing paradigm in people relationships. Equally, culture, constructed by human beings in interaction between each other, became important for interface design as well as within the interpretations of cultural practices of a given group when they use a product or service.

Wireless communication permitted a new way to communicate and interact with others; for example, the use of a mobile phone or social networks. A social obsession of being in contact with others is imperative. It is this interconnectivity that defines culture today. The presented studies show some considerations which are reflected in human lives and behaviour changes.

INTERACTION DESIGN

Interaction design has been associated with computing and technology, but the focus must also target on the design of how people interact with any artefact, be it an object, a system, an environment, or a consequence of the use of digital technologies or not. The aim is to support either an interaction of a person with the artefact, or an interaction among people that are mediated by the artefact. Much of what is understood about the design of digital artefacts is also applicable to non-digital artefacts.

In recent years, human computer interaction (HCI) and related fields, for example computer supported collaborative work, interaction design, and participatory design have produced an increase in interest from focusing on efficiency, functionality and usability, towards an increasing preoccupation in the aspects related to the users' experience of technology and digital artefacts (McCarthy & Wright, 2004).

Interaction design as a discipline is a result of its interdisciplinary roots: in industrial design, information architecture, communication design, user-experience design, human factors, usability engineering, and human computer interaction, which all overlap.

Interaction design is inherent in all design; it is a facilitator of interactions between humans through objects that have some sort of ability to sense and respond to human input via communication, either one to one, one to many or many to many. It occurs in the design process; within objects and designers serving interaction between people.

Interaction design is also touches upon behaviour (Saffer, 2010), the behaviour of objects and services, with how objects and services work and the behaviour of designers interacting with others.

Social and Cultural points of view
Interaction is a general model of socio-cultural phenomena. It needs signification and meaning interchanges that occurs in a space dimension of norms, values, and meanings.
New technologies are offering enormous opportunities for supporting people in their everyday lives; in which has brought a wider set of concerns and focuses on improving efficiency and productivity at work.
Nowadays, the fundamental issues of technology media or online application development have extended from traditional usability problems to wider social aspects of interpersonal contact, information sharing, participation and culturally inherent needs (Herman, 1996; Yeo, 1998; Barber & Badre, 1998; Clemmensen et al., 2007).
Cultural preferences have become one of the most significant subjects and focuses of technology development, as it slowly turns away from issues of usability to issues of fulfilling users' cultural and social needs (Bourges-Waldegg & Scrivener, 1998; Strøm, 2006).
The innovative technology, mobile communications, and the Internet play a role in most people's daily lives, being applied in diverse directions. As a result, social activities and cultural values have been manifestly influenced.
The goals of designing interactive product are concerned primarily with user's experience, which means creating systems that are: satisfying, enjoyable, helpful, motivating, emotionally fulfilling and fun. This involves understanding the nature of the user's experience as well as the users' or peoples' expectations facing a product; in which means, after, during and before the "spectacle". However, understanding a user's actions is very difficult for the reasons of people being of different sexes, genders, sexual orientations, ethnicities, nationalities, religions, social classes and educational, technical, occupational and experiential backgrounds and have or do not have disabilities. Meaning that, there is a diversity of cultural levels that must be considered within interaction design in which it is not easy due to culture also being dynamic.
Conversely, the cultural component of designing user interfaces is very important as well as user's physical capabilities and cognitive functions, but also, the cultural background and social situation of the user at the time of using the product or service.

MOBILE TECHNOLOGIES AND SOCIAL NETWORKS
In recent years the research area of social mobile and networking technologies has made rapid progress; due to the increase in development of new mobile technologies and the widespread usage of the Internet as a new platform for social interactions.
Applications of mobile and networking technologies serve groups of people in shared activities, in particular geographically dispersed groups who are collaborating on some task in a shared context. We are in the beginning of the next social revolution (Rheingold 2003).
An important characteristic of those social applications is the continuous interaction between people and technology to achieve a common purpose. Social Networking technologies join friends, family members, co-workers and other social communities together.
We no longer enter the Internet – we carry it with us. We experience it while moving through physical spaces. The networked interactions permeate our world. The notion of networked culture is seen as one of the defining characteristics of the contemporary world.
Besides the personal and social use of mobile phones, there are several examples of mobile learning presented in literature (Attewell, 2005; Coutinho, 2007; Bonk et al., 2008; Macdonald, 2010; among others) Attewell stated that mobile phones are no longer just for chatting and organising contacts and diaries, they are now pocket-sized computers and have the ability to deliver learning objects and provide access to online systems and services.
We humans are social creatures. With rare exception, we strive to relate, converse and connect with others. Social networking promotes online communities of interests and activities that promote connections between users in a more open and robust manner than simple e-mail. In this paper it will be presented the main advantages and disadvantages encountered by university students using it.

Mobile Phone as a Cultural Icon
The new era of globalization is far away from the traditional culture; however, we went back to a nomad civilization. The new communication technologies' improvement (computers, mobiles and internet) broke the frontiers.

Mobile phone as a technology has affected people's lives. Those artefacts generated a new world where gender (masculine/feminine) is melted. "Gender is both an influence on and a product of communication" (Guirdham, 1999).

Another distinctive characteristic is the sense of private and public change. Talking on the mobile phone in the presence of others lends itself to a certain social absence where there is little room for other social contacts.

Mobile phones can be a pattern of growth; a good example is what happens in Israel, as Schejter (2002) pointed out. Fortunati (2002) considers that the mobile had success in Italy because among other things it is an important means of communicative capacity, and a technology of mobility par excellence.

They are adequate to people mobility. Even so, it seems that there are a gap in the literature concerning the descriptions of the meaning of mobility, the types of mobility and the implications of different types of mobility on wireless device use. According to Gorlenko (2004) there is a traditional and a user-centred definition for mobility. In the traditional way a device is mobile if it can be easily transported; in a user centred approach, a device is mobile only if it affords mobile interaction where both the user and the device can remain mobile during the interaction.

Tamminen (2004) state that mobile context is a difficult concept to define because it has deep social roots and involving a dynamically changing environment. So, according to him context must be analysed from the perspective of the end user. Their studies took place in Finland and it describes interactional social and psychological restrictions and resources in mobility. The intention was to describe how people construct personal spaces, and how temporal tensions develop and dissolve.

The mobile phones are today more than a communication media; they have MP3 files, radio, cameras and they allow interchanging of text messages via transmitting.

Teenagers have provided a rich source of data about social practices in everyday life carried out through mobile technologies. Puro (2002) notes that comparing with other nation; the number of mobile phone per head of population in Finland is the highest in the world. Young people are considered to be a significant factor in the mobile phone business, because they have quickly learned how to operate them to an extent. Kim (2002) states that, the popularity of mobile phones, in Korea, is most evident among young people and males.

Taylor (2002) made a study of teenagers and their use of mobile phones. Through the data they suggest that teenagers use their phones to participate in social practices that closely resemble forms of ritualised gift-giving. According to them gift-giving practices can inform design, providing an initial means to conceptualise future emerging technologies.

Sun (2004) consider that it is strange to notice the recent success of text messages compared with the usability weaknesses of mobile phones such as the small display, poor input methods, moving environments, and noisy surroundings. In his opinion, the explanation is in socio-cultural contexts of use. We already knew that all human activities are embedded in socio-cultural contexts, which are not solely created by local cultural and historical practices, but also co-created by each participant's history and life experiences in the use of a technology.

Mobile technologies are already modifying well-established communication patterns, amplifying and substituting for them. Participating in the mobile information society is not only a matter of getting a phone call or a phone, but how it is used in everyday life.

The use of mobile phones is then a question of culture since they allow new habits, postures, communication, behaviours which contribute to society transformation. Also, the referred mobile mobility is more a cultural than a technological question. In this way, mobile phone migrated from its initial function of a communication device and became a symbol of style and taste of the user. However there are, some nuances in its use, for example: there are people that use it more than the PC to send emails: there are countries where it can only be used in specific locations. It has become an icon or symbol of status. It does not represent only communication but also a question of social acceptance and popularity. There are those who create affection towards it and do not seek anything else, those who identify themselves in a personal way, and there is an increase of intimacy with the others created through the use of this piece of technology. The mobile phone became the cultural icon of the digital generation.

Gift-giving rituals

People are accustomed to think in terms of what they can benefit from a given situation. Within gift giving paradigm, the gift permits to approach each person with another attitude, "What can I create? What can I give?" making part of the gift environment.

Gift-giving is one of the symbolic forms of exchange between groups either physically distributed or approached. These practices have roots in old practices where they were executed ceremoniously, to establish alliances and rivalries.

Gift giving, traditionally, refers to an object given from one person to another; with regards to increasing the amount of happiness in their life, or just decreasing the amount of sadness. This includes special days and occasions, and when somebody might need a lift.

The gifts exchanged as a social practice show, in this study, that, especially teenagers in activities mediated by telephone keeps a kind of ritual of `gift-giving', and their participation in these activities has a significant impact in the form they see and understand the use of mobile phones.

Social networks are an example of a social media, to give. The giving is among other purposes, confined to help, council, share, or anything else that provides value to the recipient.

STUDY

Two case studies were used. Case study one: how young people use a mobile phone? And case study two: are social networks a learning tool? There were about twelve young people in the former and fifteen in the latter that took part in the study.

The methods used to collect data were centred on a qualitative study; a combination of research methods was used to collect the data, literature review, case studies, interviews and observations. Interviews were conducted face to face and by email.

The aim of this research was to understand what young people (age average: 13 years old) said, and how they behaved using a mobile phone as a social communication media; and what university students said about the strengths and weakness of social networks either as a sharing way or as a communication and learning artefact.

Methodology

Grounded Theory (GT) is a general method to use on any kind or combination of data, and it is particularly useful with qualitative data (Glaser 1998). Denzin (1994) argues that GT is only one of several different qualitative research methods available to those conducting exploratory research. It offers a comprehensive and systematic framework for inductively building theory.

It was found, that nowadays, there is a vast amount of literature information concerning Grounded Theory Methodology (GTM). However, the literature differs as to how the analysis helps themes to emerge from the data. Mainly, one can found focuses on Strauss and Corbin (1990) using systematic procedures and, more recently, about Charmaz (2006) using a constructivist approach.

In order to generate GT, the researcher engaged in a rigorous and iterative process of data collection and constant comparative analysis that founds raw data brought to increasingly higher levels of abstraction until theory was generated. The method of theory generation has well defined and clearly articulated techniques for data analysis embedded with. It is precisely this clear articulation of GT techniques that have seen them become central to many qualitative data analysis strategies. It involves two phases in the analysis of qualitative data. Data fragments are compared in order to derive general descriptors or variables (concepts; categories and properties) which catch their analytically relevant properties. The idea of the approach is to read (and re-read) a textual database or observations of behaviour, and their interrelationships. The second phase is used to elaborate, refine and reduce results of the first phase. This involves connecting codes in the form of hypothesized propositions specifying conditions. Open coding is the part of the analysis concerned with identifying, naming, categorizing and describing phenomena found in the text. Essentially, each line, sentence, paragraph etc. is read in search of the answer to the repeated question "What is this about? What is being referenced here?"

Charmaz points out that GTM specify analytic strategies as followed; a few rich data sources suitable for use in GTM, and a central importance is attributed to test as data material in the form of interviews which were carried out in this study.

DISCUSSION

Data gathered and analysis permitted to build several categories, within GTM, which contributed to the design of the framework presented in figure 1.

The activities mediated by telephone are an example of a form of life routine, organization and structure around the mobile phone. In particular, in gift-giving practices telephones as well as some text messages sent by mobile phones are treated as gifts.

Some aspects are seen, in more detail; such as, the meaning of these practices, the ritual, the obligation of exchange, the alliance and friendship that is established, the status and rivalry that is assumed, the pretending figure that can be assumed and the value of the exchanges.

Figure 1: Gift giving framework

- Gift-giving sustains meaning – The act of giving converts something within us and our relationships with who receives a gift. The gift helps us to organize our memories in things that can be reached and kept; therefore, associated with stories and individuals in particular.
- Ritual exchange - is through the offer that the gift acquires its meaning. The meaning is expressed not only in the gift but also through its giver and receiver, and still in the occasional ceremony in which the exchange took place.
- Obligation of exchange - in reply to gift, the receiver is obliged to accept it, i.e. to answer. The reception of the gift demands the acknowledgment and the participation of the giver in the occasion, and more important, it is the identification of the giver's role in the vast social network. This obligation to accept, as part of the ritual of gift-giving is apparent.
- Alliance and friendship - this mechanism allows sharing emotional experiences and interchanging objects with personal meaning. The telephones can circulate and be changed without argument or negotiation (to see, to copy files, to change numbers…). The exchange implicitly demonstrates the privacy between one and the others.
- Status and rivalry - the gift is exchanged through the reciprocity principle, in which the link among people is established through an apparent contradiction. Gift-giving creates an environment demonstrating the status and rivalry; both, are kept under the obligation of the reciprocity. The receiver is obliged to interchange the gift as a form of gratitude placing itself in inferiority position. The telephone and its content as other exchanged objects are mechanisms through which one can make these fights of power and rivalry. A phone call offer, for example, can symbolize more than an intention to show affection or alliance. It may also be used to allow the giver a position of power towards the receiver.
- Pretending act – during messages exchanges, both the giver and receiver can have diverse roles: they can pretend or act as different actors. The scenario may never be identified. In this situation a fallacy world will be created propitiating several pretending stories.
- Value - the gift exchange objects by telephone confer value. An object value can be determined by the object itself. The text messages, for example, can be seen as greater or lesser value if they are written in some way (capital letters, without punctuation…). For the gifts as the text messages, the value is associated with who gave the gift and with the context in which it was sent and received. Messages of text, calls, offering a telephone, etc. are gifts, since they have value. This value is linked

with the giver, with the receiver and with the context in which the exchange, in material form, is made.

These considerations were only based on the text messages example within mobile phones used by teenagers. We could also verify what happens in relation to other object exchanges such as: touches, images, music, etc., but it was out of the scope of this study since the use of mobile phone as a user interface needs a more deep analysis.

Social networks were considered within case study two as a gift-giving practice too. It encompasses the same gift-giving categories found in mobile phone case study. However, it was verified that due to increase of social influence via this form of communication which input, is either one to one, one to many or many to many, that gifts symbolize not only aspects of the giver/recipient relationship but the givers' relationships with others in the social network.

Gifts either visual or text message are linked to objects related with the individual or group life galleries, with remembrances albums, with boxes of experiences, and with unintended culture sharing. This means that people share their personal and family photos and films with others, they exchange experiences: either personal or professional, they communicate and learn with others from different communities and cultures, they converse by being or pretending to be someone else – because in the network nobody knows, and they present themselves within the actor they want or dream to be. A series of exchanged situations can occur whether they are speaking of a gift-giving social network through gifts, remembrances, and generate obligations.

Both Internet and mobile phones interactive technologies have been appropriated for use within intimate relationships, to mediate close personal relationships, for family and friends separated by distance to maintain contact, they are popular for online dating, and for friend's finder, among other purposes. Thus, it confirms that, within the realm of gift giving: among other things, the personal is social, the private is public, the real can be virtual, and desires can be illusions.

Using social networks to communicate; university students discussed the advantages and disadvantages of using Facebook. Table 1 presents the compilation of the results which were interpreted and summarized as follows:

Table 1: Facebook Advantages and Disadvantages

Advantages	Disadvantages
Information Exchange	Virtual crimes
Experiences Sharing	False Information
Friends and Partners Finder	Virtual Relationships
Curricula Vitae allocation	Photos Appropriation
Chat	Plagiarism
Music, videos Exchange	Cyber Bulling
Mixed between Real and Virtual Life	Solitude
Culture Interchange	Propaganda
Shopping	Compulsive Vicious
Accessibility	Free Website
Knowledge Acquisition	Life Exposition
Learning platform	

Students considered that the main advantages of using Facebook are centred in the actions of exchange, sharing, using, finding, allocating, interchange, acquisition and learning. Conversely, the disadvantages are focused on nouns: crime, false, appropriation, plagiarism, bulling, solitude, vicious, and exposition.

Considering the stated actions above, one can conclude that this example of social network is an encouraging platform for learning. This social media tools are technologies that enable communication and create connections between people. It can enable social learning and make it even more powerful by capturing, recording and organizing information exchange and learning that occurs between people. Not just the act of using social media to ask a question - but the act of communicating with peers, colleagues and the larger world to seek information (Bingham 2010).

Learning can be viewed as socio-cultural i.e. as a social activity, which takes place through communication or interaction with others (Vygotsky, 1978). The impressions that learners make on each other can be seen as affected by the characteristics of the exchanging messages.

The main characteristic of Facebook is the connection recommended among people, i.e. all friends of a friend may be recommended to the user and new relationships will be established. Based on this assumption it can be said that Facebook is a collaborative environment platform. It serves as a way to discuss several themes through an ideal environment where interaction among students in the learning process is predominant; and where members in a collaborative learning environment participate, maintaining a relationship among group members, in what was suggested to. It was found that students ask each other question and discuss homework, for example: they express themselves creatively which contributes to realize that social networks are a learning support tool since users feel more free to express themselves than in a classroom environment.

From the stated arguments a gift giving conceptual framework for learning could be as follows (Figure 2). This could be a reflection point to consider within the design process of future interfaces.

From the researcher's perspective a framework does several things. The main one is to provide a set of activities to analyse information definitions for the information required in the design process phases. A list of framework requirements followed by a set of specific classifications that define the framework;

- It ties together the components of the gift giving technologies into learning components, making both processes more useful.
- It forces a design team to consider the presented categories in a way that promotes learning and more understandable interfaces.
- It may contribute to improve design practices taking into consideration that people will value design outputs.

This framework for learning consists of several inter-related strands which can be synthesized in – communication, collaboration, creativity and culture (Four Cs). Each strand is seen of equal importance and is composed by actions and/or situations to provide guidance for a design process interface.
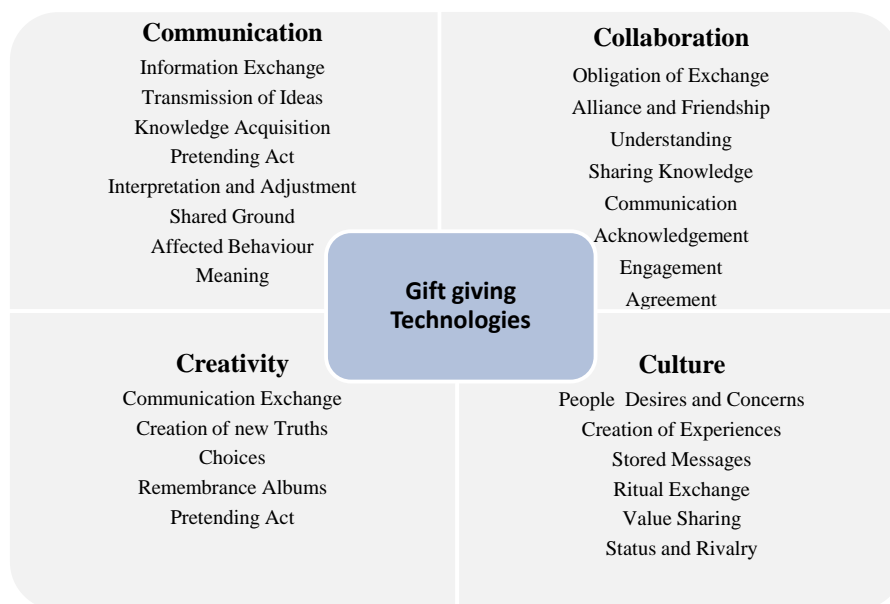
Figure 2: Gift giving conceptual framework for learning

Communication is used to give and exchange information. People communicated with words and pictures. The practice of communication is akin to gift giving technologies as well, to learning in the way that both are skills or abilities which are acquired and developed. Information is exchanged between individuals through a common system of symbols, signs, opinions or behaviours. It is the part of thinking and exchanging that redefines problems, develops creative solutions and evaluates outcomes. It is the vehicle of interaction and transmission of ideas. From the transmission of messages, one person affects behaviour to another.

Communication is a cultural practice. Culture and cultural values play influential roles in almost all aspects of human life and technologies are not exempt from these cultural effects. People' priorities, desires and concerns were shaped by their cultures. People's own cultural values, concerns and preferences influence interface design qualities and approaches. People create culture, as they create experiences and meaning for themselves and others.

Collaboration gives us a better understanding of how people work, use technologies, share knowledge, and communicate. The level of engagement denotes the alliance and obligation to react to communication.

Referring to Grice's work (1976) about cooperation, he associated it with the cooperative principle which regulates the exchange of information between individuals involved in interaction. According to him, the cooperative principle is based on the assumption that language users tacitly agree to cooperate by making their contributions to the discussion.

People used creativity as a process with one of its ingredient - communication. Each idea was visible, communicable and understandable. Nelson (2003:168) said that creativity is "often described as the creation of new and viable ideas, with the implication that this means- creating new truths – as in science."

Each feature which surround the gift giving action and their circumstances give meaning to the learning event. Each feature contains the main objectives of both mobile and social networks gift giving technology and which are the same of an intended learning platform. For the interface technology design, situations like considering (within communication) degrees of privacy, flexibility and security, and a more functional environment for collaborative learning should be considered.

Once again it is important to refer that the framework provides a comprehensive approach to consider in the design of new socio network interfaces for learning. This is the result of the data gathered and analyses within the two studies carried out and it is not a step description but rather it is a way of thinking.

CONCLUSIONS

The 'gift-giving' practices are old, however, they still frame the way people use technology in social interaction.

Two case studies were presented: one focused on mobile technology and the other on social networks. Both were considered as examples of gift giving technologies. These technologies can become accepted into our everyday lives and not just pets in the domestic environment but part and parcel of daily routines, self-images and the wallpaper of life.

After all, this paper does not contribute to new knowledge in the domain of interactive design. However, the two case studies data analysis was presented in a systematic and visual way; in which, contributed to think about a learning framework proposal to consider in interaction design processes.

The relevance was to highlight the importance of social and cultural aspects that must be considered on the design of interactive artefacts and to understand how gift giving technologies, in particular, contain social and cultural information.

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247 - An Awareness-action Framework for Engaged and Transformative Schools Advancing Educational Equity and Inclusion with Communities

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Abstract: Equity and inclusion are ever present challenges for schools and school systems. How do schools provide ease of access and a genuine welcome to parents and children who have experienced inter-generational disadvantage? What factors facilitate or constrain how schools engage with and provide appropriate support for these parents and their children?

This paper presents a research based awareness-action framework for schools and school systems to use when examining how and to what extent they are engaging with families and communities. The awareness-action framework extends beyond individual schools or school systems to community and government organisations which need to be partners in providing appropriate and effective environments for promoting children's learning.

The paper presents the research from which the framework was developed together with examples of uni-dimensional low awareness - low action approaches and multi-dimensional high awareness - high action approaches to engaging with families and communities.

Keywords: Community engagement, equity, transformative schools, communities

INTRODUCTION

Equity and inclusion are ever-present challenges for schools and school systems. Such challenges exist at the individual student level, requiring schools to provide opportunities for all students to participate and learn to their full capacity. The challenges also exist at a broader, systemic level, including having a supportive, inclusive and proactive school community.

The nature and extent of these challenges are seen both in the extent of poverty within countries such as Australia and in the nature and extent of disadvantage which people experience. The Australian Council of Social Services (2010) notes that those living in relative poverty in Australia – those whose living standards fall below an overall community standard and who miss out on opportunities and resources that most in the community take for granted – was around 11.1 per cent in the 2006 census and is increasing. The Council notes that child poverty is of particular concern, with around 12 per cent of Australian children living in households with equivalent income less than 50 per cent of the median. They also note that Indigenous Australians are especially vulnerable to poverty.

The Council's findings are endorsed by Stilwell (2006, p. 8), who reports that:

> In a wealthy nation like Australia, ... particular social groups, such as single-parent families, recent migrants from non-English-speaking countries, and the long-term unemployed, commonly experience unacceptable levels of poverty. Many Aboriginal communities have living standards more typical of poor people in 'third world nations'.

Multiple disadvantage makes accessing the opportunities and benefits of education difficult for many children. Multiple disadvantage is defined by the Australian Social Inclusion Board (2010) as the experience of at least three forms of disadvantage for example economic in terms of lack of employment and low income, social in terms of lack of support in crisis, and personal in terms of poor health or low educational attainment.

Education has long been recognised as an effective tool in helping to break cycles of current or intergenerational poverty and disadvantage (Vinson, 2007). Mastery of even basic literacy and numeracy skills is recognised as being important for reducing poverty and empowering people with the knowledge, skills and confidence to help shape a better future. In recognition of this, 'universal primary education by 2015' has been established as the second Millennium Development Goal (UNESCO, 2011).

The benefits of inclusion and social participation at individual and community levels have been long established. Maslow (1968) identified a sense of social belonging as one of the more basic human needs, recognising that it was difficult to develop higher-level needs of self-fulfilment without it. Positive parent and peer relationships have been shown to have an important impact upon social and emotional development (Cripps & Zyromski, 2009). Supportive relationships amongst peers, families, teachers and the broader community have also been shown to be helpful in mobilising social and cultural resources to support academic development (Moll, 2010).

Within the school context, positive relationships based on trust, respect and genuine interest, have been shown to positively impact on students' academic orientation and success (Darling-Hammond et al, 2005). 'Networks of exchange', predicated on trust, are similarly seen to hold 'educational capital' (Moll, 210). In contrast, communities with limited social networks have been linked to limited aspirations among disadvantaged young people (Cuthbert & Hatch, 2009).

Abu El-Haj (2007, p. 3) defines 'substantive inclusion' in the school community as the capacity to participate fully and to contribute meaningfully to all its activities. She encourages schools and educators to acknowledge, rather than to ignore differences, and to consider these from a relational and educational perspective. This implicates the broader society in the process of change, where everyone is part of the solution to educational inequality.

This recognition of the importance of relationships and networks reinforces that schools do not operate in an educational or social vacuum. Decisions and actions made by the school influence, and are influenced by, the broader community context in which they exist. In this, schools are a community within a community, and have social, educational and cultural parameters and networks in which they operate.

ENGAGED AND TRANSFORMATIVE SCHOOLS

In developing and maintaining genuine and effective partnerships and networks, schools need to think and act beyond purely transactional or school-based matters related to assets or key performance indicators. Today, many school policies and practices are driven by other pressing agendas, such as funding, scholastic performance, public image or head office directives. These not only have the potential to detract from a commitment to an inclusive school community, but also to replace it. It also negatively affects the culture and sense of community within a school. The punitive approach to accountability taken by some authorities is described by Mintrop and Sunderman:

> It has now become practical for a central planning agency, be it private or public, to set targets based on a small set of quantitative performance indicators, monitor whether large numbers of relatively small performance units reach these targets, and surgically order sanctions for underperforming units. (2009, p.393).

In contrast, supportive policies and practices, such as fees reduction, scholarships, uniforms and meal provision, can help foster a greater sense of equity and inclusion, particularly at the face value. Such measures, however, are largely transactional, one-way and isolated in nature. They have, asthe research underlying this paper shows, the potential to create a sense of dependency or obligation, even shame and embarrassment, on the part of the recipient. They may also create a sense of resentment and judgement from those in the school community who do not have trouble meeting their financial obligations, and wonder if people are really 'in need' or just playing the system. Rather than bridge the gap between the 'haves' and the 'have nots', it can expand it.

If a school is to exist more as a community than an educational institution, transactional measures to increase equity and inclusion must form only part of the solution to promoting equity and inclusion. There is also a need to ensure that such measures don't have the unintended but real effect of increasing a person's sense of separation or inequality in the school community.

To achieve genuine, or meaningful and substantive, inclusion requires a shift from a purely transactional and school-based perspective, to a more transformational, community-based one. This requires schools to stop and reflect on who they are really there to serve and how they measure 'success' - not just 'in word', but in practice. They also need to consider how well they know and engage with the members of their community, and what strategies they have in place to identify and respond, with respect and capacity, to those who may be disadvantaged or marginalised in any way. School image, performance indicators and financial concerns must be secondary to this.

The following extract is from a parent, presented as part of the research project outlined later in this paper. It demonstrates clearly the benefits to individual students and families, and the broader school community, when inclusion and equity are perceived in transformational rather than transactional perspectives, and when support is offered with dignity and respect, and as part of a community response.

My experience, or should I say our family's experience at [our local school] has truly enriched our lives. It gives each of us a special sense of belonging to a community that is safe and welcoming.

In 2007, our son was diagnosed with severe congenital scoliosis. Our lives changed from the very day that he was diagnosed and turned into a rollercoaster of emotion and pain for him. One factor that helped us through our journey was the love and support that we received from [our school] community, not just the school but the parish also.

Before we knew it we had strangers to us from both communities volunteering on rosters to cook for us, transport friends to hospital to visit our son, care for our 4 year old daughter and much more including prayers, special masses etc.

The teachers and parents of the school became a great support to us. The principal offered financial relief in the form of not having to pay school fees - he knew that I had given up my job to take on the caring role for our son and that we were financially struggling.

The teachers at the school came to visit our son in hospital and assisted with sending work for him to do to complement the small amount he was doing with the teachers in the hospital.

We never felt isolated – that was a big fear as our son was in the kids' hospital [about 20km away] and I was staying there with him. My husband was commuting but we still had plenty of visitors, not only to come and lift our son's spirits, but also to offer me the break of some sunshine and food while they sat with him. The parish priest at the time also regularly made the [long] trek to [the hospital] to see us.

When our son finally came home the help did not stop. We still had people cooking for us and helping to assist with his rehabilitation.

When he finally returned to school, he was in a wheelchair, which was daunting for a small child, however the teachers and students embraced him and were never too far away to lend a helping hand when needed. In fact they were all very protective of him and continue to be to this day, knowing that he does have a disability now, he never feels excluded from anything and the school community makes him feel safe.

This extract highlights what can be achieved, when a school community engages with respect and dignity and open hearts. In the process, those involved have the opportunity to transform and be transformed. This account shows the difference between 'walking with' and 'handing out'.

The benefits, as well as the moral imperative, for schools to adopt an integrated, community-based approach are clear. Less clear, however, is the extent and manner to which schools do this, or how they could measure or demonstrate their commitment to doing so.

It was concerns and questions such as these which prompted a Catholic diocese in Sydney, Australia, to commission a research project in collaboration with the Australian Catholic University. Seeking to gain a better understanding of how schools in the diocese identify and respond to the poor in their school, the study consulted a range of stakeholders in the diocese through survey and interviews. Participants included including head office administrators, school principals, teachers, parents, welfare agencies, clergy, school support staff and students.

In addition to providing valuable insights on how members identify and respond to the poor in their school, the study facilitated the development of an awareness-action framework. Initially this was designed to showcase the different dimensions and levels of perspectives relating to participants' awareness and response strategies with respect to the poor in their school. It became evident, however, that the framework could also have broader application and appeal for agencies and systems to examine how well they are engaging with

their community members, and possibly to assist with strategies to move towards more transformative and more integrated engagement with people who are disadvantaged or isolated.

RESEARCH OVERVIEW

The geographical catchment area (diocese) in which the research was undertaken is situated on the outer fringes of Sydney, Australia. The area encompasses some of the wealthier and poorer Local Government Areas in New South Wales.

A total of 25 Systemic schools participated in the Review. Of these, 20 (80%) were Primary and 5 (20%) were Secondary. The number of students in the schools ranged from less than 200 to over 1000.

Table 1: School by type and student numbers

Students	Primary	Secondary	Total
0-200	1		1
201-300	4		4
301-400	9*		9
401-500	4		4
501-800	2		2
810-999		2	2
1000+		3	3
Total	**20**	**5**	**25**

* 1 school = combined early childhood and primary

Data collection encompassed surveys, interviews and focus groups, as follows.

Surveys

Table 2: Survey responses by participant group

Participant group	Survey responses
Principals	25
Teachers > 10 years experience	58
Teachers < 10 years experience	34
Parents	30
Clergy	5
CEO Leadership Team	3
Welfare agencies	3
Total:	**175**

Parents, teachers, senior school support officers, welfare groups and clergy all received the same survey, seeking their views on:
- their understanding of 'the poor' when applied to members of the school community
- role(s) Catholic schools should play in caring for the poor
- factors helping Catholic schools in caring for the poor
- factors hindering Catholic schools in caring for the poor
- recommendations or suggestions to help Catholic schools assist the poor?
- three ways a commitment to people who are poor should influence the life of the school
- scope to provide additional comments.

The survey for school principals encompassed the above items, and also asked them to provide additional information on:
- the number of students enrolled in the school;
- percentage of students in the school they considered poor;
- policies and strategies in place to assist the poor; and
- possible exclusion of poor from enrolling or continuing in the school.

The survey data were collated and analysed by a research team from the Australian Catholic University, to identify common themes.

Interviews

A total of 29 individual interviews were conducted, with a cross section of participants from six selected schools. These schools were selected in collaboration with the Diocese's Catholic Education Office and conducted by the researchers. They explored similar themes to those in the survey while providing an opportunity for a more detailed and personalised understanding of key issues.

Table 3: Interviews conducted

Participant group	Number
Principals	6
Teachers > 10 years experience	6
Teachers < 10 years experience	6
Parents	2
Senior School Support Officers	6
Clergy	1
Support staff (e.g. business manager; uniform shop personnel)	2
Total:	**29**

Focus Groups / Workshops

In addition to one-on-one interviews, information was gained via five focus groups:
- focus groups of secondary school students, with 3-4 students in each group
- focus group of parents, with 3-4 in each group
- workshop with 20+ Religious Education Coordinators
- focus group, comprising ten specialists working in the welfare area. This was conducted by a leader of a local welfare agency, with responses collated on a Welfare survey form.

The focus groups provided an opportunity for the researchers to gain a fuller understanding of the issues, opportunities and challenges of responding to the poor, as per the aims of the Review. They ranged in duration from one hour (students and parents) to one morning (RECs, welfare). With the exception of the Welfare focus group, all focus groups and workshops were conducted by the researchers.

Specific questions addressed via the focus groups were:
- What is the good news around the school's (Diocese's) commitment to and care of the poor
- What are the hopes around the school's (Diocese's) commitment to and care to the poor;
- What are the challenges around the school's (Diocese's) commitment to and care to the poor?

KEY FINDINGS

The review identified varying perceptions between and within schools, in terms of what defines 'the poor' and the school's role in supporting them. Key findings, relevant to the development of the awareness-action framework, are provided below.

The broad range of definitions and perceived incidence of 'the poor' indicates the term is a subjective, multidimensional and complex one and that it is not easy to categorise or distinguish between different types of 'poor'. Recognising and addressing this broader and multidimensional reality of what it means to be 'poor' must be a priority.

While all participants in the Review were able to offer a definition of 'the poor', and saw the school or broader community as having a key role in caring for them, the varying depth of responses indicated varying levels of awareness or contact with the poor. For parents and teachers with less than ten years' experience, in particular, the responses indicated a largely conceptual or academic response, rather than a personal or experience-based understanding. Responses from principals, teachers with more than ten years' experience and welfare agencies tended on the whole to exhibit a more discerning and grounded emphasis and experience, suggesting they "engaged" with the poor on a regular basis and were fluent in their language.

The review highlighted many examples of heartening accounts of what can be done within school communities with limited resources but a good community spirit. It also highlighted many examples of unmet need and the significant impact of leadership, community engagement and, at times, conflicting priorities.

The study also identified a number of valuable insights for schools wishing to increase their equity and inclusion agenda. Four key insights, relevant to the framework, are listed below.

1. Schools need to consider many dimensions, including material and non-material, in identifying and responding to the poor in their community.

2. Schools need to consider how they can best respond in a way that meets their unique context, adapting and applying learning to their own setting.

3. To have a full understanding and appreciation of the poor requires personal exposure – it is not something that can be learned second hand but needs to come from engaging directly with people who are disadvantaged, or socially isolated. This transformative approach must extend beyond a transactional 'doing' or 'giving'. It requires relationships and an engagement, of 'working with' the poor where both the giver and receiver are open to being transformed by the other as part of a collective, caring community. Ultimately, it calls for a conversion of heart and mind.

4. Community engagement principles foster a collaborative spirit of mutual transformation and allow for partnerships and relationships to be strengthened and to contribute to the greater good of society. Schools form part of multiple systems, and need to consider the role they can best play, through engaging for mutual benefits, with the broader educational and social systems and networks in their environment.

This requires:
- schools building upon what is working well, and addressing hindering factors;
- stepping out of the professional role and engaging with the poor in their own spaces and at their level;
- engagement with community partners in a spirit of goodwill, respect and mutuality;
- a sustainable, long-term versus short-fix approach;
- cohesive school communities and leadership teams, demonstrating a shared commitment to the inclusion and respect of all and practising by example;
- flexibility, in considering different approaches for different population groups;
- developing a shared language being mindful of the connotations of particular words or terms; and
- open hearts, eyes, ears and mind.

AWARENESS-ACTION FRAMEWORK

In reviewing the responses and emerging themes from the research study, two main dimensions stood out in terms of a school's approach to identifying and engaging with the poor:
- Awareness – knowing who and where are the poor; and
- Action - factors that help or hinder; strategies and recommendations for improving care.

The dimensions are inherently intertwined, in that it is difficult to respond if not first being aware, and that awareness itself is of limited value if no action is taken.

When reviewing participants' comments in relation to survey or interview questions, it was apparent that they varied in the type and level of complexity, engagement and ownership they exhibited. Some responses appeared to be somewhat uni-dimensional in nature, lacking an empathy or exposure to the relevant issue or people. In contrast, some responses exhibited a multidimensional understanding and empathy, indicating the participant had not only personal exposure and engagement with people who are poor, and familiarity with the issue in question, but also a level of efficacy in working within it. They also tended to emphasise a community approach and sense of ownership.

This contrast is evident in the following survey extracts, in relation to the question 'what do you understand 'the poor' to mean when applied to members of our school community?':

1. *Those less fortunate than others. Families experiencing financial hardship. (SSSO, JC)*
2. *I believe that 'the poor' in our school community is relating to those families that are grossly affected by extreme difficulties. These difficulties do not necessarily have to do with financial ones, but can be due to dealing with chronic illness, physical, emotional, or a combination of all the above. (Parent, QC)*
3. *'The poor' are those members of the school community whose income is at a level where meeting the general financial obligations of school life is a great hardship. This includes uniforms, equipment, fees and excursions. They may also be financially illiterate – unable to prioritise spending appropriately. Families who suddenly find themselves losing income through death or*

loss of unemployment may also experience great financial difficulty and require emotional assistance during this time as well. (Teacher >10yrs, QF)

4. *The poor within the community can be defined as those who struggle financially but also those who are spiritually poor. Generally, those who are struggling financially are those who pay what they can in terms of fees and school costs but also those who give in other ways, eg their time, food, preparation, volunteer assistance. These people are humble yet happy of heart. Those who are spiritually poor are those who are seeking something more in their lives and yet may be at a loss to name or act on it. (Principal, LD)*

It was also evident that the comments could be rated on a low-high scale, depending on the level of complexity, understanding and familiarity they exhibited within and between the awareness-action dimensions.

Within the awareness dimension, for example:

- a 'low' level would demonstrate limited (one-dimensional) knowledge or personal experience, and a situation where those in need in the school or community went largely unrecognised. Understanding would be largely conceptual versus personal in nature.
- a 'high' level would demonstrate a more personal knowingness of people and their circumstances, where people in need are recognised in a compassionate, discreet and sensitive manner. Understanding would be largely empirical and personal in nature, demonstrating a high level of familiarity and efficacy.

Similarly, within the action dimension:

- a 'low' level would be one where the response is limited (one-dimensional), or largely transactional in nature. This would include referral to another support agency, anonymous donations or no response at all.
- a 'high' level would be one which is personal and interactive, allowing for mutual transformation and delivered with dignity and compassion.

Given the identified rating schedule and the recognised interplay between the two dimensions, the following awareness-action matrix or framework was developed.
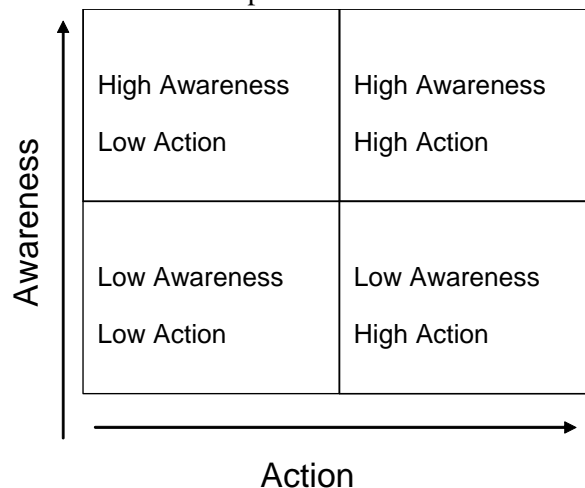
Figure 1: Awareness-Action Framework

In reviewing the survey and interview responses from participants, it was possible to 'map' them to the matrix, depending on their awareness and action levels. Responses that displayed what could be considered acumen and skill in knowing and responding to the needy in their community, for example, would be more likely to sit at the higher (right hand corner) end of the matrix. In contrast, responses demonstrating a lower level of familiarity or experience, or being uni-dimensional or isolated in nature, would more likely sit at the 'lower' end of the spectrum.

An example of how sample quotes map to the framework is provided in the following table:

Table 4: Action-Awareness Framework: Low-High Levels

High Awareness; Low Action	In-between:	High Awareness; High Action
Example quote: "The word 'poor' brings to mind 'disadvantaged', 'need', 'lacking'. As with any community our school community is unique – affected by demographics, multiculturalism, economics, language and social issues – all members of our school community at some point in time would be 'poor' in these areas" (SSSO, XD).	"There are many dimensions to the notion of 'poor' including spiritual and emotional poverty. Poverty implies a deprivation of something, so people can be poor if they are deprived of services, opportunities or access to reasonable standards of living. In regard to school communities in our Diocese, I believe that these non-material types of poverty have been well identified and targeted to date. They are still problematic but they are, at least, in the general consciousness. The real issue is that of material poverty. Those with little or no money, often fuelled by unemployment and other social issues related to poor education, language, immigration, family breakdown, substance abuse, lack of social support, etc. There are many people with little or no money or assets who need direct intervention and assistance from our school community." (Welfare, #4)	Example quote: "The poor within the community can be defined as those who struggle financially but also those who are spiritually poor. Generally, those who are struggling financially are those who pay what they can in terms of fees and school costs but also those who give in other ways, eg their time, food, preparation, volunteer assistance. These people are humble yet happy of heart. Those who are spiritually poor are those who are seeking something more in their lives and yet may be at a loss to name or act on it. (Principal, LD).
Low Awareness; Low Action Example quote: "Don't support helping those who claim to be poor but don't help themselves or are after handouts – hard to distinguish these though." (Parent, XC).		**Low Awareness; High Action** Example quote: Ability of school to care for its 'poor' has a strong relationship with how it can connect to its community. Need to look outside traditional school structure to provide greater innovation and access to school resources (Parent, YE)

POTENTIAL APPLICATION OF THE FRAMEWORK

While initially intended to act as an organising tool for the data, it became apparent that the framework could also act as a useful tool for assisting schools (or systems or departments) to consider where they currently sit on the framework and how they might enhance their awareness and action levels.

The tool has both structure and flexibility to identify and assess relevant measures and criteria for 'high' and 'low' dimensions, much as a marking rubric. This could be applied to just the awareness and action dimensions, or could also encompass sub-dimensions, such as complexity (recognition of single or multiple dimensions); integration (whether strategies are predominantly isolated or linked); attitude (respect and dignity or judgemental); effectiveness (do the strategies seem to be working); and process (transformational versus transactional). Some sample questions that may assist in this process within each dimension are below:

Awareness:
- How well do we know the members of our school community;
- If I was a member of the school community, would I feel comfortable approaching the school for help;
- What strategies do we have, or can put in place, to identify those in the school community who are struggling and require assistance from the school community;
- How do, or can, we reach out to the poor in the community who feel excluded from attending or participating in the school;
- Is our perception more inward or outward looking;
- Do we use language such as 'we' and 'our', or 'they';
- Is our definition of 'poor' too narrow or too broad;

- Do we have an understanding and appreciation of the broader context;
- How do the poor know what avenues are available to them if they require assistance;
- How do, or can, we assure struggling families that the school will support them with dignity and respect;
- How do, or can we, identify those who are in real need in the school community;
- How do, or can, we engage effectively with our school community (including parish, feeder schools, broader community) to aid identification with dignity and respect;
- Are we proactive in our approach, or rely on others to come forward with information?

Action
- When we become aware of those in our community needing assistance, how do we respond;
- Is this something we do often and comfortably;
- Are our actions done with respect and promote dignity;
- Whose needs do our strategies really serve;
- Do those who receive our assistance feel supported and welcomed;
- Are we willing to be changed by the encounter;
- Is our action essentially transactional or personal and transformational in nature;
- What practical and pastoral strategies are, or can be put in, place to respond those in the school community who require assistance from the school community;
- How do, or can, we work effectively in partnership with the parish and broader community to enhance the lives of our school members;
- Are our policies and practices really engagement and partnership or one-way assistance;
- Where is the potential for a systemic and integrated response;
- What opportunities are we providing;
- What opportunities are we missing;
- What resources do we have, or could put, in place to respond more effectively; and
- Do we have a range of strategies, and a flexible approach?

Balancing available and required economic, human and procedural resources across both dimensions also need to be considered. Possible questions to ask here are included in Table 5.

Table 5: Economic, human and procedural resource questions

Economic:	• Can existing resources be better utilised, distributed or shared; • How can schools provide pastoral and fee-relief support while also ensuring they are able to operate within budgets; and • Are fees and associated costs reasonable and affordable?
Human:	• How do we care for the carers; • Is the 'load' distributed or carried by a few; • How do we ensure we don't overload those providing care; and • Is size of the school a factor in terms of being able to identify and respond to the needs of the poor?
Procedural:	• What strategies do we have in place to help identify or respond to those in need; • How do we facilitate a positive transformation so that each learns from, respects and enriches the other; • What policies, procedures and structures need to be in place to support our work in this area; • How can we use 'word of mouth' in positive ways; and • Are some approaches more effective than others?

It is perceived that a key benefit of the framework is in providing a structure and opportunity for honest and healthy dialogue by schools (and departments or systems), in looking at the ways they identify and respond to the needs of 'the poor' in their school.

Using the criteria as a guide, schools could assess where they currently sit in the framework, and consider opportunities for moving to a higher level on a particular dimension. The tool could also act as a progress monitor, with schools and the system being able to compare progress across time periods, schools, classes or programs.

It is to be noted that the tool is embryonic in nature and will benefit from further development and testing. The following factors also need to be taken into consideration regarding its application:

- Non-articulation of a sentiment does not mean it does not exist.
- Articulation of a sentiment does not mean it is in place, or is perceived to be effective by those it is designed to serve.
- It is possible to reduce rater bias and increase objectivity by establishing relevant criteria before self-assessing (perhaps using or adapting the items and questions listed above) and by approaching the task with humility and honesty.

CONCLUSION

Schools are microcosms of our broader society. They are communities within communities or communities engaging with wider communities. All schools, whatever their economic or demographic base, will have students who are 'poor' or 'in need' with this poverty often being an experience of multiple disadvantage. The challenge, and the opportunity in many ways, is for schools to identify and engage with these children and families in a timely, respectful and mutually transformative way.

Research cited throughout this paper highlights clear benefits to schools, students and the broader community in adopting a relational, integrated and transformational approach to equity and inclusion. This involves looking beyond individual people or transactions, to a broader community-engagement and collective response. It reflects the difference between a 'walking with', rather than a 'handing out'. In the process, all are transformed in beneficial ways.

Adopting such an approach requires engagement with and awareness of the other, reflection upon one's own school, and action. It involves assessing how well a school currently engages with and responds to those in need in their school community. It also involves considering future strategies, and an avenue for reviewing progress.

The awareness-action framework deriving from research introduced in this paper is offered as a tool, for facilitating engagement, assessment and action in a relational context. It recognises that awareness and action are intertwined with regards to equity and inclusion – the presence of one necessitates acknowledgement of the other. Its semi-structured nature is designed to provide for both consistency and flexibility of approach. It also encourages schools, and broader systems, to consider the complexity, integration and dignity of their approaches.

The extent of poverty and the multidimensional nature of disadvantage in societies requires schools to be able to be proactive, respectful and open in their engagement with families and communities. The awareness-action framework derived from this research provides schools and school systems with a self-assessment tool for examining whether they are uni- or multidimensional in their engagement, awareness and action and identifying ways in which the schools need to be transformed if they are to be proactive in adopting a multidimensional approach to engaging with families promoting equity and inclusion in education.

Teacher educators are also able to employ the awareness-action framework in the development of teacher education programs and structuring student teachers' school-community experiences. The framework can also be used as a tool for student teachers' self-reflection upon their engagement with and understanding with a school's wider community.

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330 - Empowered Students and Teachers-researchers: Sharing Knowledge with Each Other

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Abstract: The contexts in which educational practices are developed in school, and the concerns about the teachers' work are characterized in various and very peculiar ways. The realities experienced by workers in education at their workplaces, the way they conduct their careers, their life histories and conceptions of education that assume significant influence in the organization and systematization of teaching. These are recurring issues socialized by researchers in different countries. What draws attention to some research is the gap still existing between the theoretical propositions, and the real contexts and needs of everyday work. Some generic and abstract propositions about how teachers' work could be developed in schools have prevented, at least in the Brazilian educational context, more consistent and coherent actions. Perhaps it is due to the weaknesses of public policies on continuing teacher education and permanent professional development, as well as the absence of information or knowledge about the educational practices developed by teachers. There are studies that point out the need and importance of establishing investigative communities of learning, and more robust and autonomous teacher education initiatives. Related to this concern, our main focus as authors of this paper is the intervention in school Physical Education (PE), because some doubts and concerns persist when we ask how are the teachers' work and its relationship with teaching and research, and also about their own professional development and the students' learning. Investigations with this concern have gained ground among some researchers and teachers who describe themselves as researchers of their own practice in the last two decades. Can such teachers-researchers, in collaborative contexts of investigation on their own work, to develop educational practices that have significant expectations for their school students to become students-researchers? In this paper, based on two ongoing Doctoral projects in Brazil, one in Education and one in PE, our objectives are to present preliminary aspects, and discuss clues on how teachers organize and systematize their educational interventions significantly while working collectively. This qualitative research has the methodological background of the action-research process, because the authors problematized their own work and formulated an action plan in order to make public the results referred to concrete changes in the analyzed realities. Both investigations used similar procedures, such as the technique of focus groups, interviews, interpretation of images and documents, and analysis of autobiographical records. Preliminary results indicate that action-research is an appropriate method to support the teachers' work, concerning the quest for improving teaching quality and teacher autonomy. It features that teachers' life history is relevant to deepen contextualized critiques on their own work, and to consider the research as inherent in the teaching work. It also points out the need to assume explicit commitment to meaningful learning in order to empower subjects to intervene in their own realities, and consolidation of collaborative partnerships between teachers-researchers who work with PE. Therefore, considering these aspects of our research, we believe that the educational process of the student-researcher also involves the permanent education and development of the teacher-researcher.

Keywords: Peer education; Action-research; Teachers' knowledge; Physical Education

INTRODUCTION

The contexts in which educational practices are developed in school, and the concerns about the teachers' work are characterized in various and very peculiar ways. The realities experienced by workers in education at their workplaces, the way they conduct their careers, their life histories and conceptions of education that assume significant influence in the organization and systematization of teaching. These are recurring issues socialized by researchers in different countries.

The state of art in Brazilian academic production about school Physical Education (PE) professional development, as revealed by Ananias, Venâncio, and Sanches Neto (2011), indicates that the analysis of curriculum, teachers' work, and students' knowledge could be enhanced by coordinated efforts of investigation. Such purpose corresponds to our Doctoral projects' common thematic – which is going to be detailed in this communication – dealing with the perspective of teachers' preparation curricula in Higher Education, collective analysis of teachers' work in Elementary and High School, and investigation on students' knowledge.

We have the assumption that the underlying scientific reasoning for teacher preparation has implications in the teachers' work and how students develop their knowledge from PE classes. We understand that the sum of these factors do not correspond to the problem itself, because each process – curriculum dynamics, teachers' work, and students' learning – is idiosyncratic.

Further analysis on standardized curriculum for teacher education may reveal important aspects about the discursive reality of the academic *métier*, culminating in the application of theories learned in undergraduate teaching courses. In the other hand, further research on teachers' work can reveal aspects of the school's everyday pragmatic reality, which is different from academic appointments.

Teachers themselves may reinforce the rhetoric to seek their continued professional development in Graduate courses. That way, the fields of academic research and school work have increased their borders increased, because we know little about the educational intervention and what is actually learned by students in PE classes.

Although specifics, the Theses have methodological strategies with collaborative partnerships and focus groups, with little reference on the specific topics according to Brazilian databases. Internationalization may lead researchers to seek foreign theoretical referential, what could direct the academic production to authors, theories, and research that focuses on global issues, rather than the reality of Brazil.

We noticed that consideration of other countries' reality, however, can promote understanding of the problem from a more advanced standpoint. In addition, the thematic suggests studies *in loco*, because there would be analysis and interpretation of the converging problem between the investigated fields.

RESEARCH PROBLEMS

What draws attention to some research is the gap still existing between the theoretical propositions, and the real contexts and needs of everyday work. Some generic and abstract propositions about how teachers' work could be developed in schools have prevented, at least in the Brazilian educational context, more consistent and coherent actions.

Perhaps it is due to the weaknesses of public policies on continuing teacher education and permanent professional development, as well as the absence of information or knowledge about the educational practices developed by teachers. There are studies that point out the need and importance of establishing investigative communities of learning, and more robust and autonomous teacher education initiatives.

Therefore, we make ourselves the challenge to examine together the common thematic of our research, dealing with similar methodological aspects and specific problems, with two foci: the teachers' work, understood in its relation inherent to research; and the students' learning, understood as inherent to their school work.

About the Focus on Teachers-Researchers

Given the scope this research could contemplate addressing the methodological diversity on teachers' work, it is useful the research problem delimitation as well as the specific objectives of this investigation.

For Contreras Domingo (1994), there have been times when what defined the problems of scientific research was a dissonance between what the reality reflected and what was intended for it. So when one sees something he/she wants to modify or improve, there is the need to define two things: an intervention context and a meaning to the intervention, or a value orientation.

According to the author, what makes us understand something as problematic is not only in reality but in the relationship between the reality and our intentions or needs. What concerns us is its difference with respect to what we would like it to be.

Moreover, Contreras Domingo says that analyzing a problematic situation does not require the elaboration of an understanding of the situation. But doing it so requires in relation to our ideas and intentions. To analyze a problem requires, therefore, examining further the nature of our claims, its assumptions, and implicit principles. It is essential, in this view, discuss our ideas in light of the data we gathered, and not only discuss the data in light of ideas.

A basic formula of analysis and reflection would be the analysis of the propositions which we use to understand the situation as problematic, questioning what we would normally take for granted about our sense of reality. To analyze the data means analyzing the collected information and question simultaneously our comprehension schemes that make it intelligible. It is from this position that we can present alternative interpretations of the facts collected facts (Contreras Domingo, 1994).

For Winter (*apud* Contreras Domingo, 1994, p.18) this approach will allow us to learn from experience, learning from data instead of making it fit into preconceptions already consolidated and closed to criticism. This way we can avoid transforming the data according to the previous categories of our thinking, without the possibility that these categories can be transformed by the data.

The issue that underpins our research on teachers lies specifically in how a group of "teachers-researchers" systematize their pedagogical work in relation to the PE's curriculum dynamics. The problem reminds the concrete work of these teachers, specially their ways of organizing teaching and research in a permanent and collective professional development process.

This problem involves investigating how each teacher dialogues with what is discussed in the group (collective subject), since there are peculiarities in their contexts of work. So, how do teachers appropriate what is discussed by them? And whether they produce valid knowledge for themselves by doing this? What does each teacher effectively do with such knowledge?

Besides these questions, we need to ask more specifically: How the teacher deals with the pedagogical content knowledge – which would be the first category of teachers' own knowledge for Shulman (1986, 1987) – or how he/she deals with the teaching knowledge itself – that would similarly be the proper knowledge by teachers for Tardif (2002) – to establish the theories of action (TA) and theories in use (TU) during his/her everyday work of PE curriculum systematization?

For Shulman, also analyzed by Borges and Tardif (2001), the second category refers to curricular knowledge, and the third category refers to knowledge that the teacher elaborates on the student. The investigation of "teachers-researchers" can also contribute with evidence in this direction.

Apparently, mediation is seen as something similar to mentoring for Tardif (2002), so the mediation between school and university would be concern the "academic", but for the group of "teachers-researchers" there seems to be mediation in another way, it seems that the teachers go directly to the production of knowledge and practice. The teachers' ability to produce their own knowledge is precisely what has been called teachers' knowledge

One must question *whether* and *how* teachers create "models" for teaching? And what if such models have validity or potential for generalization from the centrality of pedagogical practice?

While we can move in this direction, it also assumes a limitation, because by one side it would be relevant to focus on teachers' knowledge, and by other side it would be relevant to focus on students' learning. As the work of teachers is only achieved with the students' effective learning, there is a more advanced perspective that would be necessary to analyze closed to the knowledge developed by students, but that purpose is beyond the scope of this investigation on teachers.

There is currently at least one longitudinal qualitative research in progress with this perspective and depth that could point to evidence on this topic (Venâncio, 2010). Even more advanced would be to investigate the consistency of propositions from the concrete work of teachers with students, expanding the theme for the collective perspective. A collective research project with similar characteristics is being developed by the group of "teachers-researchers" in this moment.

About the Focus on Empowered Students

We can infer that Brazilian PE's different theoretical and methodological propositions have not yet realized the real needs for thinking the movement's subject. However, we emphasize the importance of Kunz's (2004) critical-emancipatory (empowering) proposition that starts from the perspective of the subject (human being) and his/her intentions set with and within the world.

We noticed with this assumption the possibility to bring together the concepts of Charlot (2000, 2005) concerning the relations with knowledge from the sociology of the subject, the concepts of Freire (2002) on educational practices, and the Self-Movement concept by Kunz (2004, 2006).

Our focus while researching on students' learning is seeking to describe and interpret *whether* and *how* a teacher-researcher and a group of students attribute meanings and senses to the relationships with knowledge *with* and *within* PE classes.

This research is going to be developed around the description and interpretation of the pedagogical practice by the own researcher during her work in one elementary school, seeking to reveal how students' relationships with knowledge are manifested.

INVESTIGATIVE OBJECTIVES

Related to these research problems on teachers and students, our main and common focus as authors of this paper is the intervention in school PE, because some doubts and concerns persist when we ask how are the teachers' work and its relationship with teaching and research, and also about their own professional development and the students' learning.

Nevertheless, it is necessary to explicit our objects toward both investigations facing teachers' and students' idiosyncrasies.

About the Focus on Teachers-Researchers

This research aims to describe and interpret the knowledge produced by teachers who research their own teaching practice. The purpose is to investigate how these teachers work daily to produce their own knowledge and principles to organize the curriculum. It is questionable as well: How do the "teachers-researchers" systematize their work? How do they work daily in teaching and research?

About the Focus on Empowered Students

The general objective consists in understanding how students attribute meanings and senses to the relationship with knowledge elaborated *with* and *within* PE classes.

The specific objectives consist in: Identify and interpret which knowledge is elaborated by the students *with* and *within* PE classes; identify what relationship interpret what relationship with knowledge the students learn from the experiences in PE classes; explicit, analyze, and interpret what is the knowledge *with* and *within* PE from the subjects' perspective (teacher and students) interwoven in one shared educational practice.

For this, we will recollect the path of those subjects, assuming that there is no student without teacher, and both are inserted in an educational practice, and focusing on the attribution of meanings by the students in relation to knowledge in the context of educational practice shared with one teacher-researcher.

RESEARCH METHODS

Investigations with these concerns have gained ground among some researchers and teachers who describe themselves as researchers of their own practice in the last two decades. Can such teachers-researchers, in collaborative contexts of investigation on their own work, to develop educational practices that have significant expectations for their school students to become students-researchers?

In this paper, based on our ongoing Doctoral projects in Brazil, one in Education and one in PE, our objectives are to present preliminary aspects, and discuss clues on how teachers organize and systematize their educational interventions significantly while working collectively.

This qualitative research has the methodological background of the action-research process, because the authors problematized their own work and formulated an action plan in order to make public the results referred to concrete changes in the analyzed realities. Both investigations will use similar procedures, such as the technique of focus groups, interviews, interpretation of images and documents, and analysis of autobiographical records.

The relation between both theses' methodological frameworks emphasizes the issue about the subjects' empowerment, from their interaction and manners of appropriation and influence onto the world.

Working with focus group seems like a possible way to bring up the dialogue among subject holding to discussions about their experiences. It has been a method already used in PE investigations, with the possibility to "call" other techniques for gathering data, such as individual interviews.

TEACHERS-RESEARCHERS AND THEIR KNOWLEDGE: SEARCHING FOR THEORETICAL AND METHODOLOGICAL REFERENTIALS

For the purpose of investigating teachers' work, particularly the knowledge that is developed in practice, the research of Borges (2004) walked the same way proposed by Schön (2000). Therefore it seems pertinent to examine closely the author's work to mark the relations between the paradigm of "teacher-researcher" and investigations into the professional field of PE.

To reveal the knowledge for the professionals themselves through research brings a possibility of mobilizing the entire group of teachers. We would go further and mention that the revelation of such knowledge could also be given *by* teachers themselves.

In the case of teachers, such knowledge informs and guides their activities. Specifically in the knowledge elaboration by PE teachers (Borges, 1998), it is worth investigating whether the same effect seems to be

traced in the process of knowledge development by the group of "teachers-researchers" with their collective mobilization.

According to Borges (2004), all research problem falls within a theoretical framework from which emerge the issues that afflict the researcher. The problem defined in her research focused on the teachers' knowledge, initial preparation and work.

For that author there are two ways of analysis as references for research: preparation and work. Both aspects are so inextricably linked to TA and TU, and in the case of "teachers-researchers" it should be investigated whether both are considered part of their work itself: the process of continuous preparation of the "teachers-researchers" is part of their daily work?

Among the investigations on the knowledge, preparation and work of teachers, Borges (2004) mentions that there is research that fall within one or more methodological approaches. To investigate the group of "teachers-researchers" and its set of TA and TU, over an approach could be envisioned, but initially the emphasis would be on the perspective of research on *teachers' thinking* with collaborative partnerships.

Other kind of research seems relevant too, but with another type of limitations. For instance, in research on teacher behavior although knowledge is taken away from the teacher, the focus in dealing with contents and methods could be related to the discussions in the "teachers-researchers" group. The limits of these studies fall on the subjective aspects established in teaching situations and lightly esteemed in the investigations, but that may be relevant to the group.

In research on teacher cognition it is required to examine how teachers learn, understand, utilize, reuse and transpose information. These processes correspond to the cognitive development of TA and TU by the "teachers-researchers". Still, the symbols investigated in this type of study could be associated with the "codes" shared within the group, e.g., as a graphical representation of the thematic contents sets (see *Figure* below).
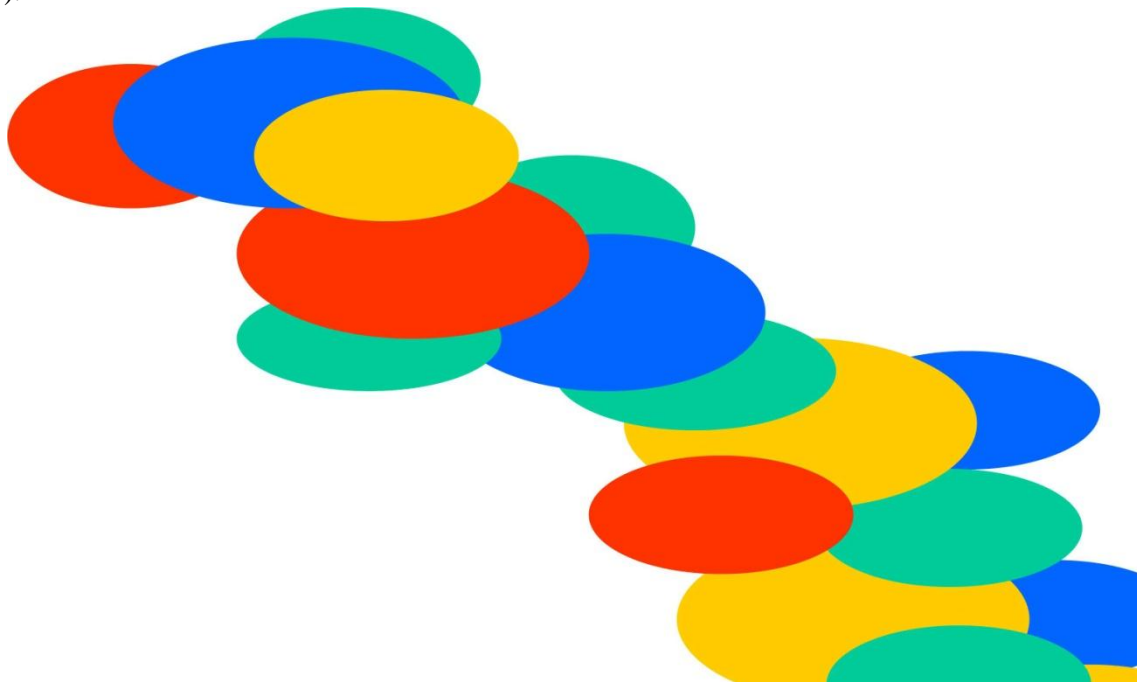
The figure refers to the graphical representation of the thematic contents' systematization, which is how the autonomous group of "teachers-researchers" collective has been planning and organizing the daily work

Some limitations fall into the representations and modeling of teacher knowledge, which precede actions. That way, the TA would come *before* the TU, which contradicts the urgency of the teachers' daily work. The direction should be cyclical, beginning with the TU, following through TA preparation, and returning to TU on a process of constant re-elaboration with greater rigor each time.

Other limitations stem from criticism of predictability given to teaching situations, negating the teacher's personality, but introducing the idea of meta-cognition. More recent studies in the context of cognitive theories could also be involved in the investigation of *teachers' thinking*. The idea of meta-cognition may be related to the processes of reflective teaching and action-research, and we could check if both are used both in educational intervention and in research on teaching practices conducted by the "teachers-researchers".

Research on *teachers' thinking* aims to tackle the mental processes and meanings (TA) for the actions of teachers (TU). Borges (2004) explains that research on *teachers' thinking* deal with the way teachers think and solve everyday problems related to education, planning, beliefs, personal history and search for meaning. Amidst citations of scholars concerned with the thinking of teachers, Shulman's work on pedagogical content knowledge relates closely to our research problem.

There would be something yet to be done in this research field, according to Borges, with the need to clarify basic concepts of sub-paradigms, distinguishing, for example, the steps of reflective thinking, the thinking about teaching and social conditions, the anticipatory thought of action (TA), and individual and collective reflections. It is worth questioning: Whether these issues may correspond to the questions of "teachers-researchers" on their professionalism guided by assumptions based on action-research?

However, the author seems to have a paradigmatic vision on the understanding of basic concepts. We question at this point whether her standpoint is still needed for scientific research, which seems to operate by indexes instead of paradigms (Rosenau, 1992).

Borges (2004) also explains the need for the professionalization of teaching and advocating the implementation of favorable conditions for professional practice, e.g., the career plan. Therefore, the urgency for such planning as an essential element to the professionalism of teachers could be one condition for the permanence and the sense of belonging to the "teachers-researchers" group.

Among the teachers in the group, those who attend the regular meetings already discussed their career plans; linking it to the interests they have for working collectively. Some ideas related to this issue can be found in research on the *knowledge base*, such as Shulman's.

Recently, Shulman's work became one of the references studied collectively by "teachers-researchers" in an attempt to increase the rigor of their own assumptions. But what is the relevance of the author's ideas to the teachers' everyday work?

The answer to overcome the controversy and polemics on this subject, according to Borges (2004), can be found in the movement for professionalization and hence the practice as a *locus* of professional learning, questioning the entire teacher education processes which departs from those guidelines.

Another question arises regarding to this issue: Have the "teachers-researchers" shared some specific situations of their teaching work in common projects? And teachers who work both in institutions of Higher Education and Basic Education have initiatives that directly relate to the *locus* indicated by the author? There would be some system similar to mentoring between the teachers?

A frequent but less specific initiative was the simulation of teaching situations during the group meetings, in a system similar to educational workshops or teaching laboratories. To what point both initiatives have been valued by the teachers themselves as they reorganize their systematic meetings? There is emphasis in discussions of everyday experiences (which includes monitoring and other projects) or in situations with themes of education (which includes professional intervention, albeit simulated)?

EMPOWERED STUDENTS: WHAT DO WE KNOW ABOUT WHAT THEY KNOW?

The challenges for educational scientific research in the contemporary world has been reducing, as mentioned earlier in this text supported by Contreras Domingo (1994), the dissonance between what the reality reflects and what we wonder about it.

In Education, many "fields" are being placed literally face to face in an attempt to approximate the polysemic borders that characterize the professional practices that make up these fields. What fields are we talking about? The academic field, concerned to theorize reality through research; the field of public policy, concerned to justify and implement macroeconomic-structural actions; and the field of the teachers' work, concerned to justify their practices.

Historically, these fields co-exist; establish relations of power, values, and are both dependent and interdependent according to their needs. What we have seen in the comparison of these fields, implicitly, is the emergence of the need for demonstration of "other subjects" that make up these fields, such as the students. In our view, at this time, students as subjects constitute the field of teacher's work. And consequently we, as researchers, need to write questions and answers that have not been made yet in an approach that involves those subjects, in order to contribute to the understanding of the complexity that characterizes the constitution, existence and uniqueness of educational practices.

Campos (2009) in an attempt to answer the question *What is research in education useful for?*, refers to three difficulties confronted in Brazilian educational reality: i) past problems such as illiteracy and lack of access to education, and contemporary problems such as the recognition of ethnic and cultural diversity in order to provide students with skills in different contexts; ii) knowledge circulation, confronting conceptions

absorbed by the contemporary society, and the intellectual production (scrambled world views); and iii) propositional character of the production on education, marked by ideological positions and political games.

Charlot (2006) stands in the same direction about the specific challenges that permeate educational research, both in Brazil and in France, and probably in other countries, and points out the main issue: research studies have focused on education or on education? The author asks whether there is an educational research, specific, unique, or a set of research on psychological, sociological, and pedagogical characteristics dealing with education?

The author goes even further: There is an area of knowledge called education or that area is of policies and practices on which various social and human sciences produce knowledge?

The answers to such questions are, especially the last, essential for defining the research in education or on education, its specificity, its challenges, the links between knowledge, practices and policies. Charlot also raises three important issues that cannot be ignored in education: i) the views of academic professors and researchers; ii) the space of discourse and different characteristics; and iii) the uniqueness and originality of research in education.

The latter aspect is a concern of one Doctoral project in progress, which refers its intentions to investigate learning – knowledge – of students in a formal educational process.

The school failure, socioeconomic contexts, the quality of education and work, and preparation of teachers are examples of objects of research that never go out of fashion as highlighted by Campos (2009) and Charlot (2006). According to the authors, even though many of these aspects already had been analyzed in academic circles, what nevertheless still need to happen is critically analyze what kind of research on the reality has been done and what new questions have to come to exceed the already saturated speeches.

In Brazil, the data we have from the research of the decades between 1950 and 1970 present *bias*, e.g., theories of reproduction are still present in the conceptions of Basic Education teachers. Such teachers' belief is justified by the supposed decline in quality of public school education (Campos, 2009). We cannot forget that until the mid 1980s the access and permanence in Brazilian public education was restricted to a less significant portion of the population. This information enhances and substantiates the need for answers not made yet for complex phenomena rarely explored in essence. Dubet (*apud* Campos, 2009, p.276) observes that:

> All analysis situating the causes of students' difficulties in society and families are welcomed, they reinforce the image of the school as sanctuary; all those evoking causes located in the school running and teaching practices are neutralized. We need to get the sin out of the walls of the temple.

Campos (2009) points out that the answers about the complexities of educational research are relativized by those responsible for the research, who prefer legitimate the discourse diversity between the university and society, the relations between types of knowledge and the meaning that such knowledge assume to subjects situated in different spaces and professional contexts.

> This assertion urges us to clarify the possible contributions of PE as area of educational intervention, which has the school routine as traditional space situated by the complexities yet unexplored by the existing theoretical and methodological propositions, especially regarding relations with knowledge established between students and teachers. There are few studies that focus on knowledge produced by Brazilian students in PE, references that bring instigating aspects are the works of Schneider and Bueno (2005), Schneider, Kuhn, and Santos (2008).

The complexities of school everyday life *with* and *within* PE have been concerning authors like Bracht (2003), Betti (2009), Venâncio *et al.* (2010), and others seeking answers to their preoccupations through research with propositional methodologies such as action-research.

Venâncio's (2010) concern about the knowledge produced by students *with* and *within* PE classes had its problems raised from an organized educational practice supported by the principles of that methodological framework. The coauthor of this article could share throughout her educational intervention with other subjects – PE teachers and her Basic Education students – pedagogical and political issues that influenced changes in her practice.

This attitude has caused changes, generated knowledge, and allowed more space to make public the work with students in PE using different media.

During a period since 2005 to 2008, one teacher who calls herself a "teacher-researcher", systematized situations and experiences in PE classes with students from 6th to 9th grades, which intentions and meanings

constituted very singular manners. Some experiences have begun from common sense conceptions and gradually gained another dimension, values and mainly ways for conceiving the subjects.

The notion of relationship with knowledge by Charlot (2000, 2005), and the principles of dialogical and emancipatory educational practice advocated by Freire (2002), both approximated to Kunz's (2004, 2006) PE theoretical and methodological proposition that explicit concerns with the subject's movement, will be the main theoretical contributions for the research on students; along with other authors who argue about the epistemological and empirical research. Beforehand, it is assumed that an epistemological retreat will be necessary to understand more properly *where* the authors speak from, and whether they value the subject as object of investigation.

The concept of subject that is currently highlighted in the research is defended by Charlot (2000): a human being, open to a world that is not limited to the here and now, driven by his/her desires in relation to other human beings who are also subjects themselves; a social being, who grows up in a family (or something alike in substitution to a family) and occupies a position in a social space, who is included in social relations; an unique specimen of the human species, who has a history, interprets the world and gives meaning to that world, to his/her position in it, his/her relationships with others, his/her own history and uniqueness.

Further, according to the author, this subject: acts within and onto the world; finds out the question of knowledge as necessity for learning and like presence in the world of objects, people and places with knowledge; produces him/herself, and is produced through education.

At the moment the research is in the process of theoretical-methodological deepening, definition and characterization of the subjects that will compose the sample.

Given this assumption of *what* the subject is, for gathering information that will form the main body of analysis, we opted for focus groups. For Morgan and Krueger (1993), the research with focus group aims to capture, from the exchange of concepts, feelings, attitudes, beliefs, experiences and reactions carried out in the group. The focus group allows a multiplicity of views and emotional processes emergence by the interactive context created, allowing the collection of meanings that could be difficult to express with other techniques.

In our study on the students' perspective, the intention is that during the meetings students can talk openly and express their knowledge, forms of appropriation and understanding of what is to know, how and what they learned, their feelings, meanings about the relationship with knowledge within PE. The interaction that characterizes the collection of information in the focus groups is expected to capture the areas of conflict, contradictions and tensions in the students' speeches, which could help to empower them to analyze the information, and cause the distancing and approximation with the beliefs of the researcher who is also the teacher of such students.

It is noteworthy that semi-structured interviews will be used for collecting and analyzing data during and after the focus group meetings. We understand that they will be pronounced from one collective context. We are going to use as procedures the display of images (photos), videos, interviews and records of students and teacher made during and after classes, document analysis systematically organized and presented to the school collective and in other forums.

PRELIMINARY RESULTS AND NOTES FOR FURTHER INVESTIGATION

Preliminary results indicate that action-research is an appropriate method to support the teachers' work, concerning the quest for improving teaching quality and teacher autonomy. It features that teachers' life history is relevant to deepen contextualized critiques on their own work, and to consider the research as inherent in the teaching work.

It also points out the need to assume explicit commitment to meaningful learning in order to empower subjects to intervene in their own realities, and consolidation of collaborative partnerships between teachers-researchers who work with PE. Therefore, considering these aspects of our research, we believe that the educational process of the student-researcher also involves the permanent education and development of the teacher-researcher.

At the same time, the education seems to be a field saturated of answers, but perhaps without proper questions or problems to answer. According to Charlot (2006), education is a threefold process of: humanization, socialization, and cultural (uniqueness and subjectivity). One educates him/herself as a human being, member of a society and a culture, a singular subject.

Lave and Wenger (1991) argue that the situated learning views the phenomenon of learning as a process called legitimate peripheral participation, i.e., learners acquire knowledge and skills when they participate in the sociocultural practices of a community of professionals. The purpose of this approach is to explore the concrete relationships that exist among people, as a proposal for understanding the phenomenon of learning.

Based on that idea, the authors believe that learning is not only situated in practice, but it is an integral part of the widespread social practice in the lived world.

The authors also consider that in every community of practice there is a learning curriculum that considers the main sources of learning opportunities are found in everyday practices that learners experience.

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333 - Older People Motivations and Interests in Learning Computers
A Grounded Theory Study

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Abstract: In this work we seek to understand how older people see ICT and how they use computers as a mean of integration into society. The aim is to research what changes in terms of relational structures, especially in the way computers helps and approaches social networks of the elderly. The research focused on the experience of learning from students in USALBI, under Grounded Theory Methodology. The data was collected using observation and open interviews. As results, there is a clear division of groups, the result of individual interests, in particular: those wishing to acquire and expand their knowledge base in terms of information technologies and simultaneously demystify its use; those who want further integration, with the different social networks, particularly at the household level.
And those wishing to use Information Technology and Communication as a form of virtual approach to the various systems (family, friends ...).
This paper shows de work done under Grounded Theory Methodology to understand older people motivations and interests in learning computers.

Keywords: Social informatics; learning in old age, grounded theory methodology.

INTRODUCTION

The last five decades, in addition to all the great achievements of humanity, are marked by the achievement of life expectancy, the result of all the advances in medicine and social concern of how people get aged. Being the aging of the population one of the major challenges currently facing humanity (Foitaine, 2000; Fernandes, 2008; Nazareth, 2009).

Several organizations such as the United Nations, European Commission and World Health Organization reaffirm the need to look at how people age, given that every time there is a higher proportion of new vs. old and with the increasing of the technological society, there is a marginalization of older individuals.

With the high development of Information Technologies and Communication, and its relatively low cost, globalization of its use is increasing, being now part of everyday life. But this technology is geared for the modern man, which is not the standard of our society, given their heterogeneity, which creates people who feel excluded from such interaction with technology, and as a result the interaction with others.

This paper shows that the idea of old synonym for useless fades over time, and these *"new elders"* are quite participatory. Thus it was investigated that activity and participation in a University of Third Age, the Senior University of *Castelo Branco* (USALBI). Using the Grounded Theory Methodology (GTM) with open-observation and interviews the work analyzed the motivations that lead older people to learn computers, and seeks to unveil the underlying interests. Describing how elders see computers and information systems and how they see the use of computers to integrate them into society. This interpretation also includes changes observed in the level of relational structures, especially in the way the computer helps and approach social networks of the elderly.

This article is organized to give a general understanding of the study, starting a brief justification of the methodology, organization of study participants, data collection and ethical issues involved. Subsequent steps are described in GTM and lead to construction of categories and the framework. Finally discuss the results and presented the future work.

METHODOLOGY AND STUDY

The research methodologies can be classified as quantitative and qualitative, differentiated by their origin, while the quantitative methods generally use statistical methods to verify a particular hypothesis, and qualitative methods seek to understand the phenomena by explaining them through analysis.

Qualitative research, according to Flick (2002), is a research approach that produces results, without involving quantitative or statistical procedures. Thus, it can be defined as a process of interpretation, with the aim of discovering concepts and relationships in the data collected by organizing them into a theoretical scheme with a valid meaning.

For this reason, qualitative research methods are especially used in research that seek to understand the nature of human experience, in specific situations. These methods are also used in studies that seek to research areas of undeveloped knowledge, with the aim of creating new knowledge (Strauss & Corbin, 1990).

Since the study of the interaction of elders, with information technology and computers, is still an aspect slight studied and there is few documentation, it appears that qualitative research fit the scope of this study. We intend to research the experiences, interactions and practice with computers, complemented with a data analysis to generate new knowledge or theories about the subject.

Grounded Theory (GT)

The Grounded Theory has its origins in the context of sociological studies, despite being increasingly used in research on new technologies. It is characterized by constant development of the theory; through a recurring process that evolves naturally as the collection and data analysis occur simultaneously (Strauss & Corbin, 1990).

Grounded Theory has the purpose to build and do not verify the theory (Flick, 2002). Therefore, using this methodology, the researcher has essentially an interpretative role, introducing throughout the investigation, the views, ideas and sensitivities of participants.

This choice was due to the fact that the need for, first studying a social and human aspects, that involves people. Hence the choice of a qualitative research method, and secondly the need to create new knowledge, and understand a little explored area of knowledge, a factor that Grounded Theory is particularly appropriate. This methodology is based on the idea of researching, not having or using pre-conceived ideas; the researcher should begin to research with a clean mind in terms of aspects to research. In the process of analysis, this methodology is very time consuming, since it involves a repetition of processes: data collection, analysis, creation and validation of theories, restarting the process with new data collection in an iterative process of data assembly, creation new hypotheses, further reading and new iteration until saturation of categories.

For Strauss and Corbin (1990) at an early stage the researcher must select a group where it can see evidence of the phenomena studied, and methods used for data collection are observation, interviewing, documentation, audio recording, video recording or combinations of them. These decisions are based on what the researcher considers that best suits their objectives, and may at any time be adapted and redirected, if the development of the study so requires.

Fitness on the methodology of research

The selection of Grounded Theory proved adequate as a research method for this study, because it helped the development of a conceptual system in organizational improvisation, by leveraging the use of credible evidence, drawn from a complex context.

The possible range of data sources, setting up of their treatment, and the construction of narrative theory, are works which require as a condition, the compliance of the guidelines of its implementation. The use of Grounded Theory allows one to obtain conclusions, which are in harmony with the social reality and organizational sciences, giving clues about the behavioral aspects involved in the study.

The Grounded Theory is a research method, that doesn't start from a hypothesis or theory. A Grounded Theory-based research often starts from a bad structured problem, which is being continuously structured along the development of the research. It is therefore important that the researcher does not focus its research and has no preconceived ideas when collecting and analyzing data (Robinson *et al.*, 2004).

Participants

This research focused on students at the Senior University of *Castelo Branco* (USALBI), enrolled in the computer classes.

Table 1 - Distribution of Interviews

Level I	Level II	Level III	Teachers	Total	Men	Women
3	4	1	3	**11**	8	3

The students can be divided in three groups in what concerns the motivation to learn computing:

- Those who want to demystify the computer, they know what it is, know what it does, but do not know how it works.
- Those who want to understand their grandchildren and the world that surround them, not feeling completely apart of their reality.
- Those who use the Internet as a means of communication with the ones that they care and with grandchildren, who are distant, seeking in the Internet the ability to bring them closer.
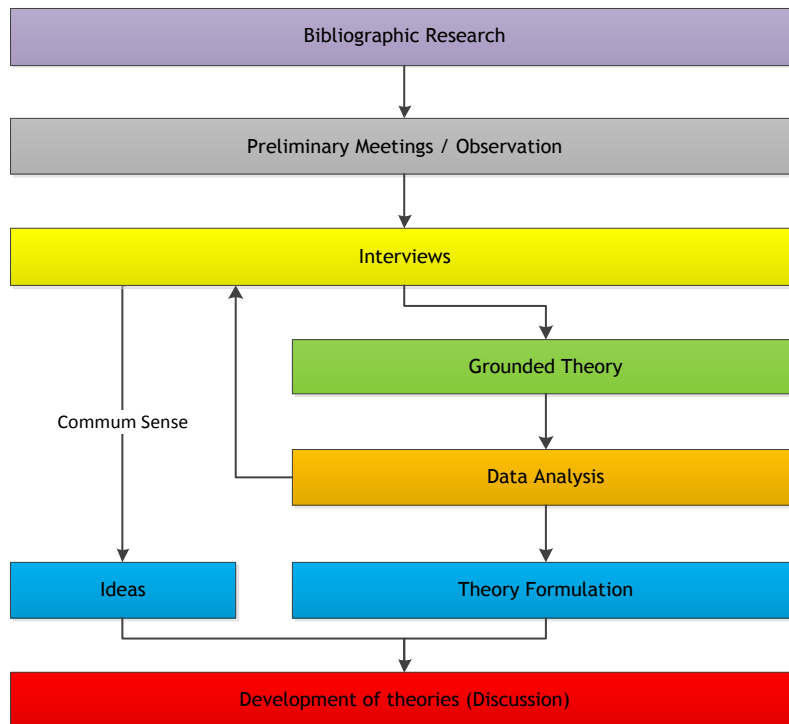
Figure 1: Work Organization

The students interviewed are in an age range from 54 to 70 years and his academic background is quite diverse, some students attended school until the old 4th grade, while others have completed higher education courses. The same heterogeneity is true regarding to their occupation before retirement: businessmen, teachers, postmen or electricians.

Glaser and Strauss (1967) define this strategy as theoretical approach, which aims to *"representativeness of concepts"* rather than the representativeness of the sample. According to Strauss and Corbin (1990), a researcher initially choose sets of situations and people in the study area and follows the analysis using samples based on the concepts that emerge as most relevant. In this method, sampling and analysis, are processed almost simultaneously, being the sampling directed according to the results of the analysis.

Observations

Complementary observations were made of classes, with the aim of giving the start to the *"immersion in the study site"* (Janesick, 2000) and an adaptation of students to the researcher. This methodology was applied so the results to be found were developed as a product of this research, in fact, grounded in reality (Glaser & Strauss, 1967; Strauss & Corbin, 1990), thanks to the direct contact and interaction reality of students with computer's use.

The direct contact between the researcher and the students, in their daily environment, provides an observation *"in the natural context of occurrence, among the actors who would naturally be participating in the interaction, and follows the stream of everyday life."* (Adler & Adler, 1998:81), approaching the researcher with the reality of the facts.

Based on these assumptions, the process of class observation was made, so that does not create interference with the normal operation, seeking above all, to see how the students interacted with the computer and technical difficulties that were finding. The items collected were notes that were later used in forming the interpretation of the study results.

Interviews
Open interviews were used in order to know how the students interact with the computer, either in class or in their everyday. It was the most effective way to understand how they view the world of computers technology. The informality of the interviews along with the environment, which tried to be relaxed, allowed students to talk about their experiences, without any limitation or prejudice.

The interviews also approach the students to the research, making them feel that their opinions and ideas were central to the development of this work.

Interviews were open, so there was no set any interview guide, since its construction and follow-up, would influence the respondents to the ideas implicit in the questions or issues to be analyzed. Therefore, and to avoid pre-conceived ideas, the questions asked; only served to link the ideas and to explore some of the points raised..

Ethical and privacy issues
During the fieldwork, ethical principles, such as voluntary participation and confidentiality were a guarantee. Before each conversation and / or approach, the objectives of the research were explained to each individual. Participants were informed that their name or personal information would not be disclosed, been delivered to each one of them an Informed Consent Form, with the objectives of the work and the conditions of confidentiality of their participation.

In the interview process, none of the participants was pressed for an answer, having been informed that they could refuse to answer any questions. Situation that never occurred, since interviews were conversational, which made the participants very comfortable.

All interviews were conducted with the consent (and collaboration) of the institution (USALBI), having been given their approval, from the early meetings.

In classroom observation, before the start of each lesson, the teacher explained the reason for the presence of a person outside the group, a presence that was never challenged by any of the students (in fact was much appreciated).

To avoid disrupting the normal functioning of the institution, the interviews were recorded in days at hours that students did not have any kind of activity, and in their schedules wasn't made any kind of pressure for students to attend.

It was guaranteed the privacy of respondents, given the fact that in this work there isn't any information that identifies them. It was also mentioned that at any moment they could abandon the interview by withdrawing its consent and this wouldn't result in any kind of prejudice in his relationship with the researcher, or the institutions involved.

Analysis with grounded theory
The Grounded Theory Method was followed to develop a grounded theory that explains the orlder people motivations and interests in learning computers. Next follows a description of the theoretical procedures that were adopted during data collection and analysis.

Highlight of Important Ideas
Based on the transcript, we proceeded to multiple readings, emphasizing in each the most important aspects relevant to the research. This analysis allowed the identification of some common points between the experiments and experiences with the computer by the students.

To represent the importance of these ideas they have been marked by highlighting the text.

Figure 2: Sample Annotated Transcript

In order to group the ideas of the first set of interviews, the main ideas were organized into small *"Post-it's"* in an easily way to organize them by concepts, and then join the common ideas of the various interviews.

Figure 3: Main Ideas of the Student Interview

Grouping of common ideas

The most important ideas were organized at the end of the analysis of individual interviews and several concepts could be grouped.
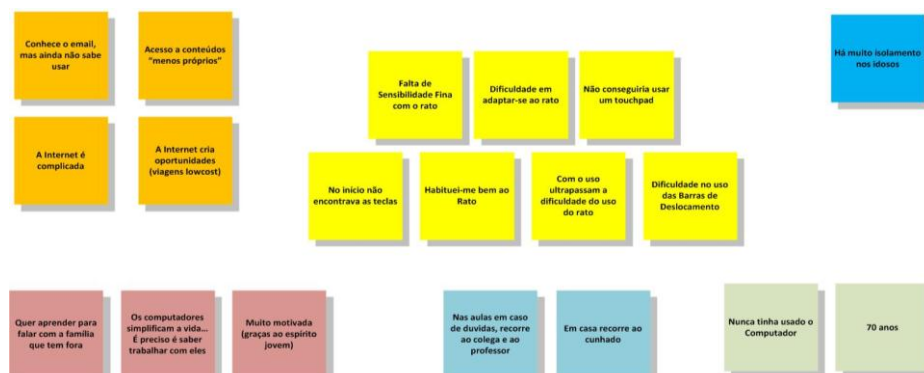
Figure 4: Grouping of Ideas from Interview

Coding of Interview (Key Concepts)

In parallel, in order to verify the main ideas of each interview, it was conducted an individual encoding, using the method of Coding Key Concepts, which, as regards Rodrigues *et al*. (2004), allowing meaningful concepts arise from the transcripts.

Figure 4: Coding Student Interview

After this review process was an elaborate coding table, containing all the key concepts found in all the interviews (Rodrigues *et al*., 2004).

Figure 5: Table of Keywords obtain from Coding

The data in this table were crossed with the analysis made to each of the interviews, seeking ideas, aspects and common items.

Reanalysis of the Interviews after Encoding
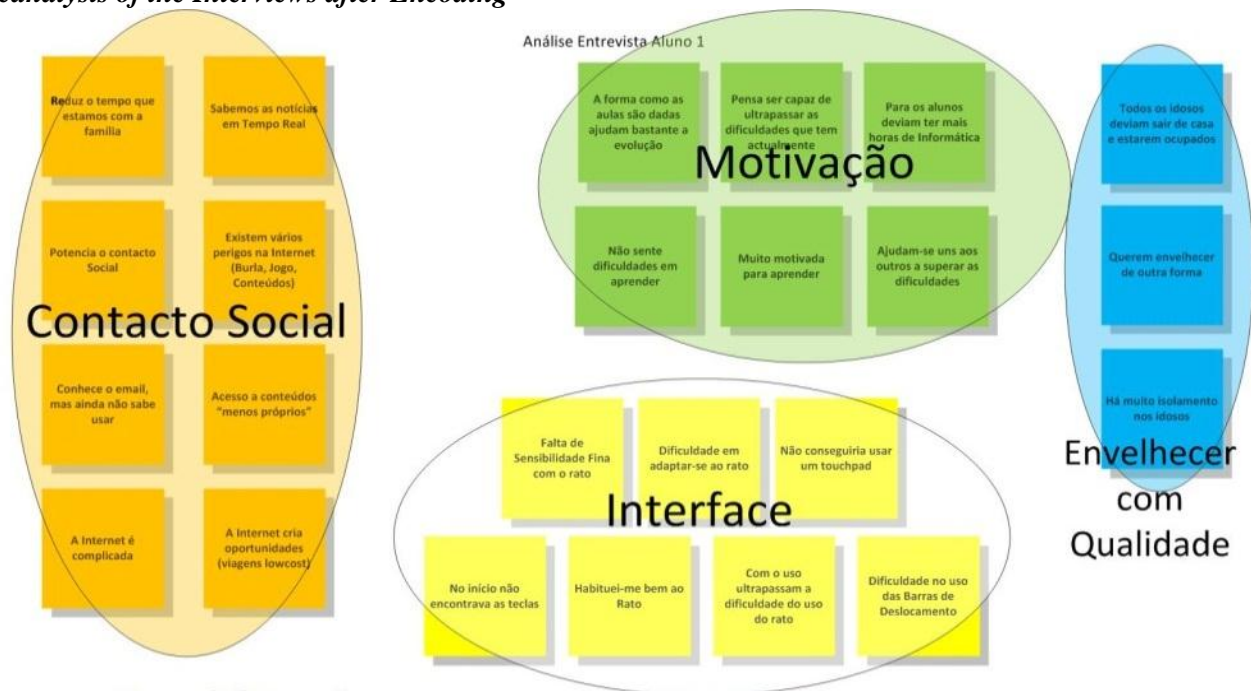
Figure 6: Review of the first interview after the process of encoding

Interviews reviewing process allowed the validation of the initial analysis grouping of ideas, which together with the data by coding the key concepts were the basis for the formulation of theories from this work.

Elders and computers: the grounded theory
The analysis revealed eight categories, each of which is the result of the grouping and combination of several key concepts, resulting from the coding of all interviews. These are:

Communication
The communication category includes all the concepts related to computer use and ICT's as a way of keeping in touch with family and society outside.
The computer is viewed as a form of communication and interaction with others which helps in the process of fighting the loneliness which increasingly takes place in the elderly. Not only in being able to communicate from home, but also by having to leave their residence to attend classes, thus allowing insertion of a person in a group of peers.
Students use the Internet and electronic mail to exchange information with distant relatives in a way that allows them to track their life, creating a kind of virtual or digital presence.

Information
It appears that the older use the computer and the Internet as a way of keeping up to date, about various subjects, they are the ones that make the selection of what they read or access. Being the information focused on their needs and sensitivities, this is for them an advantage because they do not have to be guided by any editorial policy of a newspaper or TV newscast.
Accessing information and the beginning of any internet browser interaction, generally starts from Google. Students find the simplicity of Google an advantage in the process of finding information, combined with the fact that they can quickly find the information they want.

Learning
Above all the students want to master a given task with the computer. It can be verified that besides the need to learn to use the internet as a mean of communication, they also feel the need to be updated, in order to understand the experiences and their grandchildren.
This category gathers all the concepts about how the older capture the knowledge of IT, and how this knowledge they are transmitted.

Motivation

This category represents the will and commitment that all individuals demonstrate on learning computers, which is essential in the ability to acquire knowledge and concepts about the interaction with computers. The motivation is the factor that triggers the need to learn more about technological artifacts. The need of being socially active (social contact) and the need to understand the world of their grandchildren is the factor that approach elders to the new technologies and mainly the Internet as a way to communicate with the ones that they care and as a way to overcome the distance between them.

Digital Inclusion

Digital inclusion promotes the ability to think, produce and share knowledge with the society. Being the main reason why elders are interested in learning computers. The fact that they feel overcome creates a certain discomfort, making then feel a bit apart from the society that surrounds them.

There is a change of roles especially in the way that they interact with their grandchildren and technology; there is an inversion on role of the teacher (the transmitter of knowledge) and the student (the receiver of knowledge). The role on the teacher that was given to the elders, because of their life experience, is now given to the grandchildren as they teach and help their ancestors to work with computers and deal with technology.

Simplification

Simplification is a concept found in the coding of all interviews. For the students the idea of the computer to simplify their everyday is an acquired truth. Also refer to the fact that more and more services become available over the Internet.

Social Interaction and Contact

This item represents communication, contact and relationship with those around them.

Social contact is an important aspect with regard on aging in these days. Using computers and the Internet it is the way to combat social loneliness.

Represents the need to live in society and not fall into the scourge of loneliness, which is seen by everyone with a huge fear.

Fear

This category represents two ways of fear that afflict the elderly in interaction with computers. The first relates to the fear of using the computer, which is one of the factors inhibiting the use of technologies. The second shows the fear of information accessed from the computer, mainly from the internet and widespread in the mail.

Elderly and computers: gtm framework

This framework describes the relationships between the categories obtained. In the epicenter are the elder people that as we have seen, have the need to feel integrated into society, trying to overcome the problem of loneliness in the elderly.

The need for social contact and interaction generates the motivation to upgrade their skills and knowledge and to be part of the Digital Society. Allowing elder not to feel outdated will improve their self-esteem, and by other hand will allow a better relationship with those around him, especially his grandchildren, who are already more advanced technologically, allowing an easy approach to them.

These factors make older people feel the need to dedicate themselves to the technology and computers learning, trying to develop the abilities to communicate, using the computer as a form of communication. This is also a way to access information (knowledge) of various levels, news services, new knowledge or contents to simplify their day-to-day.
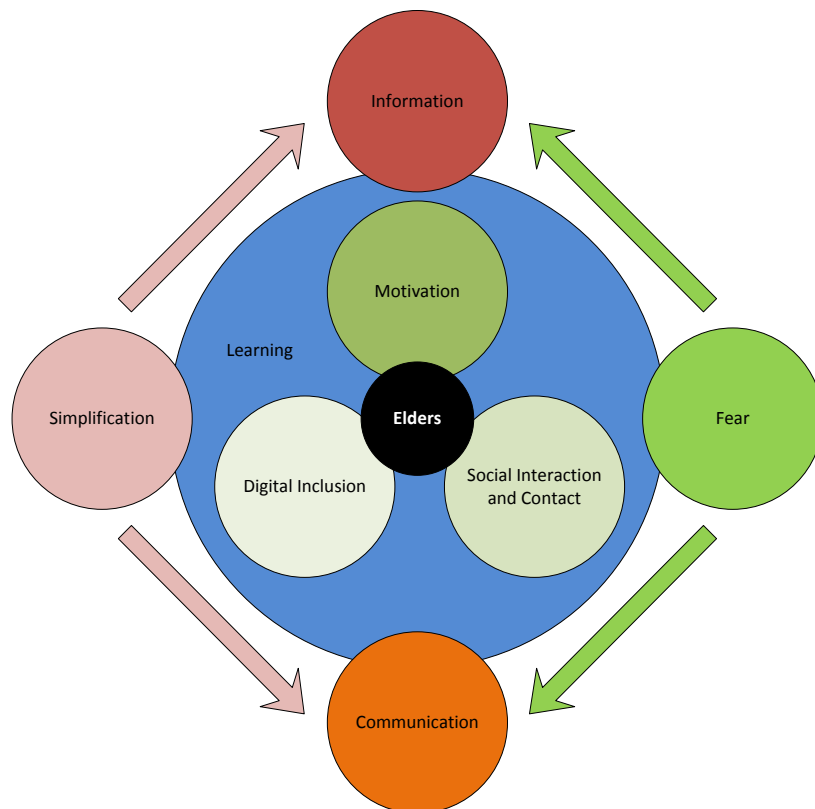
Diagram 1: Framework derived from the GT analysis

Communication is based in Internet access, which is the main reason that takes students to learn computer's, as they see the internet as a way of communicating with those around him. Communication can also be seen as a way of being socially active, and as a form to transmitting the knowledge acquired throughout the life.

The simplification is mentioned by all respondents, whether as a result of the application of computing on the day-to-day, either as a necessity, being defined as a key category for the development of emerging theories. For the same reasons fear was also considered a key category, by the fact that many students often refer concerns about access to information, especially online, with access to communication tools such as web or email.

DISCUSSION

Difficulties in the use of Computers
It appears that initially, the greatest difficulty for students who have never had contact with computers is fine dexterity. This is the first barrier they have to overcome, especially in the use of the mouse.

Interestingly, about half the students do not report the mouse as being a problem, just report difficulties at an early stage of its use. Therefore we can say that over time the mouse is no longer a barrier and not an obstacle for seniors to use the computer.

The field work supports the idea that the use of computer resources is a benefit from a biological standpoint, since the computer enhances the stimulation of reasoning and memory, while also allowing greater flexibility in their hands, thanks to training that is done to muscles.

By participating in class, students battle the scourge of loneliness, a subject that is so awake and present in our consciousness, motivated by more recent experiences of loneliness in elderly people.

All this learning process leads to the use of ICT as a way of socialization, and a way to integrate individuals in active society through the use of the Internet. The use of the computer and the Internet encourage the reading, the thought and the concentration on what they read, thus promoting the interaction with day-by-day events.

Fear of the Use of Information and Communication
Access to information and communication generate in elders fear factors that should be fought. The technophobia (fear of modern technology), was easily incorporated into the list of stereotypes associated with older people. The basis of this new stereotype is based on the belief that older people are adverse to new

technologies, in a conscious and deliberate way, and not as the result of the historical path and constraints that have dictated its info exclusion.

There are a number of difficulties that reduce the success that elders have in the learning of information technology:

- They hesitate initially, with fear of damaging the machine;
- Lack of expertise, as the result of the decrease in motor skills;
- Fear of making mistakes;
- Fear of failing to learn a new thing.

Besides the fear in using computers, there is the fear of the Internet. Students have the idea that Internet is a source of fraud, and they are the ideal targets, so all activities made online, are made with great fear.

This fear is due to the fact that the Internet is a concept that is not visible, has no face: students do not know who is on the other side of a site or an e-mail. This lack of personification makes the breaking of the trust relation, a situation that is very important to them.

Simplification of Information and Communication

Another major challenge that arises is how to teach elders in the use of computers. How can the way that a technologically complex machine works, being explained to someone that during his life experience had no contact with information technology?

The students reported a great difficulty in perceiving everything that surrounds the computer technology. Each one, on its relationship with the computer, is building a way of thinking and interacting with the machine, which is the result of a process of growth of knowledge over time. The individual ends up forming his own awareness of computer technology, creating mental processes that allow them to perform actions and interact with the computer.

The major difficulty in the learning process is the fact that, teachers need to forget the mental processes that we created, and try to create them in conjunction with the student. It should also adapt the contents to cover the student's needs. A student at an early stage of their learning needs to demystify the computer, not giving much explanation about hardware or software.

This whole process of learning and demystification is very important, since it depends on the creation or elimination of phobias. In the same way that learning in old age must follow several rules; also the learning of computers must follow these rules. It's important to realize that each person has their own learning pace, so the transmission of knowledge must accompany the student's needs, and not just any hard lesson plan. It was also mentioned the need for more hours per week in order to enhance learning, thus creating more training days and time with the computer.

Also the amount of information that appears on screen is a difficulty for students, so it is important to explain how the information is divided on the screen, and how we interact with that view. It is therefore important to simplify the way it communicates and accesses information. Therefore, there is an urgent need to simplify the use of computers and information technology.

The simplification of computers usage, could assume the development of physical interfaces adapted. This has not occurred in the observation of the target studied; there was rather a need to simplify the process of interaction. For them, the need is not to create adapted interfaces (voice commands, no mouse, minimalist interfaces, among others), but the need to adapt existing ones so that they can use the computer as a tool, which enables the simplification of day-to-day tasks.

FUTURE WORK

This study is a beginning to research the relation between computers and elderly people. Extend the study to other kind of population, research elderly people with less education, since most studies related to aging and technology is associated with older and younger people with more years of study. Future work must also identify applications that elders are more susceptibly to use. Complementary research must also be done in the study information technology curricula building a virtual environment for study and self-study, to allow the response to several questions that students may have, without a teacher around.

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342 - MediaIntertalking – An International Learning Community on Media Literacy

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Abstract: MediaIntertalking is an experience of exchange and collaboration between the University of Salamanca (Spain) and the University of Coimbra (Portugal). The goal was to create a tool, in this case an edu-blog, from which students from two universities could create and mobilize debates about the mass media, according to the different topics and subjects involved (Education and Media -University of Salamanca, and Technologies in Education, University of Coimbra). This paper describes, firstly, how the site was pedagogically designed, the sections and their objectives. Secondly, the paper presents preliminary results from the initial exchanges generated, which are analyzed by quantitative criteria and a qualitative evaluation among students by a final survey. Conclusion from these results are serving to feed back the new debates and activities initiated within this new academic course.

Keywords: Higher education, Blog, Forum, Media Literacy.

INTRODUCTION: A CONTEXT FOR EXCHANGE AND PROMOTING PARTICIPATION

In recent years, the context emerged under the European Higher Education promotes the opportunity for encouraging the teachers' clustering in related subjects, aiming at enriching exchanges that contribute to the visibility and comparability of teaching and learning spaces.

In fact, the higher education system has adapted and reacted to various changes associated with the construction of the European Community and, in particular the Bologna Declaration (1999), the Prague Communiqué (2001) the Berlin Communiqué (2003), the Bergen Communiqué (2005), the London Communiqué (2007), the Leuven / Louvain-la-Neuve Communiqué (2009), and has travelled a long way toward building a high-quality European higher education system.

University teaching responds to all these challenges. It is a fact that profound changes have taken place with the beginning of the Bologna process. These changes have implications for the epistemological concepts that underlie the design of the courses, that is, in our teaching and learning practices. This is a process that manifests itself on teacher's and student's work and culture in a variety of different ways.

In terms of ideas or intentions we can say that we have changed from an essentially transmissive pedagogy towards constructivist pedagogy. The major change affects to the educational paradigm in which the emphasis moves away from teaching to focus on learning. Now what is really important is the quantity and quality of learning acquired by students, not just the teaching process (Vaz-Rebelo, Pessoa, Barreira, 2010)

We've changed from a teacher –centered to a student-centered pedagogy based on the student's work and his independent and self-regulated processes of learning. It's now recognized that the construction of knowledge is based on the individual subject's experience of reality and the value that she can ascribe to it.

The construction and development of knowledge by the students is based, then, on an inter-subjective truth or standard of viability (*norme de faisabilité*) that ensures the value of knowledge or of the subject-world relationship (Le Moigne, 1999.68).

Under this constructivist epistemology, the teaching-learning process does not fit the simplification and compartmentalization of knowledge that underlie an objectivist conception of it.

The learning process is rather a shared path that is supported in real contexts and significant situations, which can be addressed and commented on by explanatory theories and models. The aim for students is not only to acquire a particular content, but also appreciate, understand and know-how to use information along with the ability to think and solve problems that arise in real contexts.

Teachers have no longer a central role in the educational process; no longer a primary source of knowledge, nor the main agent of transmission of knowledge. Among the reasons are the current easier access to information, guaranteed by the Information and Communication Technologies (ICT).

Besides, teacher today performs many other functions apart from teaching. In the case of the university teachers they do research, designs projects and partnerships, in combination to the proposals for the

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development and collaborations with other national and international institutions, as high relevant tasks towards the transferability proposed within the European Education Area (Zabalza, 2007; Lopes, Vaz-Rebelo, Pessoa, 2010, Vaz-Rebelo, Pessoa & Barreira, 2010).

For the student, changes are also appreciables. Students assume the main role in the educational process; they are the main actors in the development of their own learning. Thus, learning is conceived, more and more, as a process of development, construction of knowledge, processes that are intended to develop autonomy and self-regulation.

The biggest concern brought with those changes is the development of a critical thinking. The development of skills necessary to be a critical and reflective citizen of the 21st century presupposes innovative pedagogical approaches. Learning to think critically and reflectively in higher education - both on complex and poorly-structured fields- requires ways of teaching and learning that are often the antithesis of those used in simpler domains: contextualized learning, multiple representations of knowledge, and presentation of information in a network (Spiro et al. 1988, Spiro &, Jehng 1990).

Nowadays the training process is intended to be participatory, transdisciplinary and European. In fact the declaration of Bologna has launched a process commonly known as the Bologna process, which aims for the student to design their training with internal and external mobility. With this end a general system of credits and European - the ECTS (European Credit Transfer System) - was launched with the primary goal of developing a set of procedures that would be comparable, and thus allow equivalences between different academic courses undertaken by students in different European institutions.

This system of credits (ECTS) are "a key element of the Bologna Framework for Qualifications, compatible with the European Qualifications Framework for lifelong learning (EQF)"(Education & Culture DG, 2009, 9).

Emphasis is placed, as mentioned, on student performance. In fact the "ECTS credits are based on the workload students need in order to achieve expected learning outcomes. Learning outcomes describe what a learner is expected to know, understand and be able to do after successful completion of a process of learning. They relate to level descriptors in national and European qualifications frameworks." (Education & Culture DG, 2009, 11).

The student's work can be diverse, consisting of "as lectures, seminars, projects, practical work, self-study and examinations" (Education & Culture DG, 2009, 11), that is, work necessary to " to achieve the expected learning outcomes" which usually translates as follows "60 ECTS credits are attached to the workload of a fulltime year of formal learning (academic year) and the associated learning outcomes. In most cases, student workload ranges from 1,500 to 1,800 hours for an academic year, whereby one credit corresponds to 25 to 30 hours of work." (Education & Culture DG, 2009,11).

The ECTS system is a tool that promotes transparency fosters relationships between institutions and improves student choices.

This system allows the mobility of students and the student work can be achieved in different ways. Thus, this paper is based on an experience of exchange between two universities, facilitating the transferability in terms of practices (based on the new credit system) and in terms of knowledge (sharing and socializing by the Internet).

In this experience, the development of the European higher education area is understood as fundamental construction of knowledge in a collaborative setting, at a European level, facilitated by the use of ITC. This type of experience has been promoted through several actions in parallel, as follows:

- The establishment of other partnerships such as the "Arrangement of international university cooperation in teaching, research and management between the University of Salamanca and the University of Coimbra" conducted in 2008. Under this arrangement are placed annually in competition programs that make it feasible to support the award of double degrees, programs to support research and programs to support the mobility of teachers. In fact with this arrangement it is now possible for students to carry out their training with greater mobility and achieve an undergraduate degree or masters by attending the two universities. It is also possible for doctoral students to develop their research accompanied by scientists and researchers from two universities. Teachers may also have greater mobility and, under this arrangement, may perform research programs or visits or teaching programs.

- The mobility of teachers themselves, as happens under various other programs including Erasmus, could be an important step in building research networks at European level, international project

development, and the design of pedagogical approaches that integrate contextual knowledge in different situations.

- The areas of educational technology and media education, at the European level, require study and research that can help build disciplines that are consistent, reasoned and capable of equivalence at the European level

- The value added, today, by information and communication technology (ICT), and very particularly the Web 2.0, represents in terms of teaching and learning. This is a real revolution in terms of writing, living and thinking about the world. On the other hand it offers the possibility of creating real communities of learning and practice. These communities created through social networks, in non-formal and informal ways, need to be integrated in the context of formal learning.

As Redeccker et al (2009) state, the teaching-learning process based on Web 2.0 is a "emergent phenomenon, fostered by bottom-up take up of social computing in educational contexts" (p.9), which has had significant impact on training and education. Among the most significant uses that are stressed, following Redeccker et al (2009) are: facilitating access to information, that is:

- "**Opening up to *Society*:** Many educational institutions appropriate social computing as a means of facilitating access to information" (p.9);

- Promoting multiculturalism and a wide variety of audiences "**Embracing Diversity:** In a number of cases, social computing applications are used as a means of integrating learning into a wider community, reaching out to virtually meet people from other age-groups and sociocultural backgrounds" (p.9);

- Enabling students to communicate with experts from around the world "Learning 2.0 enables students to broaden their horizons, and collaborate across borders" (p.9);

- Encouraging the establishment and development of networks, communities of learning and different practices, that is " **Networking*:* In many cases, social computing applications are primarily conceived of as communication tools among students or teachers and between students and teachers. The examples studied demonstrate that social networking tools may: (1) support the exchange of knowledge and material; (2) facilitate community building, providing teachers and learners with social environments that offer assistance and (emotional) support; and (3) provide platforms for collaboration, allowing teachers and learners to jointly develop (educational) content" (p.9);

- Contributing to academic success " **Achieving*:* Learning 2.0 approaches can be used as a means to increase academic achievement. Social computing supplies learners and teachers with a wide variety of didactical and methodological tools that can be fitted to their respective learning objectives and individual needs with a positive effect on their performance and achievement" (p.9).

In general, as have been mentioned by these authors, it is possible to assert that they contribute significantly to learning "**Learning*:* In many cases, social computing tools are used to implement pedagogical strategies intended to support, facilitate, enhance and improve learning processes"(Redeccker et al., 2009, p.9).
Blogs, a web 2.0 tool per excellence, constitute a privileged tool for learning, learning to think, and learning in critical, reflective and participatory; specially those which aim is based on academic goals, named Edublogs. Considered as a powerful tool, we present an experience of exchange and collaboration between two Universities of different countries and languages based on the students exchanges throughout an academic Blog.

BULDING THE EDU-BLOG: DESIGNING AND STAGES
In the process of designing the learning community by means of the edu-blog it was considered both, the training of the students on the use of the blog and the planning of their activity. During two months the activities where displayed along six stages (see table 1).

Table 1: Stages of the project and duration

	STAGE	DURATION	OBJECTIVES Y ACTIVITIES
0	Creating the Blog: MediaIntertalking	1 week	Designing, objectives and sections Creation through Blogger Registration by the administrators (teachers)
1	Training (in the two universities)	1 week	Workshop Objective: basic notions and practices to familiarize students with the virtual environment (Blog)
2	Socialization Knowledge between students	1 week	Updating user profiles, facilitating exchanges among participants. Activity in the "Agora" (building community identity).
3	Initiation Activity	1 week	Once students are familiar with the online environment, they are asked to respond a inicitial practice (Describing two uses of blogs in an educational context)
4	Interaction and Discussion Micro-forum	2 weeks	Building and sharing knowledge. Methodology: three types of exchanges
5	Interaction and Discussion Global Forum	1 week	Building and sharing knowledge Methodology: answer questions drawn from the micro-forums
6	Evaluation	1 weeks	Assessment of interactions, knowledge exchanges (internal, external)

After the design and creation of the sections in the blog (Stage 0, http://mediaintertalking.blogspot.com), students from the tow universities were trained (Stage 2) by a specific workshop in which they can learn to manage with the online site (the blog). Then, two activities were provided for facilitating interactions. The former (Stage 3), for introducing themselves in the section "Ágora", specifying academic and personal interest; the latter (Stage 4), for initiating them in the use of the blog: publishing logs, adding comments, responding comments, embedding different media, etc.

According to Salmon (2004), they were provided with the opportunity for online socialization during the first weeks, with activities for motivation and community identity building. As well, the section "eTutor" was created for informing the students and providing them with the required technical support.

Discussing activity (Stages 5 and 6) on the edu-blog was planed following a methodology that evolves in complexity and support, where the facilitators play different roles in the discussions (Wang, 2008).

As the goal of this paper is focus on testing the effect of different methodologies for discussion on a blog, first, after teachers analyzed the socialization activity in the Ágora, three homogeneous groups were created (all of them having the same number of students from each university). Each of these groups conform a MICRO-FORUM for discussing around the topic of media literacy, as all students were previously assigned the same reading about "media literacy" (text chosen was González & Muñoz, 2002).

Discussions among the micro-forums were strategically planned, according to the hypothesis, and involved three types of methodologies:

- *Self-generated:* no intervention from the teachers. Students discuss freely on the chosen item.
- *Combined*: teachers and students made questions and answer them.
- *External-directed*: teachers provide questions, and introduce answers for encouraging the participation of all members of the micro-forum.

These three methodologies were randomly assigned to the different groups, so that each micro-forum has only one methodology, without students know this procedure.

The final phase of the study was a GLOBAL-FORUM, which debate consists on discussing the entire group of students, based on the questions and reflections provided by a delegate of each micro-forum (a student elected within the groups), who summarized and concluded on their own debate and prepare some reflective questions to discuss globally.

STUDY: ¿AN INTERNATIONAL FORUM FOR LEARNING IS POSSIBLE?

The experience involved a total of 51 students, 25 students from the University of Salamanca (male=4 and female=21) and 26 from the University of Coimbra (male=3 and female=23), in the same academic level, the last year of their Degree in Educational Studies.

The purpose of this study was to examine the impact of different methodologies in online forum discussion by the analysis of the exchanges in an edu-blog, considered it as an international learning community with students of different universities. The study was framed by two research questions:

- Are there any differences between the answers/questions in the three micro-forums, regarding the diversity of methodologies?
- To what extent does the use of different languages implies an obstacle of communication?

Method

Students' comments on the Blog were analyzed by applying a table of categories (see Table 2), according to other instruments used in previously studies (Bradley, Thom, Hayles & Hay, 2008; Wang, 2008).

Table 2: Categories for the analysis of the Blog comments (adapted from: Bradley, Thom, Hayles & Hay, 2008; Wang, 2008)

Type of answer	Type of question
1. Limited focal (narrowing to the topic)	1. Initiating questions
2. Open focal (open-ended, widening discussion)	2. Asking for opinion
3. Application (examples, references)	3. Suggesting to make connections
4. High order thinking (reflection, connection)	4. Inviting to analyze the topic in depth

According to Newman (2003) coding of the raw textual data were carried out in two simultaneous activities: data reduction into relevant parts and analytic categorization of the data into themes. Data was revised in two occasions, first, an axial coding (focus on the initial coded themes, reviewing categories, dividing in sub-dimensions, searching for linkages between concepts) and second, a selective coding (scanning data and previous codes, making comparisons and contrasts between subjects).

After the first codification by the researchers, a group of five experts from the University of Salamanca and the University of Coimbra, not involved in the experienced, contrasted a sample of the data in order to validate the frequency of categories obtained. The group of experts used the same processes according to the two phases for categorization described above. It was obtained a 93% of matches in between the coding of experts and researchers.

Quantitative measures (such as word count and number of comments) were taken during the procedure. As well, a qualitative evaluation among students was performed in the two universities by a final survey; together with the gather of informal commentaries of students during the process, or made via the Blog, in which they have been expressed the (dis)satisfaction with the activity, and the learning gains.

Results and discussion

Quantitative data regarding type of participation in the different forums was analyzed by the number of comments, their length (word count) and the type of answers/questions of students, by the categorization presented in Table 2.

In relation to the number of comments (Forum 1=49; Forum 2=58; Forum 3=62; Global Forum=103), no significant differences were found, however results indicated that students were more engaged in the Forum 2 and 3, where participation was semi or completely directed by the teachers.

The length of the comments was analyzed (see Figure 1) to determine the participation in the different forums. The Forum 1 was the one whit the comments shorter; opposite to the Forum 2. It is noticeable that in the Global Forum the comments, on average, where the shortest, due to although some students sent long comments, they are the lesser, observing that in this forum the students were more precise and concrete, focus-oriented. Regardless the personal style of communication, this data can be interpreted as a measure of experience, as all the students participated first in a micro-forum and then, in the global forum they probably have acquired some media literacy skills to participate in a forum on the Blog.
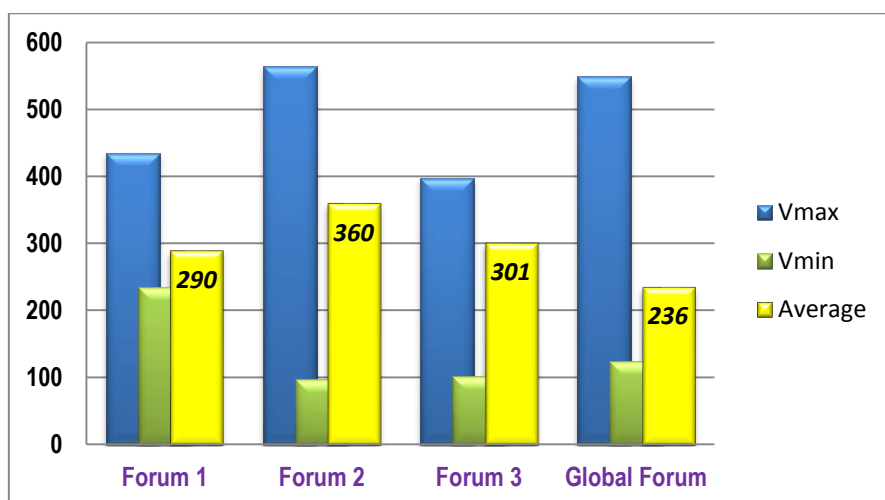
Figure 1: Word count in the comments of different forums.

Concerning the type of answer, descriptive data presented in table 3 indicates that the more frequently answers were the type 1 (limited focal). It is observed a slightly decrease in the categories, where the least common are the higher. Interestingly, in the Forum 3, which where directed by the teachers, and the Global Forum; in the first case, it is possible that the teacher would have encouraged students to progressively adapt their comments to higher order thinking. In the second case, as this forum took place after the micro-forums, and all the students would have the possibility to discuss previously around the same topic, it is probable that in this final forum, global, they were involved in a different level or higher.

Table 3: Participation in the Blog by type of answer/questions (in percentages)

		Forum 1	Forum 2	Forum 3	Global
Type of answer	1. Limited focal	66.6%	64.3%	59.8%	35.1%
	2. Open focal	19.6%	1.7%	14.6%	26.8%
	3. Application	14.7%	35.3%	37.9%	37.3%
	4. High order thinking	-	-	3.9%	7.8%
Type of question	1. Initiating	40.7%	40.3%	1,7%	8%
	2. Asking for opinion	59.3%	28.9%	35%	46.1%
	3. Suggest to make connections	-	9.8%	38.3%	11.3%
	4. Inviting to analyze in depth	-	8.3%	6.4%	45.4%

Regarding the type of questions, in the Forum 1, in which students generated by themselves the discussion topics, it was only observed the types one and two. In the Forum 2, where the questions where generated both, by the instructors and the students, the majority of questions were, again, the ones related with the initiation of a discussion topic, and the ones asking for opinion. In the Forum 3, the most frequently questions were the type three, asking for opinion:

> *"Y siguiendo el modelo de Aparici (1996), se interpretan 3: como espejos de la realidad, como ventanas al mundo y el último como construcciones de la realidad. Y de ahí la aparición de mi pregunta, a la cual me gustaría que contestarais para solventar mis inquietudes. ¿Hasta qué punto los medios de comunicación pueden ser constructores de la realidad? Pues como bien sabemos todas las informaciones se mediatizan por los códigos de representación de cada medio y son sesgadas. ¿Cómo elegir el adecuado?"* (female, USalamanca)

The Forum 3, overall, was characterized by the type of questions suggesting to make connections with other authors, or the professional future:

> *"Assim, como refere o texto é indispensável educar os meios, não apenas instruindo no que respeita a conhecimentos e habilidades necessárias à sua utilização, mas essencialmente tendo em conta a necessidade de se desenvolverem valores e atitudes face às tecnologias que permitam ao aluno, evitar cair numa fobia tecnológica, ou numa posição submissa perante as mesmas. Como defende*

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Manuel Area Moreira uma das metas educativas deve ser a formação com vista a tornar os utilizadores das novas tecnologias críticos, conscientes e activos." (female, UCoimbra)

"Ahí es donde entramos nosotros, que somos los que tenemos esa función de educar, de formar a personas críticas ante los medios, objetivas ante la información que reciben. Como pedagogos debemos utilizar todos esos aspectos positivos que podemos obtener de los medios, esa creatividad y esa carga emocional tan ausente en las escuelas y que tan bien saben manejar los medios para captar a sus destinatarios…" (male, USalamanca)

In less percentage in the microforums, but higher in the global forum, questions referred to inviting to analyze in depth were found:

"Penso que o que referi são alguns bons exemplos dos benefícios e possibilidades que as novas tecnologias nos podem trazer. É claro que como em tudo na vida existe o lado negativo, mas cabe a todos nós, trabalhar no sentido de atenuar o lado negativo e tirar o máximo proveito do positivo." (female, UCoimbra)

Finally, in the last week, students were asked for filling a questionnaire (5 pints liker type) regarding the valuation of the experience. As depicted in Figure 2, responses were classified in between their participation in the micro-forums and globally.

Regarding the satisfaction with the activity, all the students, in both universities were agreed to confirm the experience as "very satisfactory". It is noteworthy having found that the students participating in the Forum 1 showed less level of satisfaction and the students in Forum 2 and 3, where the presence of the instructors were more visibly. A possible explanation is that students are more satisfying if they feel the teacher is partially or totally involved in the activity, finding it more motivating to participate. They manifested, also, that they felt more engaged if the questions were generated by the teachers, which they consider more experienced on the topic with, probably, comments more inspiring.

The question relating to "sense of social closeness" investigated around the perception of emotional involvement and the sense of having created a positive social context. They manifested as perceiving a high level of social closeness after the experience. As an example, some students continuing to use the section "Ágora" for expressing their personal opinions and even to the possibility of a project a face-to-face exchange between the two universities. Evidence of this involvement is that students follow to be connected to the EduBlog, even when the experience ended, and they were at their countries, as it is showed in the track back history (see Figure 3).

Those positive results were more evidenced in the item "repeating the experience", where almost all the students expressed their disposition to participate in the future in a similar experience.

When they were asked about problems, they did not find any difficulty regarding the differences in language. They found other technical problems (log-in, browser), as one of the days for participating in the micro-forums they could not access by external problems of the provider, and they were provided with the opportunity to participate via the main page.
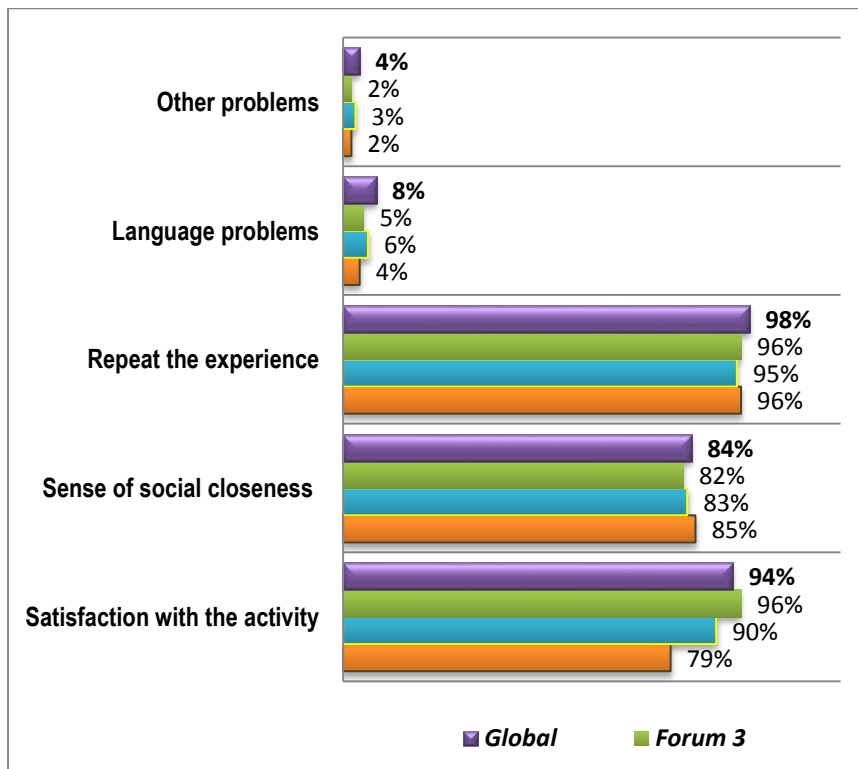
Figure 2: Final evaluation

Figure 3: Track Back history of the Blog by countries

This final evaluation with the students showed a number of potentialities and limitations, which have been considered in the re-design of the activity for this new academic year. In brief, data have revealed significant learning results for the students of the two universities, who interacted and discussed successfully on the edu-blog, regardless the language differences. The groups in which the trainers provided more support were the ones the students felt they more involved and satisfaction with the activity. On the opposite, the groups where the discussion topics must have planned by the group members were the ones they considered having less satisfactory, expressing they had have more problems regarding the difficulties of getting a consensus online.

CONCLUSIONS

Students are frequently using communication technologies, such as Blogs or other social media, for personal aims. When this tools are used in academic contexts is estimated that the community skills learned in a non-educational context are transferred to learning in educational contexts (Conole, 2006), albeit, as Trinder et al. (2008) pointed out, there are inhibiting factors for transference, mainly based on expectations. Students are used to the paradigm of the instructor as teacher from whom they expect a great deal of input. However, it is important to clarify the changing roles within a context of collaboration, with great expectations on learner self-direction and mutual commitments.

Thus, in order to promote effective social interactions, online teacher needs to cope with several functions for promoting sociability (Hernández & González, 2011) regarding the perceptions that students could experience in virtual environments. Among the most important functions are:

- Promoting perception of presence in the virtual space. In this regard, online teacher has to establish an online identity as teacher and facilitate students built their own. This is the first step to create an atmosphere of cooperation.
- Guiding students from the passive spectator to the active participant. Fundamental for the online teacher is to engage the students and to trigger their participation, as well as their maintenance by providing them with appropriate feedback.
- Facilitating the immersion of the students by increasing the level of participation, and by using virtual spaces they know before. Online teacher may turn their frequently technologies, used for personal purposes, into academic tools for learning and socializing with other students.
- Creating a sense of social closeness. Loosing of visual clues in communications through virtual environments requires reinforce participation and a guarantee of adaptation by means of a design that resembles them a known spatial metaphor.

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358 - Schools - The Art of Weaving Networks in Education

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Abstract: This interpretative research is based on phenomenology, ethnography and grounded theory. It is focused on the educational activity and the relationships among actors in four Portuguese schools. The networks of relationships in schools and in the social context where they are integrated, expand the field of action along with the different social actors. New answers are emerging to face the complexity of current demands. New organizational concepts allow for participatory management. An innovative, reflexive and creative practice aims to implement concrete actions promoting interdependence, reciprocity, cooperation, participation, exchange of experiences, collective and shared efforts, exchange between different education systems and other organizations to promote events for learning; and reflexive thinking on educational issues, which is part of knowledge construction. This is a challenge to be embraced in the community, to weave networks in education.

Keywords: Education, Networks, Communities of Practice.

INTRODUCTION

This research is focused in the educational activity, in the context of "space-time units" in four Portuguese schools (during a three years period), namely it focuses on the relationships and bonds established in the construction of educational networks, seeking to understand the dynamics of knowledge and knowledge production, constructed and mobilized by the actors.

The school is a privileged place to analyze the relationship between different knowledge(s), emphasizing the need to systematically examine examples of innovative educational networks and how effective it is this process. Today, innovative practices are becoming increasingly important. These different schools have been characterized in the literature by being able to make progress in four key areas: the consideration of student experiences, changes in teaching and learning, redefining the school's organizational structure, and in their ability to establish contacts, networks and partnerships.

The construction of this object of study was done by pooling the idea of school context and the innovations of educational practices, articulating implicit theories that guide people's acts and performances, in order to study the knowledge(s) under consideration.

This research was conducted by means of an interpretative approach based on three movements - phenomenology, ethnography and grounded theory. They are different but can be reconciled in order to allow for a more comprehensive research style. This study was configured as a research proposal with qualitative methods, mostly interviews, logbooks and observations in classrooms and in various locations within the four schools selected for this study.

The schools were intentionally selected because they exhibited characteristics of visible break with the paradigms of traditional use of Pedagogy, with unique educational projects, and with daily practices that perform an innovative contribution in the Portuguese context. Moreover, this success certainly depends on the ability of the actors mingling the pedagogical and organizational dimensions, and it seems to have resulted in a paradigmatic rupture performed at the organizational model for the officially established. From this perspective, schools seem to take autonomous forms of regulation, with changes having consequences at the organizational and management fields. Therefore, we can talk about a new concept of education.

However, the most important determinant of the selection of the schools surveyed attaches to educational success that goes far beyond the achievements in education, creating autonomous citizens (not only educated students for citizenship, but citizenship educators), as noted by Mendes (1999, p.252), "within each group, each child acts as a participant in a project in which one learns to be independent-with-others. Not only educated for autonomy, but through it, on the banks of a free colored by the requirement of responsibility".

We count on the contributions of Charlot (2000, p.78) who says that "the relationship with knowledge is the relationship with the world as a set of meanings, but also as a space for activities, and fits the time", to steer the I look at these schools, while spaces-time units not only the production and mobilization, but also the relationship to knowledge.

Reflecting on knowledge is also reflected to some space and time which falls on ownership and significance of the subject with the world on their identity, establishing relationships with others, which require time and space activities will never be end. As Charlot (2000, p.79) these are the constitutive dimensions of the concept of relationship to knowledge.

> Analyze the relationship with knowledge is to study the subject faced the obligation to learn in a world he shares with others. Analyze the relationship with knowledge is to consider a symbolic relationship, active time. This analysis concerns the relationship with knowledge that an individual subject falls into a social space.

In this sense, what drove me to this research was the fact of wanting to identify, understand, interpret and analyze the mobilization process, production and significance of knowledge and knowledge produced in the innovative practices that occur in schools. I adopted a perspective that was significant to me, and to find one that reflects these experiences and practices in the school context stressing that there was no question of intention of a comparative study involving the four schools surveyed.

What I consider important evidence in this telling of my researcher is that, even with many difficulties in putting together what I proposed, to materialize the principles I believe in and that are dear to me, I can believe that it is possible to build another school, another of an education, that we do, students and teachers, more human subjects. We emphasize that all the experiences, brands and marks of my path, so fundamental now that I find myself, have given a new tone to my walk, both on research in teaching, influencing my eyes and my reflections on the production of knowledge and teaching skills, evaluation of innovative educational practices in the everyday life of the school, revealing thus further questions, concerns, and uncertainties that are beginning to accompany me on this journey as a researcher.

THEORETICAL FRAMEWORK

This research is focused in those moments of reflection that happen in school. Especially it draws attention to the relationship between education and the school to understand that education is a cultural selection among existing knowledge, indulging in a lot of work reorganization, restructuring and didactic transpositions that determine the content and teaching practices.

Furthermore, we discuss the idea of networks, as a not recognized reality, but historical, as well as the innovative practices, articulating implicit theories that guide the way actors perform, since these are the synthesis of experience, and therefore are more that one way to find meaning in the present and the images that represent guidelines for analyzing the set of wisdom and knowledge that I seek to investigate the construction of educational networks, triggered in schools.

To understand the activities of the school context requires being willing to see beyond what others have seen, and much more: being able to fully dive in a certain reality to search for:

> references to sounds, being able to swallow, feeling the variety of tastes, walking and playing things and people, allowing them to be touched, smelling odors that reality faces every day along the way (Alves, 2002, p.7).

Based on the contributions of Certeau (2004), we understand that the school context is filled by multiple and complex negotiations, where you can learn social rules and behaviors, make choices and decisions. In these spaces-time units that occur day-to-day,

> weave / unweave / retec our values, our worldviews, our ways of being in the world, in a continuous and uninterrupted tension and multiple and complex negotiations (Azevedo & Alves, 2004, p.8).

Thus, in the educational institutions governed by this logic, with *a priori* rules being set by superiors who hold the power it is necessary to accept them and follow them. But on the other hand, the subjects also act on them, reverting their logic, shifting borders, creating space for the unexpected, thus enabling the development of the teaching office in accordance with the beliefs and principles that have and can often express values not covered by the official rules.

Certeau (2004) argues that daily life in schools is made up many times in spaces-time units invisible to the eye totalizing and crystallized. However, if we consider the uses and tactics that subjects ranging from developing and creating this same logic crystallized and totalizing, you glimpse other / new horizon that will allow the (re)invention and (re)creation of what is already given, that is laid in the first place.

As definitions of change, narrow concepts of innovation has given more comprehensive forms, and with less clear notions, for example, comparing and defining innovation as an end product of a technology or engineering process. Newer concepts found in various disciplines a proposition of innovation as a learning process involving the distribution and circulation of knowledge among the people (Perillo, 2007).

Seeking paths towards the art of weaving networks in education involves questioning beyond mere appearances. Understand, from whatever point of view and philosophical foundation, involves "re-flex" on the human condition, which are rooted primarily on the issues of knowledge, education, education, and ultimately the school itself.

One of the fundamental functions of the school is to help students organize and reconstruct the knowledge they already possess, to think about what they already know, making sense of experience, using for this, appropriate instruments of various areas or disciplines.

The dialogical relationship allows understanding knowledge as encounter, from the reality of every learner, in a collective construction that prioritizes respect for cultural diversity, religious, ethnic and social. A network of meanings is formed, a process of self-knowledge that allows the establishment of the identity of human beings and their social interaction. Thus, new players emerge in History, active citizens, aware, critical, and committed to the transformation and collective building of a society more humane, just and compassionate.

Today, transdisciplinarity is expressed in the educational proposals of the schools, seeking to understand the complex process of building knowledge, recognizing at the same time, which is between, through and beyond each discipline.

Thus, schools with vision and transdisciplinary networks are connected in space boosters, reaffirming and expanding the identity of each institution to an adequate education to the demands of today. From this reflection, we might ask: What does the metaphor of the network? According to the dictionary, the word comes from the latin network (*rete, is*), and in its original meaning it is a set of twisted, with empty spaces, set by "we" or points, forming a sort of open for tissue fishing and hunting. Over the centuries, the network was renamed concrete or abstract points, interconnected by various types of relationships, and his concept was expanded to several issues, such as neural network, social networking, network of schools, etc.

Thinking about the art of weaving a network, we can see the image of the encounter of different twisted, forming "we" that border the existing spaces and translate their life experiences. Venues representatives of not knowing, the opening for a dynamic movement, making connections and expanding the vision for knowledge that emerges in each step of the weaving. Therefore, the "human man" has knowledge as against weaves networks, builds, unties reconstructs the "we" of the crossing, surprising themselves with their potential and the way forward following the lifelong learner.

We must say that we, humans, to be formed effectively as human beings belonging to this or that group, we need to take part in collective activities and learn to live among other people. That means the world that exists prior to each human being is filled with resources for living, whether material or symbolic resources. It also means that these resources exist in a first time overseas and the people must necessarily be internalized and appropriated by humans. Thus, it means that these resources are external to people and must be adapted, internalized. In short, it can be argued that the multiple dimensions of our social lives were - and remain - formed from the resources available to live and which were created in the midst of social relations. That is, each one of us, in full, is continually "educated".

The process of weaving networks is a work of art based on the values of creativity, innovation, respect for differences, to confront and overcome challenges, and the humility of not knowing and knowledge, built by the joy of "we", the spaces that looks to expand an educational proposal that goes beyond the individual to live and embrace an ethical, social and citizen. The human being is endowed with abilities to learn, develop talents, and education networking happens in a creative process, respecting differences and building knowledge on the relationship of dialogue, during and at the road traveled.

Network implies one another, leading to awareness of being learners on the dynamics of human existence and consolidates dreams in a circular motion. Networks are interwoven threads, woven by the boldness of each point and towards a social interaction. From this perspective, the mission of educational networks are dynamic, forward, enhance skills, build knowledge, bringing together people and institutions, to realize dreams of a comprehensive education that has as a priority to educate for life, from the recognition of purpose and alliances for the joint realization of the objectives.

Thus, the socialization process of human beings and their integral education do not end one day or have predetermined points of arrival. Rather, these processes are confounded by the continued self-production of multiple modes of living human existence. They, therefore, turning to history as a wide beam of possible entanglements of which only a small portion comes to be considered.

The dream of a more humanized world requires hope, boldness, confidence, courage and constant learning. Paulo Freire (1998) has resulted in a happy way the following proposal: "Coming out as a social and historical, as a thinking being, communicating, transformer, creator, and maker of dreams". Therefore, the importance of establishing collaborative networks is anchored in universal values, constituting a proposal of cooperation and solidarity in the development of projects between different organizations and people that integrate them.

The network of relationships in schools, between schools, in the social context in which they are integrated, will expand its field of action along with the different social actors. New answers are being made in order to face the complexity of current demands and, market requirements in a dynamic of openness to the new organizational concepts allowing a participatory management. Schools' mission, vision, values, identity and strategic options in networks enable the continuous flow of communication, integrating theory and practice in quantitative and qualitative responses into a joint intervention in society. The potentiation of human experience is mobilized through interaction and relationships' exchange, allowing the emergence of a new worldview, new paradigms, of a network culture that promotes active citizenship and human life dignity.

One must understand the term education in the broad sense, as the set of practices that the companies are preparing to convey to newcomers the knowledge they think are important to live. In modern societies, and strongly influenced by urban life, the school is, par excellence, the environment that is dedicated to the educational activity. But even in these societies the school is not the only environment where education is an integral part. The knowledge that the school selects are a valued part of the asset that are considered necessary for new members of a society, but does not exhaust the set of socially valued knowledge and should be taught. There are many other kinds of knowledge that are important for reproduction of cultural life and are taught that when you engage in certain social activities throughout life.

The world of work, with its countless differences, is full of knowledge that are taught and learned. The way of weaving a net, writing, speaking, to relate to people is an important knowledge, but is not usually the result of school learning.

Both dimensions of social life strongly marked by the writing on the aspects traditionally transmitted orally, there are elements of cultural heritage which should be appropriate and if they are not, people run the risk of not engaging with fluency and naturalness in the activities in which they are requested.

In short, there are several ways to develop the educational activity on the network and they are all fundamental to the cultural heritage of a group that inherits from his ancestors is passed and serves as a means for new generations to live.

The school, despite having a central role, is not enough to teach everything a person needs to learn. This sentence doesn't intended to be neither a criticism of school, nor a devaluation of what she does. On the contrary through this ideas it's possible to think the school in close relation with the world of culture and society. These are relationships that can determine fruitful dialogues and partnerships that school can establish with other teaching agencies, aiming to global education of the people.

The recognition of lifelong learning for all as an imperative of today's society, where personal growth and development intersect with the development of citizenship, has been to re-education "in the heart of society" (Delors, 1996) as a central requirement for democracy, for which the school can not be responsible alone and closed the reality in a self-reproducing process of a monoculture. Freire (1998) considers that the educational phenomenon is too important to be a monopoly in school. We need, in a human perspective and community, we create a *training system* in the educational context is to extend and interconnect in a complementary dynamic, able to challenge and enrich their practices. In the community network training, you can admire two poles of the educational context:

- The territorial pole, consisting of the family, local authorities, associations, production structures, etc., Which should take responsibility for creating conditions that enable people to achieve a base of rich experience, authentic, differentiated and healthy conflict;
- Polo school, responsible for transforming life's experiences in cultural instruments suitable for modern society, allowing people to reflect on the life experience to turn into a cultural experience and thus able to intervene actively in the preservation and creative transformation.

Thus, the integral education becomes a matter that concerns all citizens who become actors and not mere passive consumers of an education provided by institutions, undermining the various social partners in their capacity as proposed in the 45th session International Conference on Education (1996).

Encouraging the commitment of all partners such as teachers and their organizations, students, upon moral and spiritual, family, business, media and intellectuals, artists and scientists to contribute actively to the creation of a school understood as an active center of learning, intellectual, moral, spiritual, civic and professional adapted to a changing world.

Synergies from the formative interaction between these two types of spaces (pole school and territorial pole) with different educational and social responsibilities, but complementary, forces the thinking of education in full within a territory (in terms of physical and social) articulating policies and lines of action that should be integrated, thus enabling approaches carry out in conjunction.

Moreover, the net of thinking about the school presents itself as a way to solve the so-called "school crisis", about which some Portuguese authors reflect (Canário, 2006; Afonso, 2003; Antunes, 2004; Barroso, 2003; Formosinho, 2005).

What is at issue today is whether the "school crisis" is essentially a crisis of *efficiency* and, therefore, can be resolved in a functionalist manner, or whether it is a crisis of *legitimacy*, which implies that is not likely be resolved only within the school system, not only seen as a problem school. (Canário, 2006, p. 60)

This dimension of the opening of school, in its various aspects, is central in the processes of change and innovation *in* the school *and*, once they are organizations with the capacity to improve, but that hardly could do alone.

The definition of comprehensive education includes various approaches. To develop this argument, it becomes necessary to define education as an integral concept related to the development of substantive capabilities of individuals to promote greater equity and social justice. It is supposed to be a quality education for all and articulation of public policies in health, welfare, culture, sports, and finally, the set of policies needed to educate citizens and encourage effective forms of social cohesion that are the basis of a more cohesive society, pluralistic and democratic.

The school is the starting point for any process of developing comprehensive education, given the high capillarity of the school network, generally distributed throughout the country, in urban and rural areas. The challenge is: to what extent the school is being able to build bridges between formal and comprehensive education? The school is encouraging the construction of bridges, internal and external to it, for the building of networks that allow for comprehensive education?

It is considered that today the formation of networks is a key incentive to the advancement of knowledge and organization of society. The advancement of knowledge depends increasingly on collective work. Unlike the knowledge produced in the past, especially that valued the individual scientist, today the development of science and technology is the fruit of many networks, which are intertwined. The same dynamic increasingly stronger new forms of social organization that differ from classical forms, such as political parties and unions, and go beyond ideological cleavages and / or class, taking a key role in transnational advocacy and suprapartisan, as the environment.

However, the schools often have difficulty leaving their own walls or even build bridges internal to the school to encourage the formation of knowledge networks and media. The school may even want to change and innovate their routines and practices, encouraging interactive networks that strengthen the integration and articulation of public policies. But there are bureaucratic, institutional and organizational issues that tend to hamper the construction of bridges needed to strengthen the networks that sustain a policy of comprehensive education.

Promoting holistic education is not a simple task, but a great challenge. The building is a process that requires much effort and dogged persistence. First, comprehensive education has to do with a set of activities that go beyond the formal curriculum.

It has to do with the fact that the school build bridges and strengthen networks of integrated action. In other words, much depends on management style, leadership of directors, incentives for community participation, the school team. But it also depends on the work done by teachers.

The teachers' work consists of various activities that are made to organize a collective way in which teaching and learning takes place. It is not restricted, therefore, the contact face to face with students, nor is it restricted to individual relationship with each student. The work of teachers is linked to the structure of institutions, with emphasis on the place of power relations. It is also linked to forms of interaction that regulate the action of teachers with other people, be they colleagues, administrators, managers of institutions, students, and family or partner institutions.

CONCLUSION

Given that culture is the knowledge that people use to generate knowledge and interpret their experience, we intended to understand, from within, the behavior and ideas of the members of a group. Instead of searching for a subject to observe, we tried to play the role of an informant from the group culture. Several implications of these ideas in education, when considering the perspective of ethnographic research, occur particularly with regard to differences between the work of anthropologists and researchers in education. Also, it should be noted: first, the need for the use of theories that consider the social and cultural aspects of interpretation and discussion of results; secondly, the need to take into account the different elements that make the lives of students and school teachers, not by isolating the activity of these elements. These ideas are coming from the perspective of Lave (1988) by focusing his research on the nature of daily activities and relationships between the social system and individual experience.

We tried to understand which were / are the knowledge the subjects mobilize and research to produce meaning in order to compose a repertoire of learning that underlies and sometimes rebuilds their actions as professional teachers. It gave the opportunity to understand how we can make another history of education and teaching, which is full of possibilities.

The sense in continually pursuing new opportunities for action and others are necessarily tied to search, incessant, to offer students a quality education even better, a formation that extends the repertoire they carry, allowing them to act independently, creatively and critically face of the reality they experience.

The educational process whether formal or non-formal is always a social action, since it is based on relationships established between individuals (teachers and students) who become apprentices from each other. There's no escape from sociability, and education, by itself, and intensifies already presupposes that action.

Being a social work, education is not neutral, acting directly on the company as it transforms the relations between individuals. It may thus be contributing to a reproductive dominant ideology, critical eye, or can be liberating, when formed by its staff and focused on building awareness of responsible in a humanistic view. Therefore, if education is intended to build citizenship is within its premises a culture of cooperation among individuals. To educate is to raise awareness of the acts committed and take responsibility for them, seeking continuous improvement of people, which results in the formation and transformation of society as a whole.

It happens in the space of social relations. In the case of a cooperative organization, these relations are based on the interests, needs of its members and objectives of the association. This educational process is historical and follows on from generation to generation, always occurring mutation and adaptation necessary for the accumulation of culture and knowledge generation dialogically, in the interaction of individuals, seeking consensus and understanding of all with regard to social relations, to life goals, work, or in relationships that are woven in the act of living.

The relationship between cooperation and education takes place in social practice, human relations throughout the experience and exchange of experiences. All people should relate to unify the act of educating the relations between individuals within a society. The co-participation in education is the responsibility of all members of society, since we are grassroots and co-receptors at all times of social transformation and universal consciousness.

At home, in the street, at church or school, in one way or many, we involve all parts of life to education: to learn, to teach, to learn-and-teach, to learn to do, to be or interact. Everyday life mixed with education.

The human being educates and is educated in the way he lives in society. And it is through education the he gets a sense to his life, through manifold influences, to the extent that you live and learn in society. Even indirectly, in an informal way, each person helps the formation of consciousness of others. Therefore it is a practice that affects each other.

Pierre Lévy (1999) states that,

> Education as social action or social practice appears as an action between individuals or as a practice on others, seeking to influence them in their ideas and their values, their ways of thinking, to interpret social life, especially the reality of cooperative suggesting or leading them to conduct and worldview in favor of the cooperative nature of the practice. (...) In addition to the different roles that education practices can play in the organization and operation of a cooperative school, it poses the challenge of this production of knowledge, or the collective intelligence (p. 29).

Thus knowledge is a collective construction, relying on the school as a place for this process. Today the school has a far more evolved as the enhancement of human being; it considers the student's participation in the construction of their knowledge along to others, but, in practice, this is extremely difficult of being made.

The school practices are isolated from theory, and that is where change is needed, urgently. An emerging alternative is to link education to practices of cooperation. Thus, qualitative changes in the educational proposals will not be effective if it does not include the know-how that was collectively, and long-accumulated by the teachers. These changes will not be effective if they don't go deep in the structures that organize the work of teachers, including those related to power relations and economic constraints. Without it, attempts to change are at risk, namely not consolidating new possibilities, or being swallowed up by practices or simply by promoting superficial changes.

Teachers are subjected to a series of prescriptions for various orders that tell them what they should and should not do. In short, what a teacher does and can not in any way, exclusively the result of his individual will. If there is a field of possibilities within the reach of the actions of teachers and whether it is necessary to focus on ways that this field can take, it is also prudent to consider that these actions will actually be creative if they are supported by structural transformations that generalize and institutionalize the innovations.

Thus, taking into account what the partners already know and what they do only because they collaborate, the fabric of the comprehensive education networks leads us to consider the integral education in a positive manner and not as yet a strong requirement that falls on the shoulders of already overburdened school.

The value of this network of instances in which we teach and learn can lead us to conceive education as a whole broader process that has different actors and in which the school occupies a central but not exclusive. Schools and educators have the responsibility to train people for social life, but will never be enough. This is exactly why they can open up to other bodies and actors, adding to the generalization of training processes they perform.

The school as a learning organization, as a learning community, including not only students, but all its members, is today a central idea for change in a society that requires attitudes and dispositions of lifelong learning, where learning is individual be framed and promoted in the context of organizational learning. Here that cross different perspectives that have contributed to innovation in educational practices, *curriculum development, school-based training focusing on school and review school-based or institutional self-evaluation*, pointing out that this centrality of the school does not mean isolation, by otherwise requires and needs of external openness in seeking the establishment of support, partnerships, training networks that allow you to increase your learning potential, learning from other legal institutions, cultural associations, social and economic.

The new organizational paradigms suggest a reform in thinking and propose a challenge to school: tackling and take the complexity. Unlike adapt to the changing context, the idea is to create a flexible environment in school, aware of the complexity of education, open to change the endless search for better answers to the problems of students, parents and teachers. The school as a place of living and working in a school is moving as well as the context is in motion.

Therein lies the importance of bringing networks into the school because it innovates, enhances a new view and perspective of the world. Networking allows us to leave our place and get to know the other's place. It also allows to learn how to build a common place centered in what unites us, and not to fight for what divides us.

An innovative actual reflexive, creative and open practice aims to implement concrete actions that promote interdependence, reciprocity, cooperation, participation, exchange of experiences, collective and shared efforts exchange between different education systems and other organizations to promote events for study; and reflection on educational issues, which are part of knowledge construction. This is a challenge to be embraced in community, through a historical and social perspective, to weave networks in education.

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404 - Instrumental Group Teaching: An Agenda for Democracy in Portuguese Music Education

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Abstract: The Portuguese system of music education has long been characterized by the existence of educational subsystems (generic, specialized and professional) that stem from different philosophical foundations, develop different pedagogical strategies and aim at different artistic goals. The fact is that students in the generic subsystem seldom learn how to play an instrument or read notation, rarely have their musical aptitudes tested and almost never receive appropriate training and music vocational counseling. This article focuses on theoretical and research foundations for the proposal of instrumental group teaching as an agenda for democracy in Portuguese music education. The concept of music as a sort of "external body of knowledge" than can be understood and appreciated by everyone without actually learning how to play, sing, read or compose music is rejected on the premises of philosophical incongruence. Promoting aesthetic appreciation of music without its practice perpetuates the failure of generic music education.

Keywords: Music Education; Democracy; Musical Instruments; Group Teaching

INTRODUCTION

The existence of three subsystems of music education in Portugal (generic, specialized and professional) represents a particular educational case within the national curriculum. No other subject or area of knowledge exhibits such curricular complexity in the Portuguese educational system. For that reason, no other subject presents itself to citizens in such a variety of possible paths: students can study music in the general school, in a conservatory or academy or also in a professional school. However, these multiple options are offered at different age levels, and do not result from an integrated or intentional perspective of music education policy, but rather from a quite casual collection of historical decisions concerning different educational institutions that coexist today (Vieira, 2006). The desired articulation between the subsystems (which is actually announced in several legislative documents that regulate them) is not efficient, thus frustrating any reasonable expectation for good musical aptitude detection and vocational counseling (Vieira, 2009).

MUSIC EDUCATION FOR ALL: BRIEF HISTORICAL OVERVIEW

The generic branch of music education, as we understand it today, is rooted in the establishment of the public system of education itself. After the introduction of music in the curriculum of the University of Coimbra in the 13th century, the opening of Jesuit schools in the 16th century was another important moment for the democratization of schooling in general, and of arts in particular. During the 18th century, and under the influence of French Illuminists, the Marquis of Pombal (1699-1782) expelled the religious orders from Portugal. New schools emerged, in which women could also study. Luís António Verney, a "*estrangeirado*" (literally a "*foreigned*") who studied in France contributed to the opening of "low schools", which were open to everyone. The curriculum in these schools included music (Verney, n/d, 123-149). During the 19th century, which was an era of political instability and confrontation with the new liberal ideas, several attempts of school reform were made, but only a few had music teaching in consideration. On the other hand, the 19th century saw the creation of the first music conservatory in Portugal (the Lisbon conservatory in 1835, which was followed by the creation of Porto conservatory in 1917 and other conservatories in the 1960's). These schools became the only schools that provided a consistent music education curriculum, a situation that is still valid today.

The change from the 19th to the 20th century was a period of strong nationalistic movements all over Europe. The majority of national anthems was composed during the 19th century and 20th centuries and Choral Singing emerged as an important means to stimulate national feelings and cohesion. In 1906, music (which

was presented in schools as "*Choral Singing*") was introduced in the curriculum of the recently created *Liceu Feminino Maria Pia* – the first high school for women in Lisbon. This subject was seen as a "feminine subject" that, unlike other subjects, had only qualitative grades and evaluation (and not quantitative), such as "bad, mediocre, sufficient, good and very good" (Artiaga, 1999, 58). Choral Singing was introduced in all the other high schools in the country in 1918 and the school programs produced by the government underlined its importance for aspects such as "voice education", "aesthetic education", "development of nationalistic feelings", "contribution for moral and civic education" and "for the development of solidarity" (p. 58). The "coup d'etat" of 1926 inaugurated a period of dictatorship that lasted for more than forty years. During this period, the abovementioned goals for the Choral Singing subject were reinforced. Although some aspects showed improvement (evaluation, for instance, started to be qualitative) the contents of Choral Singing remained highly "non-musical". On the contrary, the main goals were more related to social and political messages that the Government wished to pass through the texts, than to music itself. Choral Singing was, therefore, used a means of governmental propaganda – a way to glorify Portugal and foster patriotic feelings. At this point, in terms of music education, the country was, therefore, divided into schools that taught music, and schools that taught music as a means to learn something else.

Although the generic branch of music education has deep historical roots, the idea of music as an autonomous subject, with its own intrinsic value, and accessible to all students in public school is very recent. Palheiros (1993) dates it to the introduction of the "*Educação Musical*" course in the curriculum of 6th and 7th graders in 1968. For this course the government created the first official programs with specific music goals, instead of placing it at the service of politics or ideology. The 1960's and the 1970's were also very important for the development of music education, due to the visit of several foreign music pedagogues and composers who were invited by the Portuguese Association of Music Education (APEM). Methodologies such as the ones proposed by Orff, Willems and Dalcroze were presented in numerous workshops and started to have a strong impact in Portuguese music classrooms. Notable composers such as Murray Schafer and Egon Krauss were also invited with the specific purpose of fostering a "more musical pedagogy" in portuguese music classrooms. The workshops were attended by many teachers, as Macedo (1978, p.20) testifies, for example, in her report about the workshop "Sound environment and music creativity" led by Murray Schafer. This workshop was attended by 80 teachers and students, from Porto, Matosinhos, Vila Real, Chaves, Amarante, Lisboa and Braga, among other regions.

The 1970's were, indeed, a period when Music Education as a school discipline started to focus on specific aspects of the musical language and on the development of creativity and aural discrimination, and no longer functioned as a mere vehicle for the transmission of other ideas, concepts or propaganda. This was, undeniably, a great step towards the democratization of music knowledge and of the musical education of the common citizen who did not attend a conservatory.

However, the lack of preparation of the conservatory-trained music teachers to teach big classes in the generic schools was a sign of the big difference between the music education offered in the specialized and generic systems of music education. In fact, the music curriculum in the conservatory was and is mostly focused on individual (musical instrument) instruction, whereas the generic school was and is trying to "educate the masses". On the other hand, the new music education pedagogies made known to Portuguese teachers in the 1970's were directed to group teaching and served as pedagogical training for specialized musicians who started to teach in general schools. The impact of those pedagogies (such as Orff, Kodaly and Willems) was, therefore, clearly greater in general schools than in the conservatories, where they were restricted to the "*Music Education*" or "*Music Initiation*" class subjects. "*Instrument*" individual classes, "*Music History*" classes or "*Composition*" classes in the conservatory remained obviously untouched by this "group pedagogy revolution".

While the public school was gaining access to music education, the contrast between the pedagogical practices being adopted there and the conservatory pedagogical models became more and more evident. However, no psychological, pedagogical or social reasons could be given for such pedagogical differences (Vieira, 2006). Egon Krauss alerted for this fact in a 1974 conference in Portugal, entitled "*The teaching of music as a compulsory subject in primary schools*" (*Author's transl*.). His observation was so clairvoyant that it can still be seen as meaningful today:

> *The dangerous process that converts the subject of "music" from a compulsory subject in all schools into a subject that is only available to a few more musically apt students becomes a serious basic educational problem. In general, the so-called "talented students" are students that were musically advised at the appropriate time, but not by the general school system of music education. For these so-called talented some countries created special institutions: schools or educational branches of*

music education, secondary music schools, specialized higher music education schools, special music schools for young people, a.s.o. All these institutions aim at compensating the lack of music education in general primary schools, in order to ensure a new generation of music teachers for the next generation. Music Education for all and professional music education are, however, two completely different problems. The efforts made by some countries to ensure specialized music teaching for children with a music vocation or talent were already a consequence of the abandonment of music teaching in the primary schools and its transference for specialized schools. A music pedagogy concept of unilateral promotion of talent and capacity accelerates the fall of general education and promotes musical analphabetism (pp.1-2), (Author's Transl.).

It is important to underline that Krauss was not opposed to the existence of specialized schools and conservatoires that could "go beyond the music education administered in primary schools" for "students with a special inclination for music" (p.2). What the composer and pedagogue defended was that "more important than the promotion of talents was each child's right to music education" (p.3). In fact, the author defended that "human beings who have had access to systematic music learning experiences at a young age are almost always '*talented*'" (p.2). The curricular irony pointed out by Krauss, and that should also be questioned today in Portugal, is that conservatories and academies, as vocational music schools for the talented, may actually not be attended by the most talented students. Therefore, the promotion of talents should start with the principle of equal opportunities.

Two strategies were developed in Portugal since the 1980's in order to make the access to formal music education more democratic: the "articulated system of education" (Portuguese: "*Regime Articulado*") and the "cultural enrichment activities program" (Portuguese: *Actividades de Enriquecimento Curricular*). The "articulated system of education" was first promoted in 1983 (Law-Decree 310/83, Art. 6, nr.1) in order to reinforce the connections between the general and the specialized schools, particularly in what the students attendance was concerned. The "articulated system" allows the student to study in both schools (regular subjects in the general school and music subjects in the conservatory or academy), and it represented a great increase in the number of students in conservatories and academies up to today. It also represented a clear improvement in terms of expansion of specialized music teaching towards the sphere of the general schools. This desirable approximation between the generic and the specialized branches of music education (pointed out as a research result by Vieira, 2006) has been thoroughly studied by Pacheco (2008) in the case study Masters' research project "Music Education in Articulated Attendance at the Vale do Sousa Conservatory: Vocational or Generic Function?" (*Author's transl.*). *Articulated attendance* of both the general and the specialized schools is seen in this case study as an optimal way to foster democratization of music education under the present circumstances in the country. The "cultural enrichment activities program", as a music education democratization strategy, emerged tentatively in the Basic Law of the Educational System (Law-Decree 46/86), (Portuguese: *Lei de Bases do Sistema Educativo*"), and evolved through the years, under different legislative improvements, up to its effective creation with *Despacho 12591/2006* (Ferreira, 2009). The concept underlying these "cultural enrichment activities" was the offer of extra artistic education, sports or foreign languages to the students in the general schools. The legislation instructed, for instance, that the students must continue to attend music in their regular generalist classes with the general and/or the specialized teacher, but also have access to optional music classes in the context of the "cultural enrichment activities", usually after school hours. Ferreira (2009) has concluded that the optional and leisure nature of these activities, alongside the fact that they tended to replace the regular compulsory music instruction in the general schools has actually led to a decrease in the presence of music activities and music education in the schools, thus constituting a step back in the democratization process. In a word, the 1980's and the 1990's have witnessed both improvements and failures in the process of democratizing music education, of making a consistent and systematic music education curriculum more open to all students in the country.

INSTRUMENTAL GROUP TEACHING: A STEP FURTHER IN THE DEMOCRATIZATION OF MUSIC EDUCATION

Despite the ever-increasing number of students enrolling in conservatories and academies under the "articulated system", particularly after *Despacho 12591/2006*, the fact is that the vast majority of students only has access to the music education offered in the general schools. Despite the dilution of differences between music education in the general schools and specialized schools due to the increasing similarities in teacher training degrees for the different branches of music education, the fact is that teachers still tend to conform to the generic or the specialized branches and adjust their teaching strategies and pedagogical goals according to different ideals of education and different social purposes (Vieira, 2006). Despite the issuing of

laws that encompass all branches of artistic education and try to promote the aesthetic education of all citizens, aptitude detection, and the democratization of artistic performance practices (such as Law-Decree 310/83, Law-Decree 344/90 and Law-Decree 6/2001), the fact is that the pedagogical practices in music education classes in the general schools remain quite different from the pedagogical practices in music classes in conservatories and academies. This is awkwardly so also at the elementary school level: general schools provide "general music education" and specialized schools provide "specialized music education", even at an early age. This fact contradicts the traditional concept of "specialization" itself: in other school subjects specialization is the natural consequence of a few years of study and vocational pondering and counseling (Vieira, 2008). In music, children can officially choose specialization (or have someone choose for them) as early as 6 years old, when they can enroll in a conservatory or official academy. This, of course, bears no relation with children's music aptitudes and their detection. However, it shows that the specialized system of music education is built upon an innate perspective of talent, a perspective that justifies the attempt to minister a specialized training as soon as possible to the supposedly talented children.

The major difference between music education in general schools and in specialized schools can be found in instrumental learning. General schools rely on the paradigm of aesthetic education (Reimer, 1989); specialized schools are focused on performance (Elliott, 1995). General schools promote aesthetic contemplation of the work of art, aesthetic understanding of an outside object; specialized schools promote the production of the work of art itself, aesthetic creativity and embodiment of the art piece. The concept of music as a sort of "external body of knowledge" than can be understood and appreciated by everyone without actually learning how to play, sing, read or compose music should be rejected on the premises of philosophical incongruence. In fact, music education in the general schools might be centuries behind compared to foreign language learning. Separating an education system that promotes aesthetic contemplation (and the consequent ambiguity of an integrated perspective of arts learning at an early age) from an education system that fosters music literacy might be as social unjust as training a group to play for the other group to listen. Babel *versus* understanding; chaos *versus* cosmos. History shows that this sort of curriculum structure dates back to the early pre-Christian Jewish communities, and could be found in ancient Greece (when the slaves were the ones who knew how to play music for the masters - who couldn't play a note, but were very happy to listen and appreciate.).

Small (1996, 184) underlines that this notion of schooling as transmission of an abstract body of knowledge pervades the entire system of education, in many school subjects (from science to visual arts, from geography to music). The author points out that in music education, as in general education, "the concept of the product is dominant" (p.193). However, general music education looks at music as the product to be known, as the work of art to be appreciated; specialized music education, on the other hand, looks at music as the product to be made, to be produced, to be interpreted or composed.

Instrumental performance and instrumental learning, however, pose a number of difficulties for the public school system. They suppose the existence of musical instruments for all students and the support of specialized instrumental teachers whose training is long and strenuous. The general schools have relied mostly on the Orff *instrumentarium* (with the support of the corresponding teaching methodologies) and more recently on the guitar; instruments such as the piano, violin, cello, double-bass, trumpet, clarinet and many other orchestral instruments, being much more expensive, have remained a study privilege of the conservatory and music academy students.

Instrumental group learning, therefore, emerges as the next step further in the process of democratization of music education in Portugal, especially in the early stages of development and schooling. Financial reasons may support the promotion of music instrument learning in a group context; in fact, the possibility of hiring one single teacher to teach a musical instrument to many students at the same time makes it highly predictable that group methodologies of instrumental teaching will increasingly be adopted for not-so-scientific reasons. Luckily, however, a few studies are emerging, particularly in the United States and Brasil, that show that instrumental group learning can be highly effective, if not more effective, for particular ages and under special circumstances (Fisher, 2010, Coats, 2006, Cruvinel, 2005, among others).

Portaria 691/2009 was the first Portuguese government decision in that direction. This legislative document introduced the obligation of instrumental group teaching in the specialized schools, suggesting that the instrumental group teacher should now replace one of the two weekly individual lessons by a group lesson for at least two students. Despite the professionals first alarm response, the specialized schools have been implementing the new directions systematically and under the supervision of some universities pedagogical practice directors.

A few academic studies are now emerging in the country trying to investigate and describe the individual, pedagogical, artistic, social and political potentialities and disadvantages of instrumental group teaching and

collective learning in different pedagogical contexts and age level groups. A research team of the Institute of Education of the University of Minho, in Braga, is developing a research project that intends to question the political and curricular branching of music education in Portugal at the elementary school level, and foresees instrumental group teaching as a possible solution for the improvement of music education and the citizens music literacy and musical aptitude detection. The musical instrument is seen as a possible means, and not an end of music education itself. Considering that there are no such things as "generic music" or "specialized music", and that it is not possible to divide students into "generic" and "vocational", at least at an early age (Vieira, 2009), the research project aims at the construction of a strong theoretical frame (in the areas of pedagogy, specific didactics and curricular policies) that might sustain instrumental group music practices in the generic and specialized public schools. Different case studies and action-research projects are being developed in specialized and generic schools, at the 1st Cycle (6-9 year olds) and 2nd Cycle (10-11 year olds), involving group teaching of guitar, piano, flute, strings, orchestral groups and voice. Although these projects are not yet finished, it is already possible to affirm that instrumental group teaching will be an important part of the future of music education and music literacy in Portugal.

CONCLUSION

The real power of music lies, not in contemplation, but in its practice; not in listening only, but in playing, singing and composing. Music is a language that needs to be spoken and not only heard. One hears better when one can play, just as one understands better when one can speak. The Portuguese system of music education has perpetuated an artificial division between branched subsystems that overemphasize listening on the one hand, and performing on the other hand. Instrumental group teaching and learning as a pedagogical practice might foster a performance approach in generic schools and promote collaborative strategies and aesthetic contemplation in specialized schools, thus bringing them closer together in nature than any "articulated" system might have done before. It might also contribute to a more realistic process of music aptitude detection and vocational counseling, by allowing students to experiment more closely an effective musical practice for a few years, before deciding whether or not to enroll in a specialized school. From the individual standpoint, instrumental group teaching and learning might provide a special music environment where multiple feed-back can be offered, and where peer-learning can stimulate decision-making and increase motivation.

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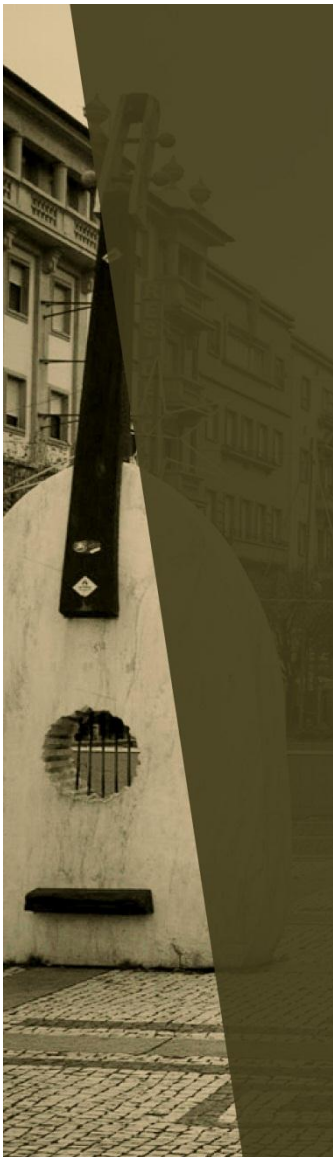
THEME 4
Teaching in a Digital Culture

7 - Synote: A Free Collaborative Multimedia Web Technology Helping Teachers and Students Transform Teaching and Learning in Schools, Colleges and Universities

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Abstract: While users can easily bookmark, search, link to, or tag the WHOLE of an educational recording they cannot easily find, or associate their notes or resources with, PART of that recording. Synote is a free web-based application that enhances student-centred learning allowing synchronisation of transcripts and slides and student or teacher created notes with educational recordings. Notes/'tweets' taken live on mobile devices using Twitter can be synchronised with the recordings of the class. Teachers and peers can give feedback linked to appropriate moments for recorded tasks. Synote's synchronised transcripts enable the recordings to be searched while also helping support non-native speakers and deaf and hearing impaired students as well dyslexic students while the use of text descriptions of video or images helps blind or visually impaired students. Synote has been used successfully in schools, colleges and universities worldwide with students with a wide range of languages, abilities and disabilities.

Keywords: Multimedia, synchronized, annotation, recording

INTRODUCTION

Synote has been developed to overcome the problem that while users can easily bookmark, search, link to, or tag the WHOLE of a podcast or video recording available on the web they cannot easily find, or associate their notes or resources with, PART of that recording (Whittaker et al 1994). As an analogy, users would clearly find a text book difficult to use if it had no contents page, index or page numbers. Synote (Wald et al 2009) is freely available and uniquely can use speech recognition to synchronise audio or video recordings of lectures or pre-recorded teaching material with a transcript, slides and images and student or teacher created notes. In 2009 Synote won the EUNIS International E-learning Award and was described by the awards panel as the most exciting educational innovation they had seen for many years. The system is unique as it is free to use, automatically or manually creates and synchronises speech transcriptions, allows teachers and students to create real time synchronised notes or tags and facilitates the capture and replay of recordings in any media format and browser and stored anywhere on the web. Synote has been developed and evaluated with the involvement of users. Figures. 1 & 2 schematically show the Synote system while figures. 3 and 4 show screen displays of its interface. Figure. 5 shows the manual transcript editing interface with clock icons indicating synchronization points in the text. Figure. 6 shows an example of a print preview that enables students to make a paper copy of the transcript, slides and notes with the synchronization timings. Synote can also automatically create synchronized and searchable audio, transcripts and slides (including titles, text and notes) from Narrated PowerPoint Slides. The synchronised bookmarks, containing notes tags and links are called Synmarks. When the recording is replayed the currently spoken words are shown highlighted in the transcript. Selecting a Synmark, transcript word or Slide/Image moves the recording to the corresponding time. The provision of text captions and images synchronized with audio and video enables all their communication qualities and strengths to be available as appropriate for different contexts, content, tasks, learning styles, learning preferences and learning differences. Text can reduce the memory demands of spoken language; speech can better express subtle emotions; while images can communicate moods, relationships and complex information holistically. Synote's synchronised transcripts enable the recordings to be searched while also helping support non native speakers (e.g. overseas students) and deaf and hearing impaired students understand the spoken text. The use of text descriptions and annotations of video or images help blind or visually impaired students understand the images.
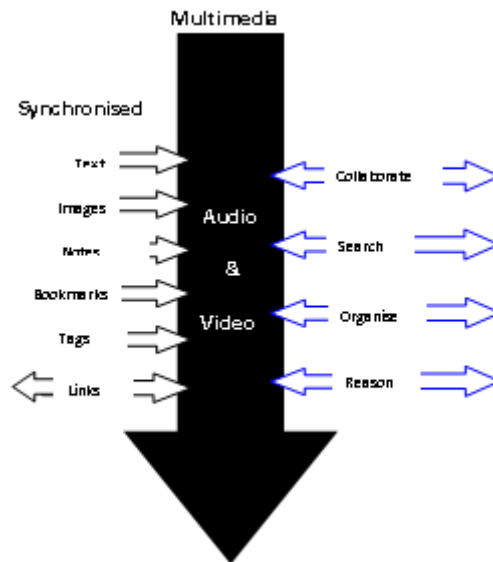
Figure 1: Synote overview
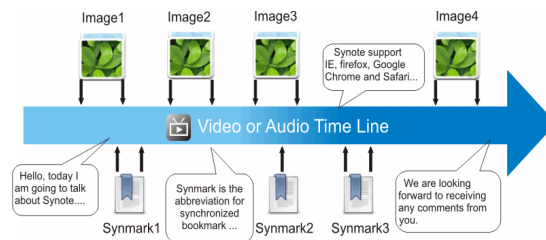
Figure 2: Time-based view of Synote's features
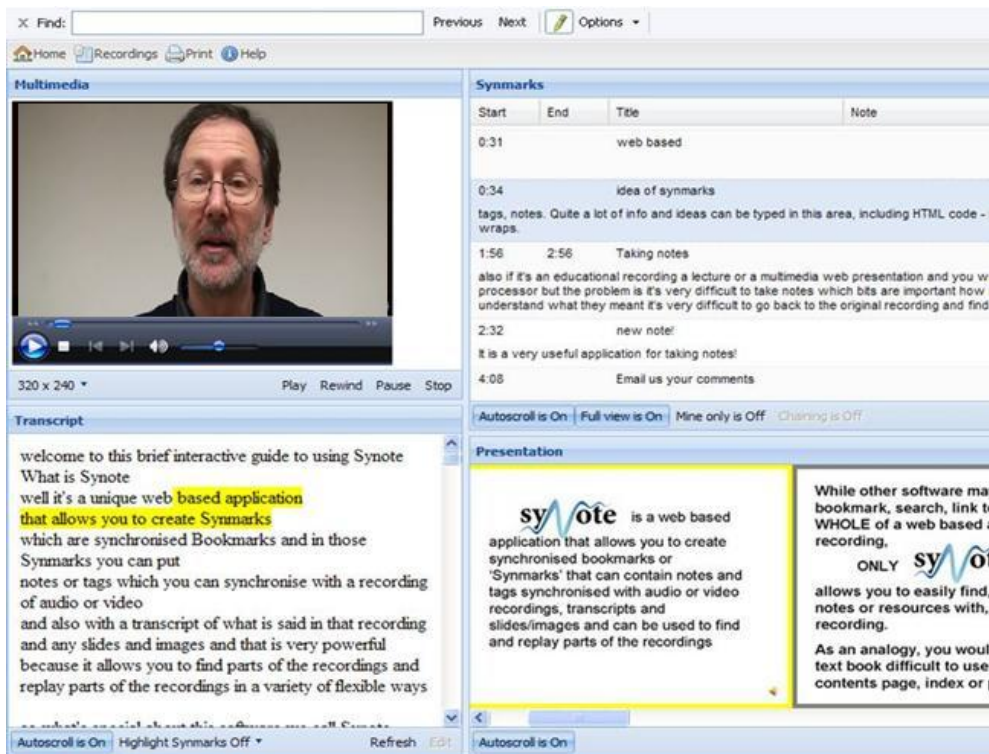
Figure 3: Synote interface
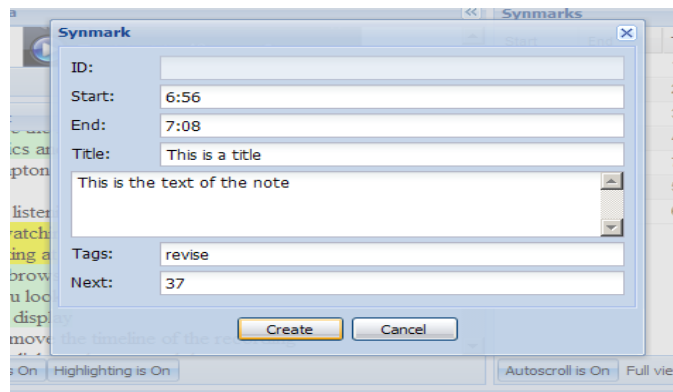
Figure 4: Synmark creation
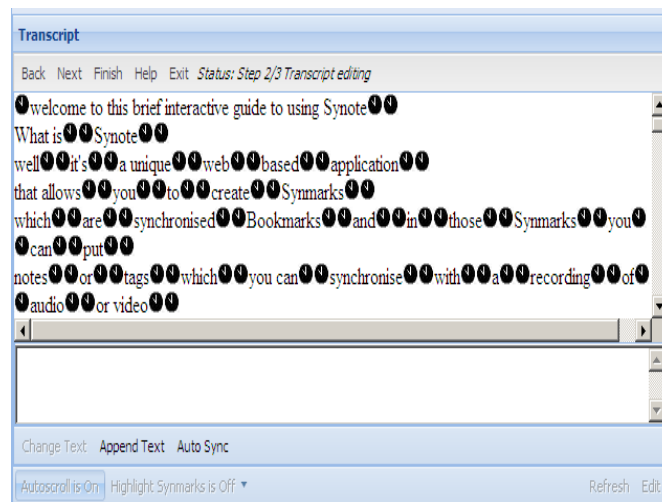
Figure 5: Transcript Editing and Synchronisation
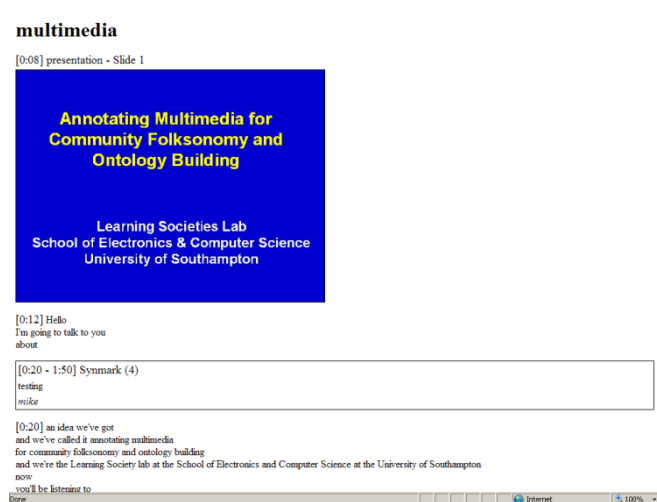
Figure 6: Synote Print Preview

Assessment

It is very common for university students to be assessed on their presentation skills. Typically they will make a short live presentation using slides for which they may be given a mark and some oral and/or written feedback. Presenting live in class is however very time consuming. For example, it could take 10 hours if each student in a class of 60 students presented for 5 minutes, allowing for questions and change over time. It could take 15 hours if teachers and other students provided oral feed back immediately after the presentations. Also while feedback can be given for the WHOLE of the presentation it is not easy to associate feedback with a specific PART of that presentation such as a critical moment(s). If however

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students record presentations Synote allows teachers and peers to provide feedback linked to the appropriate and critical moment(s) (for example '*you were reading from notes rather than making eye contact with the audience*'). The written feedback can be created live or after the event and the student can read it afterwards synchronised to the recording. It is possible also to provide the feedback in audio or video format (e.g. sign language).

It is difficult to assess students undertaking practical tasks (e.g. student nurses in real or simulated wards or student teachers giving real or simulated lessons). Again, while feedback can be given for the WHOLE of the task it is not easy to associate feedback with a specific PART of that task such as a critical moment. If performance on tasks is recorded then Synote allows teachers and peers to give feedback linked to the appropriate and critical moment(s). Written feedback can be created live or after the event and the student can read it afterwards synchronised to the recording. It is possible also to provide the feedback in audio or video format (e.g. sign language).

It is very common for university students to be assessed on their work in a group. Typically they will be asked for evidence for their contribution to a group. It is however difficult for students to provide evidence for their contributions at face to face meetings as typically minutes only record agreed actions. If meetings are recorded students can annotate the recordings at appropriate and critical moment(s). The synchronised annotations can be made live or after the event and the assessor/evaluator can read them afterwards synchronised to the recording and also provide feedback linked to the appropriate and critical moment(s). It is possible also to provide the feedback in audio or video format (e.g. sign language).

It is difficult for students to really interact in large lectures as only a few students will be able to ask or answer questions. 'clickers'/'electronic voting systems' (MacGeorge et al., 2008) are sometimes used to give feedback or answer in-class tests but this requires students to buy these at the beginning of their studies and carry them with them at all times or they can be given out at the start of the class and collected in at the end of the class, which can be very time consuming for the teacher/lecturer. If lectures are recorded, using Synote teachers can pose questions at points in a recording and provide feedback to students' answers. Students can answer after class or use twitter to answer live in class, with these answers automatically synchronised with the recording. Future developments could include the use of synchronised multiple choice questions.

Speech Recognition Transcription

Synote builds on 10 years of Dr Wald's work on the use of speech recognition for learning in collaboration with IBM, MIT and other organisations in the international Liberated Learning Consortium of which he was a founder member. Google announced in November 2009 that they plan to use speech recognition to caption YouTube videos, a feature available for nearly two years for students using Synote. The availability of 'continuous' speech recognition dictation systems that didn't require the speaker to pause between words led to the Liberated Learning Consortium being formed in 1999 to trial real-time transcription for deaf students in classrooms (Leitch and MacMillan 2003). All students liked using the corrected transcripts after the class but the accuracy from spontaneous speech was lower than from dictated speech and the text was difficult to read without the dictation of punctuation. A few speakers achieved 90% accuracy speaking clearly at an even pace. Readability was improved by developing software to automatically break up the text using new lines or punctuation triggered by pauses in the speech. Further developments in collaboration with IBM included automatically synchronising audio, text and PowerPoint slides (which enabled recordings to be searched) and training the system using spontaneous speech rather than scripts. IBM's ViaScribe (Wald and Bain 2007) also provided a programming interface for the speech recognition output to be enhanced through interoperability with systems that; displayed the recognised text on personalized displays on networked laptops in ways users preferred (e.g. colour, font, size etc.); allowed the recognition errors to be correct in real time by one or more people; and merged the text output from any number of speakers each using ViaScribe. IBM more recently developed the speaker independent 'Attila' system that can be hosted on the web, interfaced with other applications and used to transcribe, edit and display recordings created in a wide range of multimedia file formats. Synote can add user created notes and tags synchronised to the recordings, transcripts and slides provided by ViaScribe and Attila. Integration of the IBM Hosted Transcription System with Synote has simplified the process of transcription.

Classroom Use and Evaluation of Synote

Synote is currently being used by teachers in universities in the UK, Italy, Germany, Pakistan, Australia, US and Canada. Since 2007 Dr Wald has used Synote with over 40 recordings of his lectures with synchronised transcripts and slides for his teaching of approximately 200 students on 5 undergraduate and postgraduate modules in The University of Southampton's School of Electronics and Computer Science (ECS). At the

time of writing there are over 420 recordings publically available on Synote (most with synchronised transcripts) for students to use for their learning. These include lectures of colleagues and guest lectures presented by leaders in their field. The provision of a verbatim synchronised transcript enables students to concentrate on learning and take only brief synchronised notes in Synote (e.g. 'revise this section for exam', 'I don't understand this fully' etc.). This feature is greatly valued by all students, not only by deaf students who need to lipread or watch a sign language interpreter and so can't take notes or dyslexic students or non-native speakers who find it difficult to take notes. The fact that Synote is used and valued by all students means that non native speakers and disabled students feel more included and do not have to use special technology. They have said that they do not like standing out from the crowd by having to walk to the front of the class to ask the teacher if they can record the lecture on their personal digital recorder. Also the quality of recording from a teacher's wireless headworn microphone is significantly better than from small personal digital recorders placed at the front of the class. Students did not like retyping handwritten notes they had taken in class into Synote after the recording had been uploaded and so Synote has recently been enhanced so that synchronised notes taken live in class on mobiles or laptops using Twitter can be automatically uploaded into Synote. This process is shown in Figures 8, 9 and 10.

Figure 8: Twitter live notes
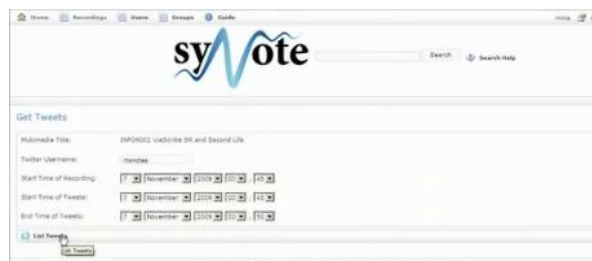
Figure 9: Synote's Twitter interface

Figure 10: Twitter notes displayed in Synote

5 university classes (two 1st year classes, one 3rd year class and two Masters classes) with approximately 200 students were surveyed, with 101 students filling in questionnaires about their experience with Synote. The questionnaire results showed that Synote's design to support a wide range of browsers was justified and appreciated with 54% using Internet Explorer, 31% using FireFox, 12% using Google Chrome and 3% using Safari. The results also confirmed that Synote was easy to use as over 80% of the respondents didn't need to read the Synote guide and rated Synote as 4 or 5 on a 5 point scale of ease of use with the remaining percentage rating it as 3. The design of Synote to provide synchronised slides, video, audio and transcripts was also appreciated with over 80% respondents rating Synote as 4 or 5 for being useful overall as well as its slides, video and audio and transcript also each being useful with averages ratings of between 4.1 and 4.5. A slightly smaller percentage rated the Synmark option and the print out option as being useful with an average

of 3.7 and 3.3 respectively on the 5 point scale used. One student commented that if Synote was used regularly then it would become second nature to use all these facilities. 97% of the students wanted all their lectures to be presented on Synote. 44 students in two of these 5 classes identified in more detail how using Synote affected their learning by indicating whether Synote improved or reduced or provided no change in the aspects of their learning as shown in Table 1.

Table 1

	improve	no change	reduce
learning	95%	5%	0%
attention	61%	34%	5%
motivation	50%	50%	0%
efficiency	77%	23%	0%
enjoyment	66%	32%	3%
results	69%	31%	0%
notetaking	53%	30%	18%
attendance	13%	45%	42%

A few students commented that some students' notetaking skills might not develop if all classes were recorded and presented on Synote. Some students commented that if they were ill or had serious problems they would normally still try and come in to classes because they were worried they would get behind in their work and would be unable to catch up, whereas with Synote they would be able to stay at home and get well secure in the knowledge that they would not miss anything as they could learn using the Synote recording. Students stated that it was important that that ALL lectures were recorded so they didn't find that the one lecture they missed hadn't been recorded. Of these 44 students 37% identified themselves as native speakers, 26% as fluent, 28% as having good language knowledge and 9% as having little language knowledge Non native speakers in particularly commented how valuable Synote was for them as it was sometimes difficult to understand lecturers' speech and note-taking in a foreign language was very difficult for them. One commented that they could get words not understood in the transcript translated by Google. Of these 44 students 7% identified themselves as having hearing disabilities, 2% visual disabilities, 11% learning disabilities and 7% other disabilities. Two overseas students wrote:

> *"Synote gives a very clear understanding of module ...It was very useful for me especially as I am a non English native speaker"*

> *"I think Synote is a very good way to listen to lectures. If for example we miss the lecture we can actually listen to it in our own time or if we didn't really understand the lecture we can go back to it and listen to it carefully. I also like the highlighted part whenever the lecturer speaks on the text so we can't actually get lost within long texts."*

Other students wrote

> *"Synote is very useful for students in general, I think at present all they need is to get used to something like Synote. It will then become second nature"*

> *"Synote is the best system I have ever seen for assistive technology it is very useful for me to understand what the lecturer taught after class I hope all school majors could integrate this system thanks"*

Error Correction
Commercial rates for manually transcribing and synchronising a lecture recording are typically around £2/minute [i] (rates vary dependent on quality and quantity) and so it would cost about £90 for transcribing and synchronising a 45 minute class. For Speech recognition to be used it must therefore cost less than this. The cost of the speech recognition will involve licensing costs as well as server and maintenance costs. Manual correction of errors will also be required if 100% accuracy is to be achieved. The Attila IBM speech recognition system used with Synote had available a US and not a UK English voice and language model (a UK model is currently being developed) and had no facility for adding vocabulary or training to individual users' voices and so typically gave word error rates between 15% - 30% for UK speakers using headset

microphones. This compares well with the National Institutes of Standards (NIST) Speech Group reported WER of 28% for individual head mounted microphones in lectures (Fiscus et al 2005). It is important to note that no student themselves ever correctly recognises 100% of a spoken lecture and that many speech recognition 'errors' don't seriously affect readability (e.g. 'a' instead of 'the') or search results. However if improved accuracy is desired then manual editing is required. Analysis of the data shows that typical lecturer speaking rates varied from 120 – 160 wpm with an average around 140 words per minute. With 30% error rates, editing at an average of 14 corrections/minute takes approximately 3 times as long as the lecture itself whereas editing lectures that have a 15% error rate takes twice as long as the lecture. Synote allows transcripts to be created and synchronised manually as well as through speech recognition and this approach could be quicker that correcting speech recognition errors if these are greater than 30%. In the UK, disabled students (e.g. Deaf students) requiring transcription of recordings can pay for this from their Disabled Student Allowance. Universities do not however routinely transcribe or caption all recordings as they claim it is too costly for them to do so. One possible sustainable approach to obtaining accurate transcriptions could be to devise a system where students in the classes themselves corrected errors they find in the transcript, either voluntarily or through being paid or through being given academic credit. For speech recognition systems to be able to transcribe lectures more accurately in addition to having 'local' (e.g. UK) language and voice models they need to be designed for education rather than for dictation. For example they need to:

- Be speaker independent with a speaker dependent training facility
- Be customisable for different subject domains
- Cope with low quality speech signals and background noise
- Recognise or ignore partial words (e.g. hesitations) or 'fillers' (e.g. 'um', 'er')

If two users simultaneously correct errors in a transcript using Synote, whoever last saves their whole corrected transcript will overwrite all of the other's corrections. Therefore a system has been built to split the transcript into separate short utterances which can be edited as Synmarks and saved independently. These separate utterances can then be recombined as a complete transcript. Research is currently being conducted as to the best method of splitting the utterances comparing using the time/silence between words (e.g. 300 ms), the number of words (e.g. 10) or the total time of utterance (e.g. 5 seconds). We are also investigating whether editors prefer utterances to start with a capital letter and end with a full stop. As correctors of errors may themselves make or miss errors a 'triangulation' method has also been developed to compare the edits of different editors to verify their correctness. For example if two or more correctors make the same corrections then this provides good evidence of accurate corrections. This requires storing all the corrections of different editors rather than just the latest edit. Since paying editors is expensive, methods of motivating users to also correct errors as they read the transcript as part of their studies are also being investigated such as awarding points for correctly amending utterances and subtracting points for incorrectly amending utterances. The system developed takes into account that there are different ways to transcribe the spoken word (e.g. I'm or I am).

CONCLUSION AND FUTURE WORK

Synote has been shown to provide accessible and very well received enhancements to web based teaching and learning for all students and to integrate well with other applications including PowerPoint, Twitter and Speech Recognition Software. While Synote has much to offer even without synchronised transcripts, there could be a huge educational demand for speech recognition transcription if it can be made sufficiently accurate and affordable. Further developments of Synote currently being investigated include methods to enable multiple users to simultaneously edit the transcript.

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18 - Between Cutting Edge and Bidonville: A Reflection about Elearning

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Abstract: In this paper we reflect about the liquid times we live in and its implications in the teaching and learning in universities. The technological realities take place at a furious pace that turns novelty into an ephemeral thing in space and time. We are always runing, not always knowing where to go, if we want to go or get there. The Internet access is uneven and reinforces previous existent inequalities. In teaching using technology, these issues are hardly considered, and the technocratic discourse is multiplied. In cases of institutionalized and conventional elearning processes that use learning management platforms (aka LMS), these issues are obliterated, mimicking a formal education and an obsolete disciplinary compartmentalization of knowledge. The e-portfolio seems to be an alternative to these platforms. If computers are seen as machines of communication rather than representation, it is possible to think in truly *ennovative* ways of learning and teaching.

Keywords: elearning, learning management systems, ePortfolios, higher education

THE WORLD IN WHICH WE LIVE IN

Cutting edge means the razor's edge, ie, the first cutting, the part of the knife that first comes into contact with the object to be cut. We have a technological artifact that is operated by a human subject on an object (which is expected not to be human!). The term was originated in the fifties (Dictionary.com, 2009b) in the anglo-saxonic world, in a context of great scientific and technological development (application of scientific knowledge). The term cutting edge applies to advanced technology and the expression is close to the concept of state of the art, the most advanced technology that is known and done, in a given area at any given time. The term is close to the concept of avant-garde which is more applied to cultural and artistic manifestations.

The term bidonville also appears in the fifties (Dictionary.com, 2009a) and literally means slum, poor construction of housing in major cities. It means, as reality and concept an unplanned urban organization, subject to the constraints that are put to the people who build it, always according to the most basic needs of survival, that will determine its existence.

Languages are alive and their speakers re-invent the words in accordance with the realities they live. The terms cutting edge and bidonville come at a time of confidence and hope for a future of happiness and harmony for the human species and reflect realities that did not exist. This hope was based largely on the belief that scientific and technological progress would solve all the problems of humanity. But this progress was accompanied by slums and 'next door' extreme poverty, that sixty years later continues to grow and to which we are accustomed and have come to familiar terms, mediated by television, while we sit on a couch or on a table of a café when we read the newspaper. We should, however, remember what we wrote elsewhere:

> The comments we just made, either by its content, either by its brevity, could be interpreted as technophobes and neo-luddites. However, they are not. We grew up with technology and we greatly appreciate it: we look forward to the teleporter that will end the anachronistic airports, the same way as we await the automatic writing that will allow direct entry of thought! (Oliveira, 2004, p. 59)

The scientific and technological progress has brought undeniable benefits to our lives and no one dispenses them, neither the rich nor the poor who dream of access to them. All of our well-being is supported by technology. And of all technologies, the most insidious are, of course, information and communication technologies, known as ICT and of which the tic-tac sets the pace of global development.

Between these liquid times in which we live in (Zygmunt Baumann) and the strait-jacket of chronological time, the technological reality is building up at a stunning speed that turns novelty into a fleeting moment in space and time. We are always running, not exactly knowing where to go, if we want to go or get there. Runs the gazelle and runs the lion, as in the African poem written at the entrance of a factory in China (Friedmann, 2006, p. 162):

Event # 6
Offshoring - Running with gazelles, eating with lions.
(...)
In Africa, every morning a gazelle wakes up.
Knows she must run faster than the fastest lion or be killed.
Every morning a lion wakes up.
Knows he must run faster than the slowest gazelle,
or die of hunger.
It doesn't matter if you're a lion or a gazelle.
When the sun comes up, you better be running.

As stated by José Saramago (2009), there is a kind of machine that pushes us all in a direction not very clear but certainly a direction of unbridled and uncritical consumption, dominated by a *hegemonic culture* (Antonio Gramsci), based in reproduction mechanism, always imposed, but often hidden. Hints and imagines Saramago the possibility of all of those pushed by the dynamics of oppression making the opposite gesture and pushing the machine back, challenging the prevailing social apparatus. (Louis Althusser).

The Internet is integrated in this machine but, almost paradoxically, the machine is us (Wesch, 2009): we nourished it and teach it every day! Because invariably, despite the misleading promises of technological determinism, some of us participate and others are left out. Technological determinism sugests that technology can solve all problems, that only technology can solve problems. Thus technology gains a kind of soul, abstract, and becomes an entity with human qualities. The problem lies not in technology but in this perception of technology. It's clear that, at the moment, only science and technology can solve the problems that we have created with them.

The collective intelligence of Pierre Lévy (1997) has not been for all and the efforts made for equity are weak and diffuse. The world of technology is a mirror of the real world. It has no independent history, as it is the result of the creation of productive forces (Karl Marx).

The Internet realities

The global realities have changed a lot over the last twenty years, especially over the last ten years. This is mainly due to the development of information and communication technologies. The Internet supports globalization, but if the Internet ceased to exist from one day to the other, what would happen to globalization?

According to estimates of 2008, there are 6.710.029.070 people (IWS, 2009) throughout the world; 1.596.270.108 people use the Internet and, at March 31, 2009, its penetration rate was 23.08% (ibid.). Who are these people who use the Internet, how do they use it and where do they live?...

Who are these people and how they use the Internet we do not know. We do know where they live, by geographic regions, and figure 1 illustrates it.

Internet Users in the World by Geographic Regions

Region	Millions of Users
Asia	657.2
Europe	393.4
North America	251.3
Latin America / Caribbean	173.6
Africa	54.2
Middle East	45.9
Oceania / Australia	20.8
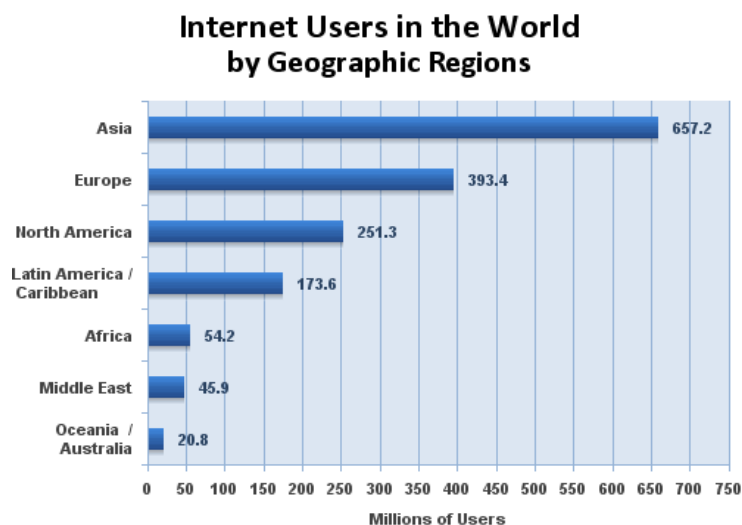
Source: Internet World Stats - www.internetworldstats.com/stats.htm
Estimated Internet users are 1,596,270,108 for March 31, 2009
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Figure 1: Users of Internet throughout the world, by geographical regions (IWS, 2009)

What do these numbers tell us? The obvious is that in Asia there are more people than in other continents and that Europe appears to be the continent where there are better living conditions and therefore easier access to the internet.

However, considering the penetration rate, ie, the number of users relatively to the number of people, the *statistical facts* change substantially, despite their reading being more or less obvious (Figure 2).

World Internet Penetration Rates by Geographic Regions

Region	Penetration Rate
North America	74.4%
Oceania / Australia	60.4%
Europe	48.9%
Latin America / Caribbean	29.9%
Middle East	23.3%
Asia	17.4%
Africa	5.6%
World, Avg.	23.8%

Source: Internet World Stats - www.internetworldststs.com/stats.htm
Penetration Rates are based on a world population of 6,710,029,070
and 1,596,270,108 estimated Internet users for March, 2009.
Copyright © 2009, Miniwatts Marketing Group

Figure 2: Penetration rate of the Internet worldwide, by geographical regions (IWS, 2009).

The position in the *graded list* of continents changes dramatically and highlights the issue of access to equipments and services, which, as we all know and sometimes seem to forget, reflects the living conditions of populations, the level of consumption and the GDP of the countries that integrate these continents. Please note that the superficial analysis made about these statistics - interpreted by the statistical methodology itself - just looks at the geographic regions and not countries, and within these social groups, social classes.

In summary, access to the Internet is not for everyone. And access is not guaranteed to improve the living conditions of populations, human happiness or better and effective learning, understanding effectiveness in education as learning more and better (know how to better apply what has been learned).

And in Portugal? According to the same source (IWS, 2009), on June 30, 2009 almost half the population used the Internet (see Table 1).

Table 1: Internet use in European counties with a population of around 10 millions of inhabitants (IWS, 2009, selected and adapted)

Country	Population (2009 Estimation)	Internet users, last data	% Population (Penetration)	Users growth (2000-2009)
Belgium	10,414,336	7,006,400	67.3 %	250.3 %
Czech Republic	10,211,904	4,991,300	48.9 %	399.1 %
Greece	10,737,428	4,932,495	45.9 %	392.2 %
Portugal	10,707,924	4,450,800	41.6 %	78.0 %
Sweden	9,059,651	7,295,200	80.5 %	80.2 %

If, in one hand, we still do not know who uses and how they use, in the other hand, we learn that for European countries with a population similar to Portugal (around 10 million), the position in the list is similar to the one of Greece and the Czech Republic, and yet lower. For two of the countries considered more developed (Belgium and Sweden), the distance is considerably amplified, allowing us to ask to what extent the investments made by the Portugal governments in this area over the last twenty years have been appropriate. This, assuming that, internationally and in the context of globalization, the use of internet is considered an indicator and factor of development.

SOME MISCONCEPTIONS ABOUT E-LEARNING IN UNIVERSITIES

The misconceptions about the purposes of the university and its rationale multiplying themselves, discrediting the utopia of a public university devoted to the creation, dissemination and knowledge transfer. On one hand, we continue to stress out and to value the research dimension asked of a university professor, demanding, at the same time, to use their time in distance training, fulfilling tutoring functions, almost impossible to accomplish by the number students to keep up with. Doing distance education requires thinking this modality in accordance and organizing the processes so that it can be done with considerable numbers of students.

On the other hand, the knowledge accumulated by generations of educators is, too often, runned over, and methods and strategies of teaching centered in the student are re-invented. What we see is, unfortunately, and in excess, the educational setbacks: lack of experimental and experiential learning; disciplinary clipping too tight for the realities in which we live in; observance of conservative teaching methods, completely anachronistic, as the lecture (magister dixit) as the unique and credible model of transmission of content.

In the case of institutionalized and conventional e-learning processes, that use learning management platforms (aka LMS, Learning Management Systems), the issues refered above are obliterated, as these platforms mimic a formal educational structure and an obsolete, tight and exclusive disciplinary compartmentalization of knowledge.

About LMS

The LMS reflects the rigid curriculum of training courses that are offered by universities and do not propose nor interdisciplinarity or transdisciplinarity, or collective building of a program. Each discipline or curricular unit (as the name itself indicates), is sovereign, independent, has a defined territory and borders. For this to be operationalized, these systems can only be cryptic: the teacher needs to request access to their administrative department, the student needs to have payed his/her fee, the interface needs to be decoded. The teacher dictates, a priori, what is done, how it's done and when. From a pedagogical and didactic perspective, the great advantage of these systems, it is said, is control. The students learning control by quantifying their participation: how many times they entered the system, how long they remained there, how many works they delivered, how many participations they left recorded in forums and chats. These elements are transformed in elements of assessment of learning, in addition to the work done and to exams. They do not seem to provide evidence of learning outcomes or knowledge construction.

It is assumed that these platforms replace presential classrooms since they compromise synchronous and asynchronous communication tools. This is accurate, if we think in a context of distance learning scenarios. In situations of presential or mixed teaching (b-learning), these tools lose a lot of their interest, since they will never be better than presential communication. They do present themselves as alternatives to face to face communication (the nearest being videoconference) and even serve as valuable resources when presential communication is not possible. But here we face, as aforesaid, a situation of distance learning, and it's important to distinguish, conceptually, the terms education and teaching – education is a process of training and transformation of the individual, not confined to formal processes of teaching and learning taking place in universities, intended to qualify students in specific skills and knowledge (translated in degrees). Education exists in universities and in society: education serves the personal development of each and everyone of us allowing civility and cordial relationships among individuals. The concept of education can be divided into multiple variants but it is impossible to be confounded with the concept of teaching.

One of the current ideas about the advantages of LMS is that they provide learning opportunities anywhere at any given time. The famous numerical expressions 24/24, 7 / 7 ... These two expressions are, in our opinion, a mistake and a fallacy, that resemble an advertising speech embroiled in a propaganda speech. Try to fill the famous wheel of time, used in training sessions on time management. Draw a circle and imagine that it represents the 24 hours that constitute a day. It will be filled with our occupations, starting with the most basic as sleeping, eating, personal hygiene, dislocations, until we get to professional duties or study ... With the completion of this exercise, it becomes easier to understand both how we use our time and become aware of the reasons that lead to the inevitable acceleration of people's lives. This means that time is not completely elastic.

Being able to learn anytime, anywhere, is a nice idea to tiller! But, in practice, it needs to be accounted for in people's lives. If before we needed time to study, nowadays this time is also needed. The Internet can break barriers of space but not of time. We can study at home, not spending time traveling, but we really need that time available to do so.

The mere possibility of being able to learn in a 24/24, 7 / 7 system does not guarantee that anyone and everyone can study and, in some way, improve their living conditions.

About e-portfolios

The Internet closes in itself a potential of success and impact in the ways of learning and teaching: serves the distribution, communication and intervention / participation, particularly with Web 2.0 technologies (forget about Web 3.0 or 4.0 and the trend of versions for everything), allowing to overcome the difficulties of access, a real participation.

This potential is based on five ideas that intertwine: the idea of fractal, representing what is and is not immediately visible and knowable; serendipity or the ability to make fortunate discoveries, apparently by accident, considered today as a special way of creativity, or one of many techniques for developing the creative potential of an adult, combining patience, intelligence and sense of observation; the theory of chaos, which, in Physics and Mathematics, is the hypothesis that explains the function of complex and dynamic systems - some specific results are caused by the action and interaction of elements in almost random ways - and that tells us that what people think happened randomly is, in fact, a phenomenon that can be represented by equations; storytelling, or the art of telling stories, a form of art inherent to the human language and to the human condition and, finally, the idea of collective intelligence, coined by Pierre Lévy (1997), which is embodied in the statement by McLuhan (1964) concerning the age of electricity, the final phase of the extensions of humankind, the technological simulation of consciousness, in which the creative process of knowledge is collectively and corporately extended to the whole human society.

These five ideas go hand in hand with the concept of e-portfolio, emerging as a learning technology that can and should operate as a personal space of archiving and management of personal information, such as 'virtual office' (Oliveira, 2004, p. 224) . The Internet was structured, so far, around objects, documents and, in a recent proposal - The Internet Manifesto of Subjects (Eifel, 2009) - it is proposed to be structured around subjects / individuals / people.

The portfolio belongs to the individual! An e-portfolio is a documents and file manager of a person, consisting of files (compilation of documents), views (representation of documents) and services (document exploitation). There are no open e-portfolio tools (except Elgg, Eduspaces nowadays) but there are free tools, although commercial, which allows to build them (figure 3). This is part of the business in the Google enterprise. The Google integrated tools allows us to imagine how an e-portfolio can become.
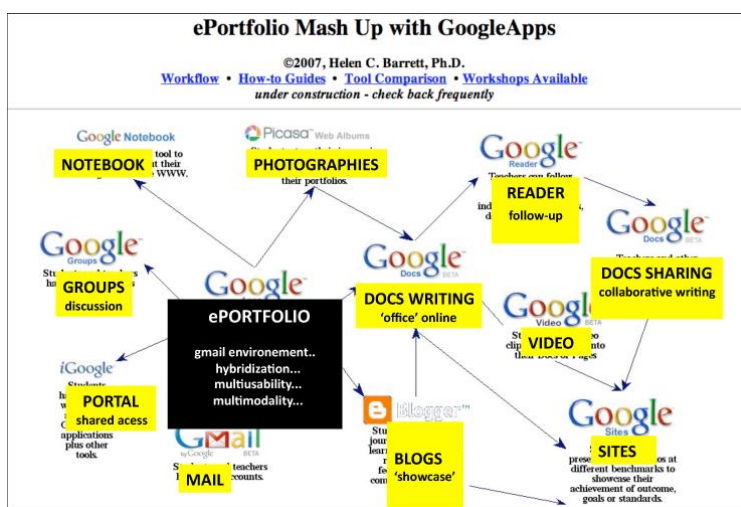
Figure 3: The rationale behind the e-portfolio (adapted from Barrett, 2007 and interpreted)

As we said in another context:

> We still need alternative platforms to these learning management platforms. Probably, e-portfolios platforms that can be used - guaranteed and given credibility - by public institutions. (Paraskeva and Oliveira, 2008, p. 14).

We entrust our money to banks and our personal, financial and health data to the state. Universities could well be true custodians of our learning and our collective sharing. Universities gather the expertise, know how and the necessary conditions to do so and to grant us the file and management of our lifelong learning.

The OpenCourseWare

Following this logic, is all the more important the project OpenCourseWare (OCW) of the MIT (Massachusetts Institute of Technology, http://ocw.mit.edu), which, ten years ago, published openly, the materials used in their courses. In a similar way, it is already possible to access various courses in various areas, in Portuguese (eg http://www.universia.com.br/mit/). As a complement, MIT also has a channel on YouTube, which offers videos of lectures, speeches, interviews, discussions, providing access to specialists and theoretical interventions of high quality. It is clearly possible to self learn through these open courses. There will be no human contact, peer and teachers interactions and no certification. That means that these dissemination processes contribute to the prestige of the institutions and do not withdraw its economic gains. Only by attending the institution can one have access to the certification of knowledge and skills.

We believe that this approach really complements the idea of e-portfolio. Effective distribution systems, such as these, repositories of scientific literature and of contents of educational intent, coupled with the possibilities of communication and management of portfolios in a model of social network, are likely to enable better and more advanced processes of teaching and learning.

CLOSING REMARKS

We are the spider! And we weave the web. Provided that the access discrimination is overcome, with social software systems, increasingly embodying the public square of the new generations (Rasco, 2008), we can truly think in really ennovative ways — which are different from innovative for its unexpected and self-controlled emergence (see Bonami and Garant, 1996) — of learning and teaching, building a society where everyone can participate.

We must use cutting edge ICT to re-invent these forms and not to perpetuate the bidonville. To reproduce dusty models does not help creativity. The Internet enables us to glimpse new scenarios impossible to imagine before and of anarchist inspiration. Trying to entrap it could never return good outcomes. Cryptic and closed systems generate exclusion, just as in life before the internet and in life with the internet.

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20 - Homeschooling: Perspectives of Learning without an Educational Institution Before the New Technologies

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Abstract: After a century marked by the prominence of the state organization, distribution and regulation of education, particularly with the implementation and consolidation of obligatory education, the profound changes that have permeated society contributed to challenge the current state monopoly in terms of public education and the coming of new forms and local schooling. In this process, new technologies have had a key role, allowing to break the physical boundaries and structural taxes for schools. Based on the mapping of relations established between the private sphere - home schooling - and the public sphere - education in institutions – and analysis of the possibilities of these spaces coexist in society, central aim of this paper is to discuss the importance of this educational phenomenon, in particular about the progressive tendencies of learning outside educational institutions and the contributions that the new technologies can offer in this process.

Keywords: Homeschooling, Learning without an educational institution, New Technologies

EDUCATION AT HOME AND AT SCHOOL

The planctarization of human life is a reality today. Morgado (2004, p.110) says it is a social and cultural fact that propagates at an unstoppable speed, primarily through two means: a "triad of science-technology-economy", regarded by many as "the faith of our time "and that" has changed as brain as heart of contemporary society and the media, which diffuse, continuous and effective new ways of thinking and new cultures, very different from those in which we were socialized".

According to the author (ibid.), we live in a world that changes quickly, which has changed the notions of space and time, inundated with knowledge and information that are renewed at an impressive rate and that "appeals more at each time to creativity, innovation and retraining, but where education has not been able to prove itself nor as a public service distributed equitably, neither to accept itself as a formula of compensating inequalities."

It can be stated that changes supervened technological innovations that occurred since the last decades of the twentieth century profoundly changed some aspects of contemporary society, including access and speed in obtaining the knowledge, using, especially information networks available in web. The advent of new technologies in education, in turn, has brought many opportunities to school and school instituted, but also helped to break the confines of this formal education, allowing thoughts turned beyond the borders before the contained space (physical) school.

In a move that, as a simplistic way, it outlines quite obvious, he turned to think of education as a process that could occur in the home, dealing with different classifications from the countries where such practices are beginning to be discussed and implemented. Thus, the education conducted in the home environment becomes known as "home education", "home schooling", "home education", "home schooling or homeschooling, word that the United States of America has to name this new possibility education.

Although homeschooling is the name most often used to refer to this alleged form of education in the household, their translation into Portuguese, can not be taken literally, because it means home schooling, but the processes schooling that occur in private spaces under the responsibility of family members and, so far, without the direct interference of the state.

In addition, the homeschooling on the American model, in general, it is a broader conception of education than just teaching content because the content of a search process of teaching in a more "teacher", related to different perceptions of world, beliefs and ideologies of families who opt for this practice, and is even in the literature on the subject, more rare, the terminology home education.

Register that, among the depositions taken on the matter, is who label this process as "education from the house." This nomenclature stems from the idea, the applicant between the person performing the home education of children and young people in their process of teaching, spend less time at home than the regular students stay in school, because education in the home would include numerous activities outside the home environment, such as those in school are called extra-curricular activities.

Indeed, the nomenclature used to describe the desired new mode of education in Portuguese-speaking countries, particularly in Brazil and Portugal is still not consolidated and are variations of the same terminology in legislation and official documents of the countries in focus. However, when it comes to the education that occurs in the home of students, parents or teachers who contracted the education, they find themselves practices of what is conventionally known as homeschooling, considering that this type of home schooling in the United States America, much can be accomplished by parents as they can hire teachers for those subjects that do not dominate, there are even websites available that registering teachers for this purpose.

In the study in question, we chose the nomenclature of education at home, when we refer to the broader concept and the possibilities to get education done in the home, as well as the specific terminology used by the authors attributed in texts or documents examined.

However, to understand the design attributed to the terminology used to check each one of the words used to refer to the educational process, as "education" and "school", seeking the genesis of his assignment as synonyms, which occurs as the education becomes a prerogative of the school and will be, since closely related to that, being taken as synonymous with one another and, in other words, formal education came to be understood as a process of exclusivity of the school through the school established by various systems of public and private education, which gained hegemony over the offer of education, its seal, legality, assessment and certification.

Thus, while education and school are words commonly used as synonyms, concepts refer to quite different processes, not only by temporal origin that separate them, but mainly because it is considered an infinitely wider than the other, being education the main goal of the school.

The term education is used to describe the process of training and instruction for children, youth and adults, is a process that can occur throughout life. Moreover, education as a process of teaching is characterized by having been present in societies since ancient times, occurring most diverse ways, in different spaces, both informally and through a previous organization. When the educational processes become more complex, clinging to the status of a scientific who set up the sciences and their scope, were set up specific locations for the transmission of teachings, called schools, high schools or colleges, each with their specific. For children, the schools in their infancy had also, in certain contexts, guard duty, to protect the disadvantaged children.

Koselleck (1992) argues that concepts have a history and that are linked to a specific context on which can also act, thereby making possible the temporal variation of the concept. From this perspective, stems from its unique character related to the time of use. So we can assume three times / dimensions of the genesis of the modern concept of education, with reference to the Luso-Brazilian world. The first where the concept of education is unrelated to any formal space designed solely for that purpose. The second it relates to school undeniably, taking on the nickname of "informal" when releasing it, that is, education is only "formal" when held in the school. And the present moment, in which education starts to be thought so disconnected from school, without losing the formality afforded to it as idealizing the processes of teaching and learning.

Education, as well as a broader process that was not always tied to the school, with other spaces considered legitimate for it to happen. However, from the late nineteenth century, now, little by little, becoming an exclusive activity of the school that the family shared with only those aspects of education, taking responsibility, in full, the instructional aspects. This association of education to school consolidated the hegemonic model of the twentieth century, which served well the needs of current industrialization, capitalism and the modernization of emerging companies with multiple creations and inventions of the last century.

Once established the close link between education and schooling, the processes of teaching and learning have become their exclusive competence, using for this, plans, methods, resources and procedures adequate to its collective format, and by age groups.

While some families get in actuality, to consider the possibility of educating their children and relatives in the household, this terminology needs to incorporate new meanings, able to treat the meaning and limits of each term. Thus, education resumes its broadest conception, is viewed as the integral process of teaching and learning beyond the confines of the school, which in turn is understood as the institution offering formal education, based on a system enrollment codes and standards themselves assigned to subjects in stages, which must be met for moving to the next.

Nevertheless, in many countries, the school is recognized as the only legitimate place for the provision of formal education, while in others, formal education is authorized to be obtained at home through a set of tools that are available to Internet the specific manuals for this purpose is a process of education which, though not acquired in school, but that amounts established by the school.

In the case of countries where the domestic space is accepted for the schooling of children and youth, then we can distinguish two concepts that will refer to education as the acquisition of knowledge, experimentation and knowledge of the construction of knowledge: education in schools and education at home, both formalized, since they are officers and status. Homeschooling allowed and regulated in many states is an example of such officers, for which there are elaborated the statutes and rules of evaluation and certification.

Therefore, educating at home this is the case in which the teaching on the knowledge needed to schooling, is performed exclusively in the domestic context, for the family group, characterized by occur outside the official educational institutions, both public and private.

Accordingly, the first step so they can understand the concepts related to education at home, is the definitive separation of the concepts of education and school forged narrowly over at least a century of exclusive hegemony over the school educational processes. Separate them conceptually is no easy task, not the strict meaning of each, in this new context that is already a reality in many countries, but the implicit meaning that load-related tacit understanding that there can be no school education and the belief in losses, and the numerous implications for successful unschooling society.

Although education in the home already has today, many adherents, spread across several countries, organized communities, and especially theorists and researchers to address this issue, there is also a ratio greater than or equal, those who strongly condemn such practices, whereas schooling, with their systems in place, was an achievement of the last century that has brought undeniable progress for society and any alternative that breaks with its format is unacceptable on the grounds that it is necessary to improve school quality, but in no event, unschoolers society.

However, under the excuse of freedom as a basic principle of human rights and freedom of choice as a right of parents to educate their children, hangs up a duel between these two streams, which in addition to the political and pedagogical involved, one can not disregard the prospect of education at home, back to the educational scene as a real possibility, as information technology and communication available closer knowledge of the subject and make its intermediation sometimes unnecessary, breaking with the physical boundaries of school for the concreteness of the process of schooling.

With respect to the supporters of education movement in the house, we can affirm that gain popularity in the early 1980s, especially in the United States of America, and spread across the continents, taking up records in the following decades, experience home education worldwide. According to data presented by Ray (2005, p. 8) in its Worldwide guide to homeschooling, facts and stats on the benefits of homeschooling, in 2002, there would be families educating their children at home in the United States, Canada, Mexico, Wales, England, Germany, Poland, Switzerland, Japan, Australia and South Africa In 2010 these figures amount to more than 2 million children and young people undergoing education at home only in the United States, where homeschooling is legal support to be offered in 50 states, although in some, with very restrictive rules.

Also composed of a different stream, which is nomenclature used unschooling (objection school), or "unschooling" in the strictest sense, the movement would continue to grow significantly, according to the National Home Education Research Institute, author of several research and monitoring analysis of this phenomenon at international level. To do this, could be considered for several reasons, which would point in common, in most cases, opposition to the laws and the system of compulsory schooling and current.

Families who turn to education in the home, so would normally be too different from seeking a training offered by schools, whether for religious, philosophical, contextual, or special circumstances. Yet this perspective, the discourse of proponents of education in the home brings the theoretical arguments based on unschooling, as Ivan Illich and John Holt. Illich wrote Deschooling society (1973) proposed the unschooling of society and said to avoid that government funds were used in this order: the schooling system, destabilizing it, as had been done in the separation of church and state. According to Illich (in Farenga & Holt, 2003, p. 60) ought to amend the Constitution to prohibit the establishment of education. John Holt, in turn, spent the remaining years of his life trying to find ways to create these changes, but realized that most people would never agree to stop funding to government schools, and sought other ways to move toward goal of "empowering" or prepare people to grow up without schooling. For schools it possessed sufficient power "to cause mental and physical pain to children, to threaten them, frighten them and humiliate them" (Holt, 1976, p. 204).

For more involved in the movement, homeschooling is compared to a revolution, as suggested by Lyman in his book The Homeschooling Revolution (2000). The author examines what he calls "the big differences

between homeschooling and public school and homeschooling characterizes as a" popular movement by dissident parents, educators who are teaching their children to read and write at the kitchen table" (Lyman, 2000, p. 115). She said those parents were doing what is considered, so far, an acceptable idea of the counterculture: "committed parents have achieved their goals without much applause and without a penny of government funding." Lyman (ibid., p. 20) describes public education as a "system of keeping a monopoly based on well-organized, financed by confiscatory taxes." It also states that public school children have little or no control over your time or social contacts, and must undergo a series of "draconian rules" state-mandated courses, attendance requirements and groupings by age, with unable to escape the slow indoctrination, or the effect of poorly trained teachers, or rude, and violence from colleagues. Lyman (ibid., p. 23) cites research that helped popularize the modern homeschooling movement, conducted by Raymond Moore and John Holt, in which Holt saw schools as places that produce obedient citizens, boring and unprepared. The author (Lyman, 2000, p. 87) shows that, with respect to the results in the cases studied, regardless of race or family income, homeschooled children obtained higher scores on standardized tests than their public school peers.

It may be seen visiting the numerous sites of homeschooling available on the Internet and as stated by several authors, who are more advantaged social classes who have sought to homeschooling. From this perspective, the education movement in the house is also characterized by a reaction to school sometimes, regardless of quality conditions presented, although the defense speech of homeschooling has used as a recurrent argument, to expose the weaknesses and difficulties encountered in public school. However, this discourse can perhaps be related to the opportunities as measured by "common sense" to advocate for their purposes, than in reality will be their choice of families to homeschooling.

PERSPECTIVES ON HOME SCHOOLING IN THE FACE OF NEW TECHNOLOGIES

According Fernandes (2005), recognition of the school is established, especially after World War II, as factor of economic development through human resources training. The allocation of this function led to its categorization as an obligation of the welfare state and social rights as an individual.

> Since then the school as a forum for formal education is seen "sometimes with great optimism now on in disbelief." In either case, however, she continued to fill most of the concerns in terms of research and theoretical reflection. Fernandes (ibid.) adds:
> The problems relating to education policy - the supply and demand for school social, issues arising from the democratization of education and the operation of educational institutions, public or private, to the difficulties of adaptation of young people to school, seeking answers to the what was called the "crisis" or "questioning" of the school - the quest of solution strategies for these and other problems through the formulation of new proposals pedagogical-didactic or demand for new institutional leaders, among many topics that could evoke have always turned around in the establishment of the school. In recent decades, however, the academic institution, public or private, seems to have lost its leading role, if not its exclusivity in this discussion. The special case of the United States in this regard is very significant. The crisis of educational policies and outlined the difficulties that confront the schools seem to lead to the upgrading of teaching modalities that had lost its historical validity, such as home-schooling. The desire on the part of families, educational efficiency, permanence of values and physical security, takes recourse to the education within the home, which is reinforced by the current provision of computer information sources (p.4).

The optimism that was sustaining the belief in education has, in recent decades, given rise to severe criticism of the school, whose malfunction, unavailability of access, production failures, innocuous restructuring, among others, are questioning their purpose and take intellectual different nationalities to turn to a discussion about the future of the school.

Skeptical of acclaimed reforms they propose to remedy the deficiencies of the school system, increasingly, the model of compulsory education is questioned and alternative formulations that arise based on the opportunities arising from the advancement and mastery of new technologies, allows thinking in education outside the school, is, the many perspectives that are needed, among them to recognize the house again, as a place of education.

In a world constantly buffeted by crises, in which the fear of violence in collective spaces is becoming more intense, many things have contributed to the demystification of the school as the only suitable place for learning. Moreover, the successes that have occurred in the experiences of distance education, whose private space, home or work, becomes the locus of educational action challenging the monopoly of school

environments as well as reinforce the need to articulate effectively the possibilities that arise with new technologies for formal education.

According to Vasconcelos (2006, p. 10), it is not just a methodological conflicts, "but a process that has previously occurred and where the context of an era, was crucial to the survival of an education system over another." Likewise, today it is possible that once again the social changes, which also require to be reviewed the collective spaces of education in a more periodic structure of adapting to complex social teaching.

Durkheim (2001) in the first decades of the twentieth century had already pointed out that:

> Indeed, education, use in a given society and considered at a particular moment in its evolution, is a set of practices, ways of doing, ways that facts are clearly defined and have the same reality as other social facts. There are, as long believed, combinations more or less arbitrary and artificial, which owe their existence only to the capricious influence of wills always contingent. They are, by contrast, true social institutions. It is impossible to make a company has at any given time, a different education system than the one which is involved in its structure, the same way that it is impossible to a living organism and other agencies have other functions than those who are involved in its constitution (p.73).

The model of education / school practiced, today, can not be claimed as the most unique and exclusive that is implicated in the current social structure. The rapid changes in society, itself suffers with the advent of new technologies, transforming not only everyday behavior, but also a series of principles and rituals that little by little, become unnecessary and obsolete. The same occurs within the school environment sometimes completely outdated before their social environment.

Education begins a new concept linked to the contemporary in which lays down, in which physical boundaries are no longer needed to educate, can not even hold their practices, giving the new education concepts and settings that allow legitimate, not only for their revision concept, but this new option to allow society. Thus, new patterns of behavior that could bring profound changes in the educational processes, from the collective to the individual, namely the linear to the multiplicity of knowledge guided by the interests, through the redefinition of knowledge and its application to the formation of a new format free of pre-established concepts, such as age, maturity, skills, finally, creating endless possibilities.

From this perspective, it is likely that the home education constitutes a form of alternative education to families under the influence of specific conditions, recourse when, among other reasons, the school does not reach the expectations of their demands. To this end, the problem to be faced by current educational policy, not to establish or restore conditions of competition between these different modalities, but the possibility to upgrade the training instances as the house, they can through various methodologies, including they distance education, and place themselves on equal terms and qualitatively, among the options that are presented to families and communities.

Currently, either by barriers of location, so for fear that parents have to put their children in existing schools, by prejudice, health issues, problems increasingly recurring violence and discipline, high costs, among other assumptions, the What you see is an increasing demand from families who decide to teach your children without them attend school. Although the number of such households in the first decade of this century, is not significant enough to mean a possibility of unschooling society, it already shows the beginning of a movement that becomes, again, the choice of home or school a reality among some societies, whose laws do not provide for compulsory education or allow different educational experiences.

Unlike the domestic education for the elite eight hundred in the domestic education, today, covers several categories of society, given the different motivations, ranging from religious views, philosophical, until conditions on the lived context, the special needs of students and the momentary circumstances that prevent parents from placing their children in school.

Moreover, such practices are similar to other features of society called "postmodern", as isolate and form independent groups, led by the private and under the strict liability, structuring and monitoring, decentralized in their actions, methods, contents and procedures, so that each family is solely responsible for the education of their children, relatives, or aggregates.

Given the importance that technological advances have acquired in everyday life, education certainly could not be oblivious to the profound changes resulting from new relationships established from the advent of personal computers, cyberculture, information technology and communication. The model of schooling forged in the nineteenth century, under the tools that were available to teach in that space / time, certainly would face in this new century, the challenges of a new model of knowledge acquisition that dispenses not only bounded spaces for this Last, but specific forms of accumulation of knowledge which require

prerequisites and a linear summation of learning. The technology allowed each subject before his own machine to become an agent of his learning, making choices, selecting content, creating his own method. From the ever so natural understanding of the possibilities of knowledge based on the online networks, the educational question appears on the face of challenge even when the state able to control or interfere with existing educational practices, as has been done through the schools, deciding, hiring, overseeing and acting for the education of children and youth.

Moreover, the weakening of the state, its shrinkage and disencumber with the supply, implementation and monitoring of services can have serious consequences to the social and political force. For the most optimistic, would be ideal illichtiano, who saw the educational system as a result of the industrial revolution of the nineteenth century, and therefore, based on their models of factories, coercive, hierarchical, and targeted measures, in addition to fragment knowledge by separating students according to age, to tame them and make them understand how natural inequalities.

The concept of unschooling refers, particularly, the characteristics of the school that is supposed to act as a repressive institution's reproductive and social order, bringing more problems than solutions. However, the sense of the word unschooling homeschooling in the context of current times is more accustomed to the idea that society Unschoolers of Illich can now be achieved through learning networks, through the web tools, and the many existing technical possibilities.

However, the concept of unschooling also brings many dangers implicit. According to the official website of the National Institute of Educational Studies Teixeira (INEP), an agency within the Ministry of Education of Brazil (MEC), unschooling means:

> Deletion of the school institution. Movement that fights to formal education by giving it enforcement functions, and which calls for free media education and unconventional. According to Ivan Illich, schools should be abolished because: 1. She is compulsory 2. is oriented credentials, which, by its formalism, replacing their own learning and determine unfairly rewards and the positions of students in society, for the rest of their lives 3. its curriculum is mandatory, rather than allow free experimentation by the students; 4. it arbitrarily separates children by age, preventing them to come together spontaneously as their mutual interests and abilities, 5. is a hierarchical top-down driven, with the student in the school fund. (Deschooling Society).

When you think the reverse of each of these "repressive functions" that school would have, we do not think that domestic education, in a way that is being established, which is allowed, would bring major changes on the profile of education. Indeed, the challenge takes place in the collective aspect it is society without schools would have to seek other ways to promote the socialization of individuals, besides having to find other ways to reach everyone on the permanence of the social pact between the state and individuals.

Maybe break with this relationship between all compulsory subjects and the school will be a greater risk than those already indicated by the neo-liberal project of reform. Even more serious than disencumber state for the education of people is the fact that other areas of ideological wealth would take this place, these areas perhaps more difficult than the school, being watched, followed and even perceived, as well as targeted to interests that could certainly not be the welfare of the community.

Anyway, reality requires a placement, because it becomes increasingly impossible to be indifferent to the possibilities that new technologies bring to education and especially for education at home.

The Brazilian education, as well as the Portuguese, was until this day, for over a century, constantly referred to the state government (Vasconcelos, 2009), and break these relationships establish other means, acceptable and credible, This can not happen, but as a slow movement that will, bit by bit, changing the existing paradigm, just as occurred in the transition from education to home schooling compulsory.

At that time, the nineteenth century, the dispute between these two areas reflected their own dispute over centralization, unification and merger of state policies, but mean and what now?

A century after the undisputed supremacy in the legitimacy of the school to educate and teach, given the technological innovations that are fast and radically transforming, with information being taken at any point and no more need for space to concentrate such information physically, with virtuality of knowledge and the possibility of appropriating it at any time, some issues require consideration, including the prospects that are opening up home in this new context, as an area of education.

The analysis of this and attempt to read the "shadows" of the future is no easy task, much less, that can be done without a very high degree of risk. However, for now, the following reflection is possible, as proposed by Vasconcelos (2005, p. 190): is the nineteenth century can be considered the home of their masters and by major occupation of the time they were present in education, the twentieth century was undoubtedly the

century of the school established for education. However, we can say is that the same will happen in the coming century? You can not rehabilitate the home place of education and instruction through technology already available?

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101 - Beyond to the "*Deficit of Meaning*" in Science Teaching: An Experience of Tutoring at the Open University of Brazil

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Abstract: The educator's perspective as the one who militates alone "… inside his own desert" as well pointed by Gallo (2008:73) when he defined which attitude is required of us, educators, in order to educate, sends me to my own teaching experience, lived in contemporary Brazilian reality and deeply affected by it. According to Gallo, it is necessary: "To educate with the fury and the joy of a dog that digs his hole. Educate by excavating the present, to militate in world's misery, from inside of our own desert". This article is precisely about this: excavate the present from my impressions as tutor of distance education to reflect on how we conceive and teach natural sciences to teachers still in training through distance education on a Virtual Environment of Learning under the seal of Open University of Brazil. It is about how or in which way we contribute to overcome the "deficit of meaning" related to the teaching of School Science during two disciplines that had as initial curricular purpose the teaching of a plural, complex and better assimilated knowledge in an interdisciplinary way. With this aim, a focus that encompasses, on one side, the relation between the Science, the technology, the society and the Environment – CTSA focus – and the resources that come from New Information and Communication Technologies – ICT's – and by another, a significant scientific-technological literacy necessary to the comprehension of actual social-environmental problems and their consequent overcome were used as promoters of a shared mediation that fruits in this study.

Keywords: Distance learning, teaching of science, Open University of Brasil.

Me: "Explain to me this thing of '... turning back to the west we have got ahead the north on the right and the south on the left'...".
Little girl: "Oh... I forgot it... This was the subject of last year...".
(Rubem Alves "Diálogo com uma menina de nove anos" *in* Do universo a jabuticaba 2010:43.)
"What makes human beings thinkers is the feeling that they are not yet perfectly confortable in the world"
(Fourez,1995:87)

An increasing demand for scientists and technicians was greatly aggravated since the last century, mainly in emerging countries like Brazil, which seek to consolidate its industrial base and enter the world market as commercial partners able to offer products with high technological value-added, instead of just appearing – on the international scenario – as suppliers of grains and raw materials. In this search for a place "in the sun" in the capitalist solar system, education takes, in brazilian public policies agenda, a place of prominence, becoming the object of a range of assumptions and intentions. The demand for teachers in general and, specially, for Science teachers, more capable and open to the social changes underway the so-called liquid Modernity (Bauman, 2001; Giddens, 1991) is a rising concern translated into didactical effort that unfolds in undergraduate courses, particularly, in those of Pedagogy.

The growing shortage of teachers in various disciplines considered scientific - chemistry, physics, mathematics ... – as if the others were not, the decreasing number of students that are available to invest in undergraduate courses focused on teaching, and the attempting to reinforce higher education in a country of continental territorial extension, led the Ministry of Education, through the National Fund for Development of Education – NFDE – to establish, in 2005, the Open University of Brazil, the OUB. A system created with the purpose of covering public universities in the three spheres of power – local, state and federal – mainly through Distance Education – DE – offering then didactical and technological support for both, the classrooms courses and the virtual courses, using for it the *Moodle* Platform, a Virtual Learning Environment – VLE - created as free software and main tool of OUB.

It is in OUB system that I have been working as tutor of distance education since 2009 in a Pedagogy course, specifically in two disciplines closely related to Science teaching, entitled: Natural Science I and II. It is from this experience that combines: the New Technologies of Information and Communication, the relationship

between Science, Technology, Society and Environment, the STSE focus, and a significant Scientific-Technological Literacy, STL, that this essay is born and in which I report the way we suggest, in a group of seven tutors and a teacher, to build together with the students, future teachers, a comprehension of scholar science capable to overcome common sense, cover the complexity of current socio-environmental problems and to supplant the relative deficit of meaning related with scientific knowledge.

The disciplines were divided in fifteen weeks each, during what were worked contents as: everyday knowledge *versus* scientific knowledge, common sense, interdisciplinarity, Environmental Education, Scientific Literacy and citizenship, civilization crisis, environmental crisis, sexuality and human body. The choice of this content did not omit in any way other contents of science curriculum, but it was mediated by the social, environmental and individual world of the student in question, connecting him to a social-critical dimension of his life, as a manner of trying to break up with a way of teaching that is discursive and strongly fixed on contents, which still very present in Pedagogy courses, privileging concepts that would allow an interdisciplinary approach and take part of the challenges faced by the students, some of which are already teaching in Elementary School and needing instrumental tools capable to inspire creative and functional initiatives of didactics and methodology. What we intend with the choice of this themes was to articulate concepts come from natural sciences – biology, physics, chemistry – with philosophical and pedagogical assumptions of education in sciences.

Therefore, the production and the consume of knowledge in sciences and in didactics of sciences, turn to scholar context its aspirations for renewal. What moves us is the fomentation to an initial academic training of teachers which is critical and reflexive in order to combat the reductionist view that, according to Auler and Delizoicov (2001) is characterized by belief in three myths: the technological determinism, the scientific superiority and the salvationist perspective.

In attempt to dispel such beliefs, we proposed to students the initial readings: Rodrigues (2009), Angotti (2002), Foures (1994), amongst others, which are able to lead them into a rupture with this idealized view of science as well to encourage them to reflect about their own scholar process, through a discussion forum entitled: "Memories and stories of science education", where many have found they have been educated in a technical and fragmentary perspective of scientific knowledge. To recognize in his own trajectory marks of a positivist education was the first step so that the student was aware that the STL must come from the world of meanings of the learners and not be imposed as an external empty of meaning. For Bybee: "Most educators agree that the purpose of scholar science is to help students to achieve higher levels of scientific literacy." (Bybee, 1995: 28).

So then, what would be the STL? Authors as Shen (1975), Lorenzetti (2001), Fourez (1994, 2006), Santos (2007), Bybee (1995) as much as Auler (2001) and Delizoicov (2001) – these last two, authors who integrate an extensive bibliography that appears in the already existent literature – talks about different approaches and perspectives contained into STL's concept. The reductionist, the expanded, the civic, the practical, the cultural, the functional, the conceptual-procedural and the multidimensional. Neither of these forms exhaust or exclude the other ones, I believe denominations are trying to realize what the process of STL is in a contemporary, complex and unequal society. A process that must take place continuously from an early age, beginning at scholar phase but that does not finish there. According to Laugksch (2000:94): "Many positions, descriptions and interpretations were integrated in a useful conceptual review of Scientific Literacy that highlights important aspects of this concept. This review, thus, products an ample understanding of various factors that contribute to the concept of Scientific Literacy and make clear the relationship between these factors, giving, then, rise to a more refined and focused conceptualization of Science Literacy".

And it was precisely by pursuing a more refined conception of STL that we explored the didactical possibilities offered by VLE, which, in this case, is the MOODLE platform, typical of DE as: movies, music and case studies. Some of this resources, explored through other forums, through wikis, always relating the STSE´s approach with a significant STL.

To this end, we decided to work with the concept of Life inside scholar science and not only in its biological dimension – that involves its evolutional, anatomical and functional character – but also its social character. It could be read in the summary of the week in question: "We have posted this week a text and two small videos that discuss the concept of life in biological and social dimensions. We thought this class could expand you understanding human being in its similarities and distinctions in relation to other living beings. Knowing the human being is to comprehend its animality and its humanity, it is to deal its complexity and its unity related to other beings, it is to situate it in universe, not separate it from him. And then here, it is worth bringing the ideas of Edgar Morin. To him, the human being is both inside and outside of nature." After this, the forum put the challenge of the week, wherein the learners were taken to discuss two basic questions:

"What human beings have in common with other live beings? What differentiates it from them and giver him complexity?"

This reflexive exercise may seem overly obvious, but it had the intent of arouse correlations that overcome common sense and it was just the obviousness of the answers that drew most attention in the forum and highlighted the lack of criticality necessary to the theme in discussion. Much of the course participants pointed just the classical distinction between men and animals as it is emphasized in sciences classes in elementary school. A student posted what would be repeated countless times by many others: "Men are born, grow, reproduce themselves and die such as animals and what makes us different from them is our capacity of reasoning!"

To supplant common sense is one of the challenges that STL puts to itself, of course we distinguish ourselves from other animals because we think, but none of the learners was capable to cite other skills of our unique mental faculty. Not even a mention to our capacity of producing culture was done or, to the fact that we are historical and social beings able to, not only interact with environment we live in, but also to be modified by it. We, human beings, do not just and simply born, live and reproduce ourselves on Earth and this is not the only similarity we have got with other animals. We, human beings, are the historical result of the permanent accumulation of knowledge, able to produce and reproduce constantly the means by which we become what Marx called "subjects of history". We are one of the uncountable forms that are part of what Life is, understanding it as a whole and a part at the same time is necessary when we think a STL that worries, firstly, with the construction of analytical processes and only in second place, worries about transmuting everyday concepts, daily concepts, into scientific concepts. A STL that aims to build a subject when, in fact, we are living the era of individuals.

The bank education so reported by Freire is constantly present in our elementary school, as a mark. Lasting remnant of a educational process based on the enumeration of contents and the absolute incorporation of the deficit of meaning towards the construction of scientific knowledge, that still continues today in the classrooms of a country that begins to pay attention to the fact that it does not have a population scientific and technologic literate, most of it, and even, at this moment, teachers enough and with sufficient dexterity to do it.

To teach sciences it is necessary not only knowing sciences but also knowing how to teach them, as Paulo Freire would say: "None knowledge is exempt from intention" (Freire, 1980:25). To evidence justly the political and historical character of scientific knowledge we proposed another moment of reflection to the course participants. This time, the concept approached was technology in "Technology for what and for whom?", the student should "work" on a techno-scientific innovation, evaluate its pros and cons and search ways of questioning this innovation in classroom. Lots of lesson plans, ideas and scripts emerged from this forum. Even technological innovations of past centuries were used as main theme of classrooms, sometimes in a creative way, sometimes in a extensive one. This is what demonstrates learner's comprehension about scientific knowledge's historicity.

Bizzo (2002), in a book about teacher´s formal education, entitled: "Sicence: Easy or Difficult?" points five specific keys to scientific knowledge, including the *conceptual independence* (Bizzo, 2002: 25) that, according to him, expresses the historical relationship of dependence between concepts and scientific theories. A theory, a general law or an analytical category of analysis does not come from a previously given knowledge or an everyday knowledge only, it is based on a later theory, scientific proved and that is what attests the historicity of scientific knowledge. "The scientific knowledge may be, perhaps, compared to a castle of cards, not as a reference to his consistency but to the interdependence of its parts. This means that, if a theory comes down, may others will be affected." (Bizzo, 2002:25).

To recognize scientific knowledge as historical, interdependent in its genesis and during its development, is to be capable of evaluate its concepts testing and applying them critically and continually, is to be able to comprehend, as these learners did, that technology is not a typical tool of contemporary days but the result of scientific knowledge historically built and interdependent itself that is experienced in contemporaneity.

It was proposed a work between History and Natural Science II at the end of the first semester, focused on interdisciplinary required by the teaching of scientific knowledge, many other tools of VLE were used adding didactical value to worked concepts, games, videos and as already mentioned even lyrics of music served the purposed of questioning the approached contents.

In some poles – almost all spread over Forest Zone and southern Minas Gerais, located in small towns up to 30.000 inhabitants – particular resources functioned very well, and some problematizations fruited. In some of them, the student´s answer was different. Not worse or better, but different, and in general, positive, in a perspective of rupture with the conception of a supposed science knowledge's superiority, demonstrating

many times the deconstruction of these students' ideologies and prejudices related to Science and its contents.

To question a scientific theme may be an interesting didactical resource. During the disciplines we developed many analysis and reflections, always intending to conduct the learning process of the future teacher toward the rupture with a crystallized vision of scholar Science, classificatory and taxonomic par excellence. We have tried to improve the existent skills developing new abilities so that they were able to propose, in the future, within their own classrooms, new forms of Science learning. We did that in many ways, often showing situations in other schools, seeking to foment reflections from the suggested texts in a way that didactical situations, related with scholar content, could emerge. But it is not our intention here to discuss each of the thirty weeks or the uncountable contents covered, just register this pedagogical experience, this tutoring, that occurred as a shared mediation, exemplifying some contents, seeking to bring to academic discussion of this event forms that, if not new, at least are more palpable in scientific education, for considerations and discussions.

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128 - A Proposal for the Evaluation of Educational Robotics in Basic Schools

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Abstract: Educational Robotics (ER) is increasingly used to boost student performance in several subjects, being reported successful attempts to introduce ER as a non-conventional way to help students in learning mathematics, sciences or even arts and to implement novel learning approaches, such as constructivism, project-based and problem-based learning. ER has been used to promote multidisciplinarity and collaborative work, to foster students' motivation, imagination, creativity and logical thinking.

However, available studies are mainly descriptive and qualitative. Indeed, fundamental questions, such as "Is ER a suitable tool for basic school students?" or "What are the contents/skills that can be taught/learned using ER?" remain largely unanswered. This paper proposes a methodology to conduct studies that provide an answer to those questions.

Our proposal has two distinct components: (*i*) the planning of a set of ER sessions to conduct with the students; (*ii*) validation instruments to apply, for quantitative and qualitative evaluation of ER as a pedagogical tool. An example is provided for subjects related to the concepts of multiplication/ division in 4th grade Mathematics.

Keywords: Educational Robotics, Problem Solving, Mathematics.

INTRODUCTION

In recent years, Educational Robotics (ER) has been increasingly used as a pedagogical tool to boost the performance of students in several subjects and age levels. Many authors report on successful attempts to introduce ER as a non-conventional way to help students in learning subjects such as mathematics, sciences or even arts and to enable technological education (Gura, 2007) and (Bers, 2008). Also, ER is a good way to implement novel learning approaches in the classrooms, as it is the case of constructivism/constructionism, project-based and problem-based learning (Gura, 2007). The unique features of ER have been used to promote multidisciplinarity and collaborative work and to foster student's motivation, imagination, creativity and logical thinking. As a result, this tool can be used to promote a positive technological development of the youngsters (Bers, 2008).

Although the aforementioned results are substantiated by a considerable amount of literature, the fact is that the available studies are mainly descriptive and of qualitative nature. Indeed, fundamental questions, such as "Is ER a suitable tool for basic school students?", "What are the contents/ skills that can be taught/ learned using ER?" or "What ER activities are more suitable for the different subjects and skills of the basic schools?" remain largely unanswered.

This paper proposes a methodology to conduct studies that provide an answer to those questions, combining several types of evaluation instruments of a qualitative and quantitative nature. We will also report on the on-going work to validate this proposal.

Our proposal is made of two distinct components: (*i*) the overall planning of a set of ER sessions to conduct with basic school students; (*ii*) a number of validation instruments to apply, in order to allow the quantitative and qualitative evaluation of ER as a pedagogical tool.

Regarding the first component, the overall planning encompasses three distinct stages:

    (1) a mandatory set of sessions that are used for the students to learning the main concepts of Robotics, using the Lego Mindstorms ER kits;

    (2) a number of modules that apply ER to specific subjects and skills of basic school curricula;

    (3) a number of possible multidisciplinary projects to conduct with the students.

Regarding the second, an example will be provided where ER is used for subjects related to the concepts of multiplication and division in Mathematics for the 4th grade. The latter will be exemplified considering the development of robotics-based storytelling projects.

The previous plan will be accompanied by a set of instruments to be applied in different time points within the study, as detailed in Figure 1. These will include qualitative instruments, such as: initial questionnaires about student perceptions, diaries where students report the events of the sessions, descriptions/videos of the sessions, interviews with students about the sessions and students programming files (used to understand problem solving strategies). Also, quantitative instruments will be applied to evaluate the improvement of the students in particular skills/subjects. These will mainly consist in pre-tests and post-tests about relevant subjects.
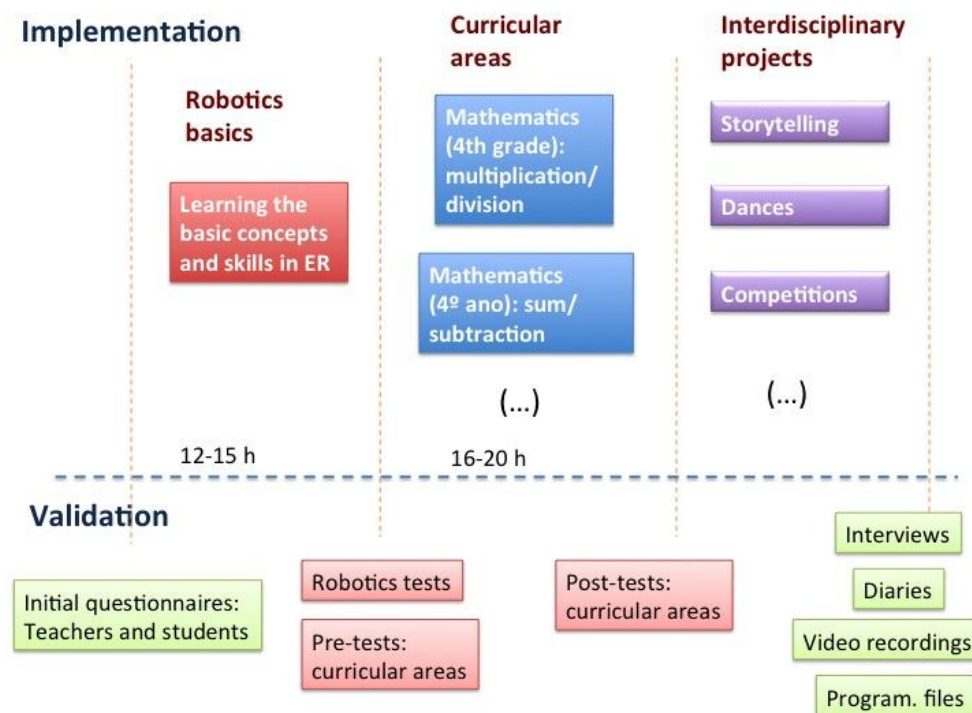
Figure 1: Overall schematic representation of the proposed methodology

The remaining of this paper is organized as follows: in the next section the main characteristics of ER are reviewed, together with its pedagogical potential; next, the sessions that are proposed in this work are thoroughly described; the following section describes the validation instruments that were developed on this work; finally, conclusions are drawn and future work is outlined.

EDUCATIONAL ROBOTICS: CHARACTERISTICS AND POTENTIAL
In this section, the basic characteristics of ER will be reviewed and analyzed, focusing on the features that make it an attractive pedagogical tool. Next, the basic school contents and skills that can be addressed using ER will be reviewed, with an emphasis on Mathematics.

Features of Educational Robotics
A number of potentialities are normally attributed to ER in the teaching/ learning process. Some are briefly discussed here.

Motivation and enthusiasm: This is probably the most common feature mentioned by ER researchers. Indeed, the enthusiasm of all the participants (teachers, parents, students) in ER activities constantly mentioned in the descriptions of ER activities. In fact, ER seems to be able to motivate and involve students in learning by stimulating their natural curiosity. Given these reports, it is not surprising to find that ER is usually a good solution to motivate students in "difficult" subjects such as Mathematics and Sciences, where good results have been reported (Nagchaudhuri et al, 2005)]. Portsmore et al (2001) even report students that were always ready to work during breaks and other spare time. It is also reported by some researchers that

students that are normally inattentive in daily activities, show a special motivation in robotics activities (Rogers and Portsmore, 2004).

Multi-disciplinarity: Robotics is clearly a multidisciplinary field involving a set of disciplines like Physics, Mathematics, Computing or Electronics. The activities in ER integrate a number of subjects and skills, from areas such as Mathematics and Sciences, but also Arts and Languages. Thus ER possesses all the necessary conditions to allow multidisciplinary activities promoting a transversal learning of the different subjects (Ribeiro, 2006). Currently, the traditional learning systems do not seem to be prepared to provide challenges where the solutions require knowledge and skills from different fields, rather imposing scattered knowledge in distinct subjects (Morin, 1999). ER may provide a contribution to overcome this problem.

Project-based learning: Most ER activities, such as competitions or robotics clubs, revolve around the notion of a project that typically involves several stages (e.g. design, construction, programming, testing) that require distinct skills and knowledge. The notion of being involved in a project with a tangible outcome implies a different kind of commitment from the students in the required tasks and reinforces the connections with the real world and the meaningfulness of the learning process. Also, the students are called to make decisions that have an impact on the outcome of the project, thus making them in more active subjects in the learning process.

Collaborative work: Most of the activities involved in robotics are executed in teams working in tight collaboration. The decisions made while developing the projects are, therefore, reached through a process of group discussion. The efficiency in communicating good ideas and persuading the colleagues to adopt them, as well as the capability of accepting good suggestions are major ingredients for the success of the projects. Thus, ER activities are excellent means of promoting collaborative work and communication skills (Castilho, 2002).

Problem solving. When involved in ER activities the students (and of course also the teachers) are faced with numerous problems that originate from the obstacles that have to be overcome to reach the goals implied by the aim of the project under development. The fact that these problems arise from the real world makes them very different from the "artificial" problems solved in the classrooms. Indeed, these real world problems can be difficult or impossible to solve, require the application of other techniques to be solved (e.g. trial and error procedures) and sometimes the solutions are a best effort and not a "perfect" solution.

Imagination and creativity: The idea of "novelty" is normally connected with imagination, and those are related to the processes of problem solving. The processes of building and programming robots require a process of creativity, inviting the students to innovate in the process of problem solving. With ER, students develop their creativity by designing and creating their prototypes, attending to the final aim of the exercise. By going from a set of blocks and building and programming their robots, children are challenging their creativity.

Logical and abstract reasoning: The process of building a robot implies the capacity of planning and designing it in order to be able to work well under a given environment and accomplish a number of tasks. This implies a process of modeling the robot and the environment in an abstract way, in order to predict its behavior. Furthermore, the observation of errors implies the ability to reason about alternative scenarios and address concepts such as robustness. On the other hand, the programming of robots is conducted using a symbolic visual language, where the student needs to be able to map a set of symbols into the robot's physical behavior and predict the behavior of a given program or sequence of instructions. By projecting himself into the robot, the student is thinking about the process of thinking (metacognition) (Lau et al, 1999).

Autonomy: The whole process of developing a robotics project, where students try to solve a given challenge, through planning, building, programming and testing robots provides numerous problems that require an autonomous attitude from the student and the capability to use previous knowledge to search for the solutions, also resorting to heuristic approaches. Teachers have the role of making available learning environments where the student can feel safe in applying her/his ideas and searching for the appropriate knowledge. ER provides a suitable platform to achieve this endeavor (Castilho, 2002).

Educational Robotics and the basic school

Robotics has been used, over its path in Education, as a useful tool for the learning of distinct contents, as well as for the acquisition of numerous skills. Within this large set, the areas of Physics, Mathematics and Informatics are normally emphasized, being the ones more directly connected with Robotics. Robotics provides an excellent mean to make lots of different mathematical concepts, at all levels, into very tangible and useful concepts. Robotics makes possible to design activities that implement project based learning approaches.

Furthermore, Robotics also allows working concepts related to areas like Arts Education. In fact, when planning and building robots a number of skills related to these subjects come into play. On the other hand, some of the Robotics activities (e.g. competitions) have been developed in order to include Music and Dance as major areas, being approached activities that involve different types of choreographies.

Robotics can be used in the teaching/ learning of some of the contents and skills related to the major areas of basic or elementary school (i.e. within the first 4-5 years with students between 6 and 10 years old). Indeed, many of the major contents from areas like Mathematics, Sciences, Languages and Arts can be included into well designed and planned Robotics activities. An analysis to the curricula in the Portuguese system (CNEB, 2001) allowed to identify, for the main curricular areas, a set of application domains, learning experiences and contributions to reach the proposed basic skills, detailed next.

Mathematics. The emphasis on Mathematics in this level should be focused in solving problems, thinking about them and communicating with others to exchange ideas. Robotics offers a field full of opportunities, allowing to work on the main skills of the different domains, such as Arithmetic, Geometry, Algebra and general problem solving.

Sciences. Robotics can contribute for reaching the main aims in the teaching of natural and physical sciences, such as: acquiring a general understanding of the ideas and structures that explain scientific concepts; understanding and applying the procedures of the scientific research; questioning the impact of Science and Technology in our societies. Robotics is able to provide a set of learning experiments that include planning projects with certain aims, detailing the major steps, since the definition of a problem to the understanding and divulgation of the results and doing cooperative work.

Technological Education. Technological Education should be built upon the development and acquisition of skills in a sequence of learning steps along the elementary school levels. These should be able to integrate concepts and skills shared with other areas and promote the application of these concepts into new situations.

Focusing on Mathematics, ER offers a broad set of opportunities allow to plan, build and program robots using and improving skills previously acquired by the students in several subfields of Mathematics, but also leading to the discovery of new skills not yet acquired. ER projects illustrate clearly the relationship between Mathematics and its practical applications, providing numerous examples. Robotics involves essential mathematical skills such as measuring, counting, calculating mentally and estimating. These are included in the basic fields of arithmetic, estimation, algebra and geometry. Furthermore, these are not presented in isolation, but fully integrated in a way no text book can provide (Gura, 2007).

Within the Mathematics curriculum of elementary schools, ER can offer its contribution in the following subjects:

- *Numbers and calculations*: execute mental calculations, estimate approximate values and decide upon its reasonability; interpret numeric problems and connect to real world; identify arithmetical operations to execute in a given problem and explain the methods used;
- *Geometry:* plan and execute geometrical constructions, analyzing their properties, using software and raw materials; visualize and reason spatially in problem solving; understand to concept of perimeter, area, volume; measure and estimate spatial measurements; argue using visualization and spatial thinking;
- *Algebra and functions:* analyze numerical relationships representing them symbolically and explaining them in current language; build and interpret tables and graphics; understand and use the concepts of correspondence and transformation.

SESSIONS FOR EDUCATIONAL ROBOTICS IN BASIC SCHOOLS

This section will provide the description of the sessions that were planned as a result of this work. The overall set includes three distinct groups:

- sessions that are used for learning the main concepts of ER;
- sessions applying ER to specific subjects of basic school curricula, in this case applied to subjects related to the concepts of multiplication and division in Mathematics for the 4th grade;
- a number of possible multidisciplinary projects to conduct with the students exemplified considering the development of robotics-based storytelling projects. The three components are further described in the next sub-sections.

Also, all the materials mentioned in these sections are provided in a web site named RoboWiki (http://darwin.di.uminho.pt/robotica) written in Portuguese. This site also includes other materials to help students and teachers to get involved in Robotics, aiming to be a portal, where ER resources can be shared within the community.

Learning the basics of ER

The authors have developed a course to address the basic concepts and skills involved in building and programming robots, using the Lego Mindstorms robotics kits. This course includes a set of planned sessions, with available scripts and other materials (presentations, videos, exercises, etc) that allow every teacher that has access to a few ER kits to implement the course in its own class. The full set of materials is available in the RoboWiki site.

The proposed sessions are organized in the following stages:

- Robotics basic concepts: what is a robot; history of Robotics; related videos; discussion on what makes a robot.
- Building robots using Lego Mindstorms kits: main hardware components; available Lego blocks; building exercises.
- Programming in the robot: using the interfaces of the robots to create simple programs; exercises (see example in Figure 2).
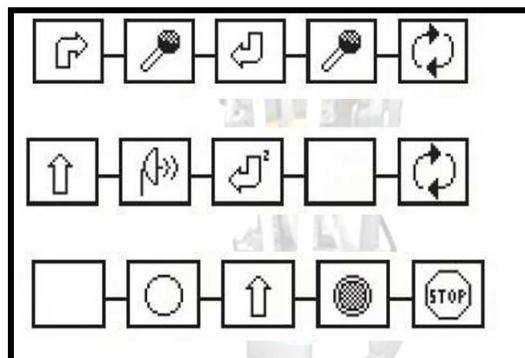
Figure 2: Example of an exercise to program on the robot (students have to identify the behavior of the programs shown)

- Programming using the NXT software: using the visual programming software to create programs and transferring those to the robots; several sessions with exercises are made available, together with their resolution (see example in Figure 3).

Exercise 6
a. Program the robot to move forward (power of the motors – 50) for 5 seconds
b. Program the robot to move backwards (power of the motors – 100) also for 5 seconds

Figure 3: Example of an exercise in the programming with the software section together with the solution

- Programming the robots to use sensors: more advanced programming blocks are explained that allow the use of the several types of sensors available (sound, ultrasound, touch, light). An example of an exercise is shown in Figure 4.

Exercise 15
a. Program the robot to move backwards.
b. Program the robot to react when the sound sensor is activated.
c. Program the robot to turn right.
d. Program the robot to stop when the touch sensor is pressed.
e. Program the robot to move forward 4 rotations.
f. Insert a *loop* surrounding the steps a to e

Figure 4: Example of an exercise in the programming with sensors section together with the solution

ER for Mathematical subjects

As an example of a curricular subject where Robotics can be used to enhance the teaching/ learning process, the authors chose *problem solving involving the arithmetical operations of multiplication and division*, focusing on students from the 4th grade. The proposed sessions are also provided in the RoboWiki site, corresponding to a set of activities and exercises with available solutions, with a predicted duration of 10 hours, that teachers can use in their classes. It is assumed that the students underwent the course described in the previous section, prior to the sessions presented here, i.e. they are aware of the basic concepts in building and programming the robots.

The main pedagogical objectives of these sessions is the following:

- To understand the meaning of the operations of multiplication and division and how they relate with each other;
- To calculate fluently and to provide reasonable estimates of the results of these operations;
- To discover, using ER, proportionality relationships among several measures: distance, rotations, time;
- To define procedures to convert the different measures among themselves, using multiplications/ divisions;
- To predict the behavior of robots using interpolation and extrapolation;
- To test hypotheses from experiments, using robots.

The proposed activities explore a set of proportionality relationships that the students need to understand in solving several types of problems in the programming of the robots. The strategy used consists in promoting the experimentation with the robots to motivate the inference of the relationships. Once the students understand the proportionality relationships they are able to use those in solving the exercises and predicting the behavior of the robots in certain situations. An illustrative example is given next in Figure 5. This type of exercises is also complemented with some games that are devised to work the same concepts but make the learning more playful.

Exercise 15:

Let us try to program a robot to draw a circle, rotating over itself.

a) Program your robot to rotate over itself using as a measure the number of rotations. Try the values of 1, 2, 3 rotations. What do you observe?

b) Measure the distance between the two wheels of the robot.

c) Using the measure from b calculate the length of the circumference that the robot will draw rotating over itself.

d) Measure the diameter of the wheels in your robot. Remember how you can use this value to know how to program the robot to travel a given distance.

e) How do you think you can program the robot to rotate over itself for exactly one turn.

f) What if you want the robot to complete three turns?
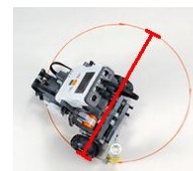
Figure 5: Example of an exercise in the sessions working Mathematics concepts

Multidisciplinary projects

The third group of ER activities in the proposed framework includes multidisciplinary projects. These are typically open activities that can be planned in the context of a given community. Some examples of these activities are shown below, being mentioned some projects from the authors' previous experiences:

- Dramatization of popular tales, using robots as the characters. Examples include stories such as the *Carochinha* (Ribeiro, 2006), *The Little Red Riding Hood* and *The Three Little Pigs.*
- Fashion parades, dance shows or other similar activities.
- Participation in Robotics festivals (e.g. RoboParty), often involving different types of competitions (e.g. dance, football, rescue);
- Other activities

From the authors previous experiences, these activities are quite effective in engaging both students and teachers to the field of robotics, promoting high levels of enthusiasm and motivation from all involved.

VALIDATION INSTRUMENTS

In this section, the instruments used for validation in each of the stages of the proposed methodology will be described. The explanation will be divided into qualitative instruments and quantitative instruments.

Qualitative instruments

According to Bogdan and Biklen (1994) the qualitative research has as its main features the natural background, where the researcher becomes the main agent involved in data collection. Therefore, the data collected are descriptive, typically words and pictures. Qualitative research focuses on the processes and less on the results or final products. Data analysis is performed in an inductive way. This type of research is not limited to analyzing behaviors but is mostly worried with the meaning that the subjects give to their actions and experiences, as well as with others. Merriam (1998) emphasizes that in qualitative research the subjects are not treated as numbers, but are analyzed in their natural environments. Using descriptive data allows us to better capture some behaviors, attitudes and opinions, enhancing richer and more significant conclusions. On the other side, they have a natural limitation in the lack of generalization.

The main qualitative instruments are listed next.

Direct observation and video recordings: The direct observation of the sessions is still one of the most valuable instruments in any study. This can be complemented by the use of video recordings that allow a more thorough analysis of some details that can escape the perception of the observer. Both the direct observations and video visioning can be written down in reports of each session that capture all the relevant actions, behaviors, reactions, attitudes and dialogues of the subjects. Some of the advantages of this type of study are the fact that the researcher can select, register and analyze only the most relevant occurrences and develops an informal and intimate relationship with the participants (Bailey, cited by Cohen and Manion, 1994). The direct observation is complemented by the use of specific sheets where some relevant information is collected (e.g. tasks completed by students).

Questionnaires (initial): An initial questionnaire about student perceptions relating to Robotics is recommended. The objective is to determine the previous ideas and attitudes of the students towards the field of Robotics. Also, including some other questions about the student's performance in different subjects and all relevant opinions and preferences prior to the study.

Diaries: The use of diaries where students report the events of the sessions is a common tool in Robotics studies. It allows an additional tool for the researcher, while it promotes the self-reflection of the students, an important feature in constructionist pedagogical tools.

Interviews (final): In the end of the study, oral interviews with the students allow the recollection of the main opinions about the study. The set of questions should be predefined but the researcher can change or add new questions to get deeper insights on some issues. The oral form allows the student to provide longer replies and the researcher to ask some follow up contextual questions.

Programming files: the programming files produced by the students while solving the problems can be kept, maintaining all versions of the programs for every student. In this way, the problem solving strategy of each student can be better understood and the evolution of the students can be studied in more detail.

Quantitative instruments
Also, quantitative instruments will be applied to evaluate the improvement of the students in particular skills/subjects and also to measure the skills of the students in some specific robotics tasks. The main quantitative instruments are listed next.

Robotics tests: These are used to measure the skills of the students in some specific Robotics tasks. A test is recommended after the stage of learning the basics of Robotics. The performance of the students in this test can be used to check if the students were able to learn the basic concepts in building and programming the robots. Some examples of these tests will be provided in the RoboWiki site.

Tests about curricular subjects: For every specific subject to be considered in the second stage of the proposed methodology, a pre-test and a post-test about the subject should be applied to the group undertaking the course. These tests should be carefully designed to assure that they are as similar in structure as possible. This should allow the comparison of the scores obtained in both tests as a way to measure the improvement in the performance of the students promoted by the ER. The effective comparison of these scores can be improved if two conditions are met: the number of students taking the course should be as high as possible to improve the statistical significance of the comparison; a control group that does not take the course should answer the pre and post-test in a similar way allowing the comparison of the results removing possible sources of bias.

CONCLUSION
In this work, a methodology for the evaluation of the merits of ER in basic schools was proposed. The authors believe this is am important contribution to an effective use of ER as a pedagogical tool confirming all the merits that many authors have identified.
This is still ongoing work and as such many important results, mainly in quantitative terms, are still missing. The future work will, therefore, be mainly devoted to the implementation of this methodology in the field, a task that is already under way.

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159 - Digital Medias in School: the "Everlasting" Transitional Phase? Appropriation and Perspectives Found among Students and Teachers

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Abstract: This paper discusses the vision of teachers and students have in using the Internet and how teachers use their work. It is based on the results of three qualitative surveys held in Rio de Janeiro, Brazil, hearing the views of two groups of teachers and a group of young teenagers on the subject. It uses as a background literature on digital media and social networks in articles published in two vehicles of deep penetration in Brazil, magazines *Época* and *Isto É*, between January 2009 and April 2010. Regarding the groups of teachers chosen, one consisted without any concern of filtration as the use of digital space in teaching, and the other group with teachers already include in their practices, the use of digital media. As for the youth group, were teenagers who finished high school and were on their way to university.

Keywords: digital media appropriation; teaching practices; pedagogical perspectives.

DEFINING THE SCENE OF DIGITAL MEDIAS[113]: CURRENT STATE OF TECHNOLOGY AND ITS TENDENCIES

This paper has as a start point the results of an unusual bibliographical data research, though it is very valid in the proposed context, starting with news magazines of weekly circulation in Brazil, Magazines Época[114] and IstoÉ[115], fully available through their websites (whole content is available for access and reading). As counterpoint to the positioning found in these magazines, we sought to understand in detail the unique universe of teachers and students, through pieces of research developed by the *Jovens em Rede* (JER) directory, a group of researchers of the Department of Education of the Catholic University of Rio de Janeiro (PUC-Rio), Brazil. These pieces of research aimed to find out when the digital medias enter the classroom, which attitudes come up with it and which factors are at play in its appropriation. Let us see these two axes in detail.

Concerning the bibliographic research, the period chosen for the article sampling was January 2009 to April 2010, because before 2009 there was a repetition of topics and comments about technology which in 2010 had been either overtaken by more recent versions or showed less lagged data. Evidently the content will be discussed here in general terms rather than in specifics of each technology mentioned. Despite the constant changes in technology we see in the era we live in, the generalizations exposed here are still valid in 2011.

We were concerned in bringing up the most common themes and trends that digital medias point to for the following years, besides showing the reader which scenery we are addressing when we research the use of technology by teachers. Our focus has been on accessible platforms via mobile computers and desktops, excluding digital TV and video-games console[116]. In a first screening, all articles that referred to information

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[113] It is important to note that the expression "digital media" is used in this research as a synonym to ICT (Information and Communication Technology). We believe, however, "digital medias" a more appropriate term, since it unites all means of distribution and communication of digital content written, visual or audible.

[114] Available on: < http://revistaepoca.globo.com>.

[115] Available on: < http://www.istoe.com.br/>.

[116] Although they are part of the same group, they are still not part of the school routine, except for very specific experimental cases such as in the school that hosts the NAVE project, in Rio de Janeiro, and, besides that, they were not objects of study in our empirical researches (item 3 of this article).

technology and communication were selected. Articles involving education and technology were also given attention when the material was selected.

Among general themes of the past years, common in articles about technology, we have found the expansion of mobility of internet connection (represented by *cell phones* "all in one" and more recently *tablets*) and the ascension and control of social networks that are overtaking even sites such as *Google* in number of clicks, gathering services such as chat, forum, events, photo albums, scrapbook and contacts. The tablets tend to all be connected to wireless mobile internet, taking up similar functions to those performed by laptops and cell phones, though also adding applications that explore the potential of touch screen.

The social networks come as an extension of such trend, connecting people in real time through mobile devices, besides laptops and traditional desktops. We now tend to save our data on the internet, our e-mails, photos, videos and we can access them through any device that is connected to the internet, and this is known as "cloud computing", which means our data is not stored in our homes, but in computers that are not ours, enabling us to access it anywhere we go.

The blogs, one of the objects of our research (Martins, 2011), come into this context as data storage platforms, the previous generation to the current social networks (which also include in its architecture the structure of the blog through timelines). The focus of the blogs is not necessarily in the materialization of the author's social network. They are widely used because they meet the needs of a person or a group who produces contents, publishes it and has the control over the authorship, dimension and visibility of the posts (without size limit and more distinct than a *timeline*, with mixed posts, common in social networks).

As open platforms, many programmes for mobile platforms have arisen, allowing the users to write messages, update statuses, send photos and videos, all through phones and tablets. With the enlarging of internet band and 3G data transmission technology, the tendency is that the multimedia content predominates in transmission via mobile phone in the following years, allowing the production of audio and video and its posting almost in real time on online platforms such as social networks and blogs.

EDUCATION WITH MEDIAS IN ITS VARIOUS FACETS: THE CONSTANT DICHOTOMY *GOOD MEDIA* VERSUS *BAD MEDIA*.

Still analyzing the articles of the magazines, we realize the potential of social networks and blogs for education, through mobile communication in the classroom. Nowadays the students are able to access e-mails, write messages, take pictures and make videos through their mobile phones, laptops and tablets, as well as distribute the content in real time to classmates, creating therefore a community space through social networks and distribution platforms. The portable computer is not limited to the actual laptop but also the mobile phone (ever faster and with more memory available). Both devices can perform this function in the classroom, depending on the intended use.

Therefore the *portability* creates a digital ecology in the school, and a whole search field from the integration of the digital space into the school culture, which widens the classroom and the possibility of shared access to contents. If we used to talk about creating contents in the computer lab, nowadays the computers, the production and the distribution through digital networks are in the students' pockets.

Concerning the use that arises with these devices, two approaches, or tendencies, predominate from what the magazines published.

The first one concerns the fears of this new communicational (and social) configuration, found in the interviews published by the magazines (Mansur, 2010; Mansur, 2009). Among them there is the possible isolation of the teenager (Giron, 2009) and his excessive and even sickly dependence of technology (Moon, 2009), gained by many hours in front of a computer that is connected to the internet and in using mobile phones (Mansur & Lima, 2009; Cabral, 2009) in order to send messages and chat with friends, parents, relatives or even with strangers. Parents and teachers fear the lack of dialogue of this generation that is always connected and online. We understand that what is feared is the gap between this youth who connect among themselves, and teachers and parents who, for various reasons, some very plausible, did not develop this new competence.

Another fear concerns the quality and selectivity of contents by the young people – argument of the superficiality in approaching the content and reading it –, in facing an ocean of information without guarantee of reliability or security (Lima, 2009), as well as auto exposure in the broad network being espionage target, sexual abuse (Pereira, 2010) or cooptation for online crimes. Some other fears that were published referred to loss of acquired skills through earlier communication means, for instance the students' difficulty in handwriting, since many have been using computer and mobile phone keyboards to communicate (Rabelo, 2009).

As another type of approach, the arguments for technology and the new "multitasking human being" (Nogueira, 2009), capable of thinking and doing many tasks simultaneously is highlighted and complimented by optimistic researchers – in interviews found in the magazines –, who put their bets on another way of thinking, from the use of digital medias, in the extension of man's mental capability through the machine (extended cognition). Also common is the speech about integration with the machine (a radical fusion in the near future), represented by the picture of the *cyborg*, in which man and machine are indistinct, where the machine would not be just an extension of man and his abilities, but would become an indispensable part of life (Buscato, 2009), an omnipresent computing that is also invisible, with hidden devices in the various objects of daily use (Monte, 2009).

Through the articles published in printed media of general circulation and also, as we will see next, through the opinion of teachers and students taken from the three empirical pieces of research that are part of this paper, we see that there still is an approach of extremes concerning digital media, in which we find highlighted either positive or negative aspects, which we know exist and are part of its users' behavior, but either they become extremely generalized, or they are out of context, this way projecting in technology the responsibility for actions that are directed primarily by humans. We then find what Breton (2000) would denominate as a more utopian position or even worship of technology and another position as technophobic or hostile to technology.

THE *TRINOMIAL TEACHER-STUDENT-MEDIAS*: A *TENSION ZONE* THAT ARISES IN VARIOUS RESEARCHES AT JER

The debate outlined in this article comes from the clash of three pieces of research in which conventional tools, a focus group and a survey were used, and new ways to look at relationships inside the digital environment, the so called netnography[117].

The first, called *Youth in Network* (Mamede-Neves 2008), was accomplished between 2005 and 2008 and it happened from the analysis of a questionnaire on the use of medias, distributed and answered voluntarily by 998 students just out of secondary school, when they were enrolling for the first semester at PUC-Rio. Filtering the questionnaires, the survey heard 965 university students (61,85% of the total number of freshmen who had just arrived to PUC-Rio). The group was made of young people aged 17 to 19 y.o., divided into two groups: those who entered university through traditional Brazilian system or ENEM test (National High School Exam) and through PROUNI (University for All – governmental program). This survey allowed us a panoramic view of the use and the intensity of the digital media entering these youth's lives.

The second research was accomplished between 2008 and 2011, called *Masters on the Web* (Mamede-Neves, 2010). Part of its methodology was a questionnaire distributed to teachers from eight secondary schools, public and private, where the students of our first research had graduated, a total of 138 teachers. Its first aim was to investigate the relationship between the secondary school teacher and digital media and to compare it with their students' use of it. The teachers were selected at random, and answered the questionnaire were of different levels in use of digital medias. In the second stage of this research, we had four focus groups, in event organized inside PUC-Rio, with teachers who had answered the questionnaire and came voluntarily, in order to explain issues emerged from the analysis of the questionnaire.

The third research, called *Digital medias in and beyond the classroom*, conducted by one of the components of the research group and co-author of this article, Martins (2011), concerned the use of blogs by teachers called *pioneers*, in which one stage was the same questionnaire of the second research (this time an online version), during all year of 2010, coming to an intentional sample of 79 teachers who were part of discussion lists in which the theme of blogs was the focus and was part of their practice. The focus was in on teachers who are non-resistant to technological innovations, users of it in their day-to-day, and what they are doing differently when using digital media in the classroom.

Trying to make a synthesis of the results, the central issue that involves the *trinomial teacher-student-medias* was divided into the following argumentative levels, being the first the consequence of the second, as it follows (chain reaction):

1. The **student** uses digital media in his daily routine and has already made it natural as a tool, a fact that was proved by the research with youths out of secondary school, and he is considered by many as a *digital native* (Prensky, 2001), who supposedly has changed his habits when compared to the

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[117] Netnography studies the manifestation of cultures in new supports, according to Kozinets (2002, p.2) "Netnography is a new qualitative research methodology that adapts ethnographic research techniques to the study of cultures communities emerging through computer-mediated communications."

pattern of students of previous generations. As to his practices, he can be considered also as an average user as to the diversity of use in his routine: communication (in social networks, chats, messengers, cell phone), games and entertainment applications. This student searches the web as an information source and questions the school as to its validity, as formative institution, and the teacher as owner of truth and authority, even though in contradiction to this he keeps an expectation that the teacher's "truth" and found in school books is always more reliable than those found on the internet.

2. The *teacher*, in general, acts on a concept of school that is based on fixed *contents transmission* and formal evaluation of the student, a pattern that starts with the exposition of content in linear order, going from mechanical out-of-context activity to evaluation through memorization. This pattern would collide with the student's daily experience with digital media, which is considered more open, flexible and operating by associations (links).

3. *Some teachers*, annoyed with their practices in the classroom and with the students' reaction and contestation, try to harmonize a culture based on a traditional evaluation system with tools developed on the web and out of the formal school context, based mainly on spontaneous exchanges through informal dialogues and collaboration to seek the solution of problems. They do it because they experience these interacting patterns more intensely in their digital lives. A less vertical, more collaborative-cooperative pattern is defended by these teachers, because it would be a more compatible approach to their students' experience out of the school, reaching out to a pattern of student's authorship that would be *less artificial*. Some teachers are fond of this new pattern and some have just begun to make changes in their pedagogical actions, but we see in these attitudes a *personal mission* aiming at reformation of pedagogical actions.

4. The *acceptance-resistance binomial*, which sums up the tension between *solidified pedagogical* actions and *emerging pedagogical actions*, reflects this dispute between so-called innovating practices and those pointed as lagged. We can see a *tension zone* in the school environment, in which the digital media, by its informal characteristics and open interaction, ends up being the catalyst.

We observe that there are two different fields of action and patterns of behavior, which causes a tension in the school environment: *out of the classroom* in an informal context, where the youth generally dominate and feel at ease (they are not monitored and evaluated), and *in the classroom* in a formal context, where the teacher, even the one considered to be "modern", has a formally established control.

The issue is on how to think the student's learning pattern, or how to think the teacher's teaching pattern, on topics that the school defines as priority and necessary in its curriculum (legitimate).., considering this teacher, called here *pioneer* (Midoro et al., 2003), a teacher who seeks to come up with alternatives that make the student *gain an interest*, using digital medias and its tools taken from an informal context for pedagogical means, though the student remains inside an institution that deals formally with contents.

The internet is a *factor of disturbance* the school ends up having to face, generating various problems, a collision between spaces that work with different logic, because the school is built with its rules and ways of operating that have been long ago established and shared by society (tradition). It's a matter of finding out what will be done, in terms of pedagogical practices, in an environment that has so many distinct possibilities, with the power of even changing the cultural and social behavior of the youth, the main constituent of this institution.

Evidently teachers do not react likewise in this context, some more resistant to the use of digital media (neophyte) and others accepting the dynamics of the media and making use of it (users or pioneers), as proved by the *Ulearn* research (Miodoro et al., 2003). In fact, the research *Masters on the Web*, when compared with the results of the research *Youth in Network*, pointed the unevenness of adhesion and diversity of uses between teachers and students.

We deal with the student and his representation of what learning and evaluation mean in a school, as well as with leaders, school managers and parents' representations. Each of these *public-agents* have their own view and personal experience with the internet, and with education, and this negotiation game reflects in the practice of the teacher, who has his own view on how the use of digital media should happen in formal learning processes.

We are also dealing here with disputes concerning behaviors in facing the teaching-learning process, a dispute involving *pioneers*, non-resistant, or more open to the introduction of digital medias in the classroom and the *traditionals* (or even backward) concerning the use of medias, preferring the use of resources and strategies established previously, in a *stability zone*, i.e., the student is less a producer and more a spectator of contents studied in the classroom. It is a collision of interests and personal definitions of "ideal teaching",

or a dispute of what should be more appropriate (a "paradigm") in the organization and development of learning inside the classroom.

TEACHING DISPUTES: THE *VANGUARD SPEECH* AND THE *TRADITIONAL SPEECH* AS THE TENSION SPOT IN TAKING IN AND USING DIGITAL MEDIA

It is common in speeches about the use of media in classroom the issue of *inevitability of adopting* the *emergent paradigm* that has come with the spread and use of digital supports. Obviously changing practices and approaches are part of the routine of relations in society and even of the dynamic of behaviors and rules among individuals, even though they are perceived very slowly in certain contexts.

Therefore we need to understand a little about how the reasoning about the inevitability of a change develops itself so that we might know which sort of dispute is at play, because among the teachers selected as *pioneers* in the Martins' research (2011), one of the main arguments brought up was that the way they operate is in harmony with the society and its current courses. The speech here that would be called *vanguard* would be characterized by the inevitability of adopting digital media in the classroom, because society would be marching towards change with the constant increase of this adoption (statistics that show increase in connection to the internet and digital support sales give support to this statement). In such context, the school would have to commit to change its teaching system, using collaboration and cooperation techniques between students and teachers (decentralization of teaching), and a more intuitive way of non-linear searching and organizing information, such as we find when observing the hypertextual architecture of the web.

From this point of view, the school that now cannot centralize the access to information and the distribution of knowledge through printed media (piles of books and magazines) given the instantaneous access on online data bases should modify its environment and its way of managing information for educational means, instructing the student on more open teaching methods.

The *modern* teacher (or pioneer) would then be the one who would not settle into an industrialized education, repetitive, unified and linear, i.e., he opposes to the *traditional* teaching, practiced by most teachers. Consequently, we realize that the digital media ends up carrying with it a speech about what it should change in terms of educational practices, in a way something that would come from the new digital environment that is nowadays increasing (its use) in its various forms (mp3 players, netbooks, tablets, mobile phones, ATM machines).

The one who opposes himself to this process would be a non-user traditional teacher and the teacher who shows a new way of behavior would be an active user of digital medias and of vanguard. Up to now the issue is quite clear, and we can see that in order for a pioneer teacher to exist there needs to have a traditional teacher or even one that is foreign to new technology, as contrasting positions.

We cannot uphold these radical categories, mutually excluding. Extreme limits are nonexistent in reality.

Another point that is not always clear is the constitution of agents and the way of influence in actions of this *new paradigm of education with media*. That's why we need to map out the *environmental conditions* in the process of adopting digital medias for educational means, aiming to clear up factors involved in a complex system of relations, such as the data collected in the third research with pioneer teachers and bloggers has shown.

ENVIRONMENTAL CONDITIONS IN APPROPRIATING DIGITAL MEDIAS BY THE TEACHER IN THE CLASSROOM

We are here nominating *environmental conditions* factors that are involved in teachers adopting digital, especially the internet, in *pedagogical action* with students, beyond a dispute between avant-garde teachers and traditional teachers in their use of tools and digital spaces. Among factors exposed through speeches gathered at the qualitative phase of Martins's (2011) research, that would be part of this environmental condition, we mention:

Factors out of the school environment:

For public schools, the *Brazilian government actions* accomplished throughout the country, in states and cities are necessary, not only to equip schools with essential digital technology but also to train the teachers permanently in what concerns inserting and incentivizing the adoption of digital media in classroom, their projects, and definition of maintenance of such projects when facing change of government and departments.

In a more general plan, the *guidelines of private companies*, that nowadays keep the main tools for free internet use, in the same way they make platforms available, such as Web 2.0 highly used by teachers, they can delete websites, because of insufficient numbers of clicks (and lack of advertisements), block them

changing them into paid websites, delete or add functions, without being concerned with educational projects that might be happening in their platforms.

Factors in the school environment:

The *school managers* and their guidelines for action (school policy) have an important role, by how they guide the school's general goals or how they guide the approach given to using digital media in some specific subject.

The *colleagues* more or less interested in the use of digital media have a relevant position on many levels, with encouraging words, destructive criticism, or even for being neutral in their resistance (indifference). This is one of the tension zones most mentioned by the teachers.

The *infrastructure available* in the school, quantity of equipments by students and how updated and conserved they are, the internet speed and available space (free or connected to schedules) is closely connected to external factors represented by governmental policies, concerning public schools. It can be represented by the computer lab or by private equipment owned by students (laptop and mobile phone).

The *parents' intervention* can be supportive and encouraging, but they are also critical of the activities, either because they fear digital media or because they lack knowledge on it. Could we then categorize them as *avant-garde parents* or *traditional parents*?

At last we have the *students' adhesion and support*, their engagement or distance in relation to the proposed activity, because, as the main constituent for which a school project is built, they become the thermometer of pedagogical actions. However, they are often considered as the last bit of a very complex interaction process, as this list shows. Considering what was discussed on the results of the Youth in Network research in what concerns their expectations, could we also categorize them as *avant-garde students* and *traditional students*?

As the empiric research of Martins (2011) has shown us, environmental conditions influence the adoption, maintenance or dropping of activities with digital media, because it was made clear that the teacher by himself, even if he acts as a *technological and pedagogical pioneer*, is not able to create and maintain a permanent activity with the use of media, and many get frustrated when they have to abandon projects that, from their point of view, worked fine and had a significant adhesion from their students.

Though the internet allows a personal website or a project to be opened very easily, if the teacher gets hindered by the instability of such environmental conditions, in his pedagogical action, it becomes difficult to follow through with activities. It is not unusual that we find abandoned blogs, with old posts or that report one year or one semester of activities with a group of students.

WARNING: GUILTY WANTED...

Because we have so many *surrounding conditions*, it is common, in teachers' speeches, a vagueness as to who is the "guilty one" of a failure with a project involving digital medias, sometimes being the school and its management, other times the teachers and their lack of adhesion, sometimes the parents, or lack of equipments or their inexistence, and at last the students' lack of interest. A mix of these factors is common in their speech.

More broadly, we can say that these factors, in a complex interaction system, make the pedagogical activity with digital media very unstable during a period of time, and in a school year. For instance, the speed with which internet tools come and change is one factor that can stop an ongoing project in the school, when a tool that was free for access gets converted into paid tool or it's deactivated. That happened to *Ning* for social networks and to *Google Wave* for communication and group work, both mentioned by *pioneer teachers* in our work groups.

We can add here, generally speaking, a factor that is connected to digital media itself: its constant modification in terms of technological architecture, as mentioned in items 1 and 2 of this article, argument built from the data research from weekly magazines. Digital media is built based upon a complex network involving private companies, public corporations, political ideology, market battle, agreements for adoption of standards, serious disputes between products.

All of this creates an unstable system that has results such as shown by the research of Martins (2011), which has concluded that pioneer teachers, in case they cannot catch their breath (time and resources) to follow these modifications, might stop their work and their expectations frustrated. In other words, the resource known and used today might become inexistent or overtaken by new standards tomorrow. This fact made the process of defining oneself filled with anxiety, when the author of the research promoted a self-categorization list of the discussion, where many teachers did not know whether they would define themselves as pioneers, modern or neophytes, changing their category time and time again or choosing many categories.

CONCLUSION: AN EVERLASTING TRANSITIONAL PHASE?

We start this conclusion opening a reflection about two words: *instability* and *transition*.

Let us think about the instability of technological changes. When we consider categories such as *pioneers*, *practitioner* and *neophyte*, or even *digital native* and *digital immigrant*, we need to know what type of technological object and use they relate to.

This issue of temporal location of the exact way we use media can cause some confusion about categories such as *avant-garde* and *traditional* for a type of behavior, and consequently what is considered to be a new or an old paradigm.

Can we then talk of an *everlasting transitional phase*? It seems that the dynamics of digital media development, a long process of media evolution dated from some millenniums (from the first language constructions to the digital highways), is nowadays a dynamic of constant and accelerated changes. Successive transitions, in constant acceleration, in an unstable universe, seem to be the law when we think of media in the past decades.

If we are talking about teachers and their behavior when facing such transformations and transitions, we can also suppose that a student might be in similar categories, in what concerns his learning process. It might sound strange that we have a category for a "traditional" student who has lived with older patterns and has inherited them directly, but this is not only possible but it exists and is more common than we think.

Our youth today are born into a culture of linear reading, where the book is sacred and the assessment summative and meritocratic. Since early age, they are subject to this, and at this point they reflect the ties of the cultural rules. We have seen in some of the teachers' speech in the research of Martins (2011) that there are students resistant to more open and cooperative learning patterns. Therefore, we can find the habit secularly brought into the school concerning content explanation and assessing processes in school teaching, as well as the "choice" the students make connected with how much time they wish to spend doing something they do not regard as very important (acquiring knowledge to do a test and get a passing grade).

For the teacher who aspires to use digital media in the classroom, besides the resistant teacher we now find the *resistant student*. This seems hard to grasp, but it is reality.

Therefore, the question mentioned makes us think about diversity of teaching methods and strategies, making it seem, mistakenly, that the choice for a specific model as the only standard of teaching-learning is desirable. Absolutely not.

We here defend a more diversified way of teaching, less *manufactured* in the sense of it being the only option for everyone. We also drift away from the dual issue *new pattern – old pattern* and get to the question: what patterns can I adopt considering my students and the surrounding conditions where I find myself (managers, parents, co-workers and governmental politics)?

This way the teacher does not stop carrying out forefront actions, at the same time, he is aware of factors which he cannot control completely, such as school policies and governmental policies, cultural and methodological traditions of the institution he is in.

What is proposed here, therefore, is that the binomial teacher-learner might be analyzed not only through their media use, but, mainly, that they should be located in ecology of factors which forms the *stable/unstable school structure*.

Such analysis is complex in itself, but, we believe, it would help first and foremost to take away the huge expectation and responsibility placed on the teacher, who starts to place himself in a broader context and be aware of the most adequate strategy for the moment, being even able to adapt it over time. Through research developed by JER the unevenness in adopting technology is evident among teachers and students. However, if we compare our results with research about adoption of digital media done five years ago (Abreu & Nicolaci-da-Costa, 2006; Silva & Azevedo, 2005), we can see that teachers are much more familiar now with computing and internet technology in their day-by-day routines, naturalizing them as they use them, whether by study/work obligation or by volunteer adoption.

If we think more broadly about the fact that technology changes its format and new "natives" come up all the time, homologue to balancing of the course of human life, an everlasting technology transitional phase will always generate a development curve outlined by avant-garde and retrogressive, but always showing a greater number of people who are constantly moving, because there will never be an evenness in levels. It becomes more important, then, to create conditions for mapping the surrounding so that this teacher might be able to determine which way to go, when to start and with whom, without pointing anyone as being "guilty".

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237 - High School Students' Satisfaction with Studying Mathematics by Themselves Using Learning Object Material

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Abstract: Information and Communication Technologies (ICT) usage has dramatically increased in society and in people's lives; particularly among younger people. Therefore, it was interesting to give students an opportunity to study mathematics via Learning Object Material (LOM) in CD ROM. The lessons were produced to help students studying by themselves. The objectives of the study were to investigate students' satisfaction with the study method and to measure their achievements.

The population was high school students. The sample consisted of 200 students; 50 randomly selected from each of four schools. The instruments were six LOMs in a CD ROM on the topics of the circle and the parabola, and a set of questionnaires. Each LOM was produced using Flash MX and included a pretest, contents and examples, a variety of exercises with solutions, pictures and graphs, and a posttest. The questionnaire asked about students' satisfaction with studying from the LOM and the presentation of the contents.

Students were asked to study the contents from the LOM before studying in class with a teacher. They were told to follow the instructions and keep the results of the pretests and posttests. After studying, they were asked to fill in the questionnaire. Five students from each school were interviewed about studying from the LOM. Completed questionnaires and pretest and posttest results were presented by189 students (94.5%).

It was found that students were generally satisfied with the lessons. They enjoyed studying from LOM. They were able to repeat the lesson when they did not understand. They liked to study the lessons because they were able to study any time they wanted to. They had reviewed basic knowledge that prepared them for the lesson. They gained more knowledge. They were able to evaluate their knowledge. The lessons contained enough content and exercises and were appropriate. Students said they preferred to study the lessons from LOM after studying in the class because they would like to have some basic background about vocabulary first, even though this was provided in the LOM, and review the lesson before examination. Results, compared by t-test, showed that the scores on the posttests were significantly higher than the pretests at a .05 level.

The results showed that students were able to study by themselves from media with contents carefully designed to meet their needs. Students also benefitted from the flexibility of usage. Students gained knowledge, studying by themselves, before studying the same contents in the class with their teacher. They preferred, however, to study the lessons from LOM after the class. They may be used to being taught in the class. Studying independently from media is not the learning culture of Thai students at school level. If schools introduce media as a supplement it will build students' confidence to find knowledge outside the class. It will not only help students to gain knowledge, but also help teachers to spend less time teaching and help the schools in case of teacher shortages. It is concluded that technology can change the culture of education.

Keywords: Learning Object Material, LOM, Students' satisfaction, Study mathematics via LOM

INTRODUCTION

This is the era of technology. Technology has influenced a lot of development and changed human society. Most people have more access to media. Society must adapt to this new era to survive. In the education system it is the same. Technology is being used as a tool for teaching and learning. It can make learning really interesting for today's students for whom books may not be exciting as educational content from computer that is designed to interact with their lessons quickly, immediately and easy to use anywhere at any time without prior notice and there is no need to carry. As Maharey, Steve (2011, 2) noted "New technologies and new models of learning may finally change the way we have learned for centuries." He also said that "the best of collaborative face-to-face learning and a rich digital environment that will also support collaborative learning."

Information and Communication Technology (ICT) usage has dramatically increased in society and in people's lives; particularly among younger people. Therefore, it was interesting to give students an opportunity to study mathematics via Learning Object Material (LOM). A Learning Object is a unit of instructionally sound content centered on a learning objective or outcome intended to teach a focused concept. It is a fundamental building block composed of all the instructionally necessary components to comprise a self-contained instructional unit. While traditionally, education content came in blocks lasting for several hours, learning objects are a much smaller unit of learning, typically ranging from 2 to 15 minutes. Each learning object can be taken independently and is reusable. A single learning object may be used in multiple contexts for multiple purposes. They can be grouped into larger collections of content, including traditional course structures and have descriptive information allowing them to be easily found by a search (Beck, Robert J., 2009). Learning Objects can be delivered over the internet and can be accessed by a number of individuals simultaneously, with minimal effort, reducing the need for instructors to develop their own instructional components. They allow for increased speed and efficiency of instructional development and decrease faculty preparation time (Freeman, 2004).

Teaching and learning by using LOM can be an alternative option that allows students to learn by themselves. LOMs might not be able to replace teachers, but they can help students to cope with certain problems. Students can interact with the lessons and be able to study them as many times as they wish. If students gain knowledge and satisfaction from the lessons they will pay more attention. It helps teachers. The teacher can arrange more lessons on digital media and take them into the classroom as part of instruction where appropriate. This project was initiated by Sukhothai Thammathirat Open University to provide media for its students who study on their own, and for social service. Since the contents of mathematics overlapped with high school curriculum, it was interesting to see whether learning by distance be suitable for high school students or not. Objectives of the study were to investigate students' satisfaction with the study method and to measure their achievements.

METHOD OF STUDY

The population was high school students. The sample consisted of 200 students; 50 randomly selected from each of four schools. The instruments were six LOMs in a CD ROM on the topics of the circle - concept of circle, equation of a circle, the center point and radius of a circle in a general form of the equation, and parabolas with vertices at the origin and at any point on the X or Y axes, and their applications, and a set of questionnaires. Each LOM was produced using Flash MX and included a pretest, contents and examples, a variety of exercises with solutions, pictures and graphs, and a posttest. Voice recordings providing an introduction to the LOM, outlining the objectives and explaining how to do some of the examples was included. Basic knowledge was supplied in cases where needed. These LOMs were approved by an expert committee appointed by The Computer Department of Sukhothai Thammthirat Open University. A set of questionnaires asked about students' satisfaction with studying from the LOM, how they study from LOMs and the presentation of the contents. The five-point Likert Scale, strongly agree (SA), agree (A), no opinion (NO), disagree (D), strongly disagree (SD) was used. There were 24 items and an open ended request for suggestions. It was examined for validity by three specialists and tried out with 48 students of year 10 who were not in the sample. The Reliability of the questionnaire was .866 by using Cronbach's Alpha.

Students were given a CD ROM of LOMs. They were required to study the contents before studying in the class from their teachers. Questionnaires were completed after the study. There were 189 out of 200 students (94.5%) who returned completed pretests, posttests and questionnaires. The data from the questionnaires were analyzed by using percentage, average and standard deviation. The comparison of the pretests and posttests was made using the t-test. The average scores from the rating scale of questionnaire were interpreted as follows.

$\overline{X}$	Level of satisfaction	Level of Opinion
4.50 - 5. 00	Very satisfaction	Strongly agreed
3.50 - 4.49	Satisfaction	Agreed
2.50 - 3.49	Moderate	Moderate
1.50 - 2.49	Dissatisfaction	Disagreed
1.00 - 1.49	Very dissatisfaction	Strongly disagreed

RESULTS

The results were divided into four topics: 1) students' background, 2) students' satisfaction towards LOM, 3) how students studied from LOM and 4) students' achievements.

Students' background: There were 189 students from four schools. Nearly three quarters (72.5%) were females. More than a half (69.8%) studied in the Science and Mathematics stream. About a third of them (36.5%) received grade mathematics grade point average from last semester of 3, followed by grade 2 (30.7%) and grade 4 (25.4%). The rest received grade 0 (1.6%). Details are in table 1.

Table 1: Students' background

Item	N	%
Sex	**189**	**100.0**
Male	52	27.5
Female	137	72.5
Study Stream	**189**	**100.0**
Science and Mathematics	132	69.8
Mathematics and Language	57	30.2
Mathematics grade point average from last semester	**189**	**100.0**
4	48	25.4
3	69	36.5
2	58	30.7
1	11	5.8
0	3	1.6

Satisfaction towards LOM: The satisfaction was divided under two headings, students' satisfaction with the lessons and the design as follows.

Students' satisfaction with the lessons: In general students were satisfied with the lessons (3.76). The data were shown both by average and percentage. The items were ranked from the highest average to the lowest. Students were satisfied that they were able to repeat the lesson when they did not understand (4.49). They studied the lessons in order as required (4.17). They liked to study like this because they were able to study any time when they wanted to (4.13). They found that they were able to review the basic knowledge that was included in the lesson (4.12). Most importantly, they said that they gained more knowledge (4.11) and were able to evaluate their knowledge (4.04). Details are in table 3.

Table 3: Students' satisfaction with the lessons

	N	SA	A	NO	D	SD	$\overline{X}$	S.D
Students' satisfaction with the lessons.							**3.76**	**.394**
I was able to repeat the lesson when I did not understand.	189 (100.0)	97 (51.3)	87 (46.0)	5 (2.6)	0 (0.0)	0 (0.0)	4.49	.552
I like it because I was able to study any time when I want to.	189 (100.0)	75 (39.7)	77 (40.7)	27 (14.3)	7 (3.7)	3 (1.6)	4.13	.904
I had reviewed basic knowledge that added in the lesson.	189 (100.0)	45 (23.8)	123 (65.1)	19 (10.1)	2 (1.1)	0 (0.0)	4.12	.608
I gained more knowledge.	189 (100.0)	53 (28.0)	107 (56.6)	27 (14.3)	1 (0.5)	1 (0.5)	4.11	.694
I was able to evaluate my knowledge.	189 (100.0)	45 (23.8)	109 (57.7)	33 (17.5)	1 (0.5)	1 (0.5)	4.04	.695
I was satisfied with lesson in general	189 (100.0)	23 (12.2)	102 (54.0)	51 (27.0)	9 (4.8)	4 (2.1)	3.69	.826
I enjoyed studying with the LOM.	188 (100.0)	18 (9.6)	112 (59.6)	40 (21.3)	15 (8.0)	3 (1.6)	3.68	.818
I did not feel embarrassed when I made a mistake as in the class.	188 (100.0)	52 (27.7)	63 (33.5)	39 (20.7)	26 (13.8)	8 (4.3)	3.66	1.147
I like it because I was able to control my studying.	189 (100.0)	33 (17.5)	67 (35.4)	70 (37.0)	16 (8.5)	3 (1.6)	3.59	.928
I felt that it was not fun like studying in a class.	189 (100.0)	29 (15.3)	50 (26.5)	81 (42.9)	26 (13.8)	3 (1.6)	3.40	.960
It was convenient because there was no need to attend the class.	189 (100.0)	24 (12.7)	71 (37.6)	55 (29.1)	29 (15.3)	10 (5.3)	3.37	1.057
I am able to learn and to understand mathematics by myself.	189 (100.0)	10 (5.3)	75 (39.7)	75 (39.7)	27 (14.3)	2 (1.1)	3.34	.826
It was more difficult than studying in the class.	189 (100.0)	25 (13.2)	46 (24.3)	78 (41.3)	36 (19.0)	4 (2.1)	3.28	.988

Students' satisfaction with the design: In general students were satisfied with the design (3.76). They were satisfied with the variety of exercises which helped them learn more (3.90), the pretests and posttests were appropriate (3.89), animation/pictures/graphs made the lessons interesting (3.89), the given solutions helped to understand the contents more (3.85) and there were enough examples to learn (3.81). Details are in table 4.

Table 4: Students' satisfaction with the designing

Item	N	SA	A	NO	D	SD	$\bar{X}$	S.D
Students' satisfaction with the designing.							**3.76**	**.566**
Variety of exercises helped me learn more.	188	32	108	45	3	0	3.90	.682
	(100.0)	(17.0)	(57.4)	(23.9)	(1.6)	(0.0)		
The pretests and posttests were appropriate.	188	33	110	38	6	1	3.89	.738
	(100.0)	(17.6)	(58.5)	(20.2)	(3.2)	(0.5)		
The animation/pictures/graphs made the lessons interesting.	188	43	95	39	9	2	3.89	.846
	(100.0)	(22.9)	(50.5)	(20.7)	(4.8)	(1.1)		
The given solutions helped to understand the contents more.	188	31	109	38	9	1	3.85	.766
	(100.0)	(16.5)	(58.0)	(20.2)	(4.8)	(0.5)		
There were enough examples to learn.	189	35	95	47	12	0	3.81	.809
	(100.0)	(18.5)	(50.3)	(24.9)	(6.3)	(0.0)		
There were enough exercises to drill and to learn.	189	32	91	47	15	4	3.70	.916
	(100.0)	(16.9)	(48.1)	(24.9)	(7.9)	(2.1)		
The recorded voice explanations help to avoid the contents being boring	188	24	58	64	27	15	3.26	1.105
	(100.0)	(12.8)	(30.9)	(34.0)	(14.4)	(8.0)		

How students studied from LOM: Students were asked how they studied from the LOM. They had discipline in that they studied the lessons in order as required (4.17). They thought about and solved the problems every time before they answered (3.89) and studied the lessons seriously (3.76). Details were in table 5.

Table 5: How students studied from LOM?

How students studied from LOM?	N	SA	A	NO	D	SD	$\bar{X}$	S.D
I studied the lessons in order as required.	186	63	94	27	2	0	4.17	.707
	(100.0)	(33.9)	(50.5)	(14.5)	(1.1)	(0.0)		
I thought about and solved the problems every time before I answered.	189	37	103	41	7	1	3.89	.774
	(100.0)	(19.6)	(54.5)	(21.7)	(3.7)	(0.5)		
I studied the lesson seriously.	189	25	100	58	5	1	3.76	.732
	(100.0)	(13.2)	(52.9)	(30.7)	(2.6)	(0.5)		
I answered the questions by trial and error and clicked the solution.	188	21	65	34	45	23	3.09	1.234
	(100.0)	(11.2)	(34.6)	(18.1)	(23.9)	(12.2)		

Students were asked whether they had problems using the LOM or not. Nearly three quarters did not have any problems while 26.6% of them did have problems. Details are in table 6.

Table 6: Problem in using LOM

Item	N	%
Problem in using LOM	**184**	**100.0**
No	135	73.4
Yes	49	26.6

When interviewed about problems using the LOMs, students said when they did not understand they could not ask anybody; some contents were hard to understand; they would like to have more examples and the sound was slower than they could read and more formal.

Also in the interviews, students said they preferred to study the contents in the class first and then use LOMs as supporting media to review the contents before the examination; but it was alright to study the LOM before the class because they could understand the contents quicker than without it. Some students said their parents were curious about what their children were watching on the computer when they heard the unfamiliar voice explaining. Their parents were pleased to find out that their children were studying from a LOM instead of playing games.

Students' achievements

Students' achievements were compared from the average scores of pretest and posttest, 9.94 and 16.99 respectively from the total of 25. It was found that the posttest scores were significantly higher than the pretest at a .05 level. Details are in table 6.

Table 6: Comparison students' scores on the total pretests and posttests

Item	N	$\overline{X}$	S.D	t	df	p
posttest	189	16.99	4.099			
pretest	189	9.94	4.087	56.988	188	.000

Since the average score on the posttest was approximately 65% of the total score (25 marks), it was interesting to investigate, using a t-test, whether students' achievement from the posttests scores were significantly higher than 65% of the total score or not. The finding showed that the average score of the posttests was significantly higher than 65% at a .05 level. Details are in table 7.

Table 7: Comparison the average score of the posttests with 65%

Item	t	df	p
posttest	2.480	188	.014

CONCLUSION AND DISCUSSION

It was concluded that high school students were satisfied with using LOMs. Their achievements showed significant progress. Students were satisfied with studying using LOMs because the LOMs were designed in small units with emphasis on concept, drill, enough exercises, immediate feedback and animations (Beck, Robert, 2009). Students were able to assess their progression. They were able to study as many times as they wanted, to gain knowledge. They did not feel embarrassed when they made mistakes as they did in class. They also found the instructions easy to follow and were not tempted to skip steps and just look at the answers.

These results were reflected in the outcome of the achievement. Students gained more knowledge and the average score was significantly higher than 65%. In general, Thai students' scores in mathematics are very low (Aramnet, Chuleeporn, 2010 and Intathep, Lamphaic, 2011). Aramnet, Chuleeporn said that the Deputy Education Minister Chaiwuti Bannawat reported that the average scores for the ONET (Ordinary National Educational Test) for year 6, year 9 and year 12 levels in Thailand were below 50%. Intathep, Lamphai (2011, 4) stated that in the 2011 ONET tests for students in year 6 and year 9 in mathematics the average score was 14.99%. She also reported that educators said that there was an urgent need for overhaul of the way students were taught.

The use of LOMs could be one alternative strategy for teachers not only to help students to become more interested in mathematics and more independent in their approach to learning, but also to help them gain more knowledge.

SUGGESTIONS

The results from the study showed that high school students were satisfied with studying from LOMs and their achievements on the posttests were significantly higher than their scores on the pretests as well as higher than 65% of the total score. It was an indicator that digital media can help students learn by themselves. The culture of teaching and learning may be changing, from face-to-face to independent study with some help from the teachers. Therefore, education institutions should pay attention to the possibility of sharing educational materials. It is not only cost saving but it helps solve the problem of teacher shortages and encourages students be independent learners. The sharing of Learning Object Material between schools would also benefit teachers by exposing them to a range of different approaches to the teaching of their subject, helping them to broaden their approach to their own teaching.

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285 - Educating Teachers in ICT: from Web 2.0 to Mobile Learning

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Abstract: This paper focuses and reflects on ICT programs for teachers in pre-service and in service enrolled in Master Courses at the University of Minho. We briefly present its evolution starting from the nineties. We propose five topics, beginning with a contextual understanding of learning in the 21st century, evaluation of online resources, creating educational resources such as Treasure Hunt and WebQuest to take advantage of the information available online, publishing and interacting using Web 2.0, and mobile learning. A study aimed at Master students from Educational Technology was conducted and inquired as to their Web literacy as well as their reception to mobile learning in schools.

Keywords – ICT, Web 2.0, Mobile Learning, Teachers training

This paper focuses on ICT programs for teachers in service and in Master Courses at the University of Minho. One of our concerns is related to ICT skills and competencies to be acquired by teachers in order to motivate their students, the Net generation, as Don Tapscott calls them, or the "thumb" generation (Rheingold, 2002). They must be familiar with the use of Web resources and Web 2.0 tools. More recently, mobile learning is an emergent concept that results from e-learning technical evolution. The teachers must be familiar with and know how to create interactive activities for mobile devices as students have several mobile devices they can use to learn anywhere at any time.

The UNESCO's project "ICT Competency Standards for Teachers" declares that schools and classrooms "must have teachers who are equipped with technology resources and skills and who can effectively teach the necessary subject matter content while incorporating technology concepts and skills" (UNESCO, 2008, p. 1). The Portuguese government has shown concern in up to date school equipment, teachers and students laptops through several initiatives such as "e-school "(e-Escola), "e-little school" (e-escolinha) with the laptop Magellan, and "e-school 2.0". Teachers training in school centers or in Higher Education must prepare teachers to be active and skilled in integrating ICT in their teaching contexts. We believe, as Richardson (2006) also pointed out, that if we want to have teachers to teach Web 2.0 technologies effectively, they must learn to use them effectively.

ICT PROGRAMS FOR TEACHERS

We briefly describe the evolution of the ICT programs which intends to integrate technological evolution. It has also a duration constraint. Before Bologna, our undergraduate students had two semesters of Educational Technology, a full year course integrated in a five year teaching program. With Bologna, we only have Master students that are enrolled in one semester only.

In the nineties, we started with Web 1.0, evaluation of the information online and the construction of Websites using FrontPage. They learned how to publish a website in a public and free server. This was very useful for them as they were able to create a website to support the resources for their students and the activities they would like to carry out online.

Later on, we introduced WebQuest, created by Bernie Dodge and Tom March in 1995, and the Treasure Hunt, as two modes of guiding students through selected websites (Carvalho, 2003).

With the appearance of Web 2.0, we introduced blogs and social networks such as Hi5, Facebook and Linkedin (Carvalho, 2006). Afterwards, we gave importance to podcasts, starting with audio podcasts, enhanced podcasts, vodcasts, and screencasts (Carvalho, 2010, Carvalho & Aguiar, 2010, Carvalho et al., 2009). Now, we feel it is time to introduce mobile learning in ICT programs.

Mobile learning is a natural consequence of the emergence of a new global digital communication society which enables new forms of learning to occur in different contexts (Sharples et al., 2009). Moreover, we realized that students in schools do not bring their laptops to class because they are heavy (Moura & Carvalho, 2008; Certal & Carvalho, 2011). However, they bring their mobile phone, their MP3/MP4 player,

or their Sony PSP. Teachers must learn how to create resources that can be accessed by their students' mobile devices.

We think that five main topics must be focused on when it comes to ICT programs: i) learning in the 21st century, as the contextual framework for all other topics; ii) evaluation of online information; iii) creating resources that foster web exploration, such as Treasure Hunt and WebQuest; iv) publishing and interacting in Web 2.0, such as through Google Sites, Podcasts, and social networks; and v) mobile learning. These five topics will enable the teacher to be updated and capable of teaching his/her students using ICT.

LEARNING IN THE 21ST CENTURY

For centuries, being literate has been defined as being able to read and to write. Although those core abilities are crucial in learning, they are no longer enough to ensure understanding (Richardson, 2006). Consumers of Web content need to be editors as well as readers. Anyone with access to Internet can publish without any prior review. This requires that teachers teach their students to become increasingly active consumers of that information instead of just accepting it as legitimate.

In order to truly take advantage of the power of the read/write Web, we must be literate in the sense of publishing (Richardson, 2006). We must be able to work with others in virtual environments. Writing is no more limited to text in a multimedia society. It is possible to combine many forms of writing into a process of rip, mix and learn. Siemens & Tittenberger (2009) refer that our learning and information acquisition is a mashup. Knowledge is a function of connections and understanding is the emergent shape of the network (idem).

We must know how to manage the information we consume. Web 2.0 can support these literacies (Richardson, 2006). The classroom of the Read/Write Web is of collaborative and individualized learning as well as of active participation of class members. The classroom is characterized by the continuous process of creating and sharing content. By inviting students to become active participants in the design of their own learning, we teach them how to be active participants in their lives and future careers (Richardson, 2006).

Teachers must start to see themselves as connectors, not only of content but of people (Richardson, 2006). They also need to collaborate with their students as well as with each other. They must begin to see themselves more as learners alongside their students. They need to think themselves as coaches who model the skills that students need in order to be successful and motivate them to strive for excellence.

Siemens (2005) stresses that "our ability to learn what we need for tomorrow is more important than what we know today". The author reports a vital skill: the ability to plug into sources in order to meet the requirements of new knowledge. Learning is the process of creating networks (Siemens, 2006). Connectivism is driven by the understanding that decisions are based on rapidly altering foundations. The idea of connectivism in learning is very interesting and pertinent however, we do not consider it a learning theory as the author refers. The increased complexity of our world does not permit any one individual an accurate understanding of the entire scope of a situation, field, or subject. We rely on connected specialization – where we increase our competence by adding specialized functionality to our network (Siemens, 2006).

EVALUATION OF ONLINE INFORMATION

As everyone can publish online, it is important to remember students that evaluating online information is necessary. Criteria for evaluating information online are presented, based in Alexander & Tate (1999), Schrock (2002), Richmond (2003), Treadwell (2006), and Jonassen (2007). The Web becomes a source of content for teaching and learning. Concepts such as quoting and plagiarism are focused, as well as standards for writing references.

After this important step a new one emerges: the construction of activities based on the information online such as Treasure Hunt and WebQuest.

CREATING RESOURCES THAT FOSTER WEB EXPLORATION

Usually we introduce Treasure Hunt and WebQuest. We prefer to start exploring the Treasure Hunt, followed by its creation. It is simpler than WebQuest and is very useful for guiding students to learn about a topic.

Students learn the importance of the Introduction to motivate the target audience. The sequence of questions regarding the topic with web links, and finally how the students will submit their work (table 1), for example, sending it by email to their teacher.

Table 1: Structure of a Treasure Hunt

Treasure Hunt	Description
Title	Target audience The author's name Author's e-mail
Introduction	To motivate the students about the topic.
Questions	Under each question, the Web links to find the information.
Last remark	To inform the students how to submit their work

In my classes, I suggest that my students post their Treasure Hunt in their blog or in another Web 2.0 tools, such as Issuu. This way, they can create a Treasure Hunt easily.

Afterwards, students are invited to analyze a WebQuest using a grid. The students learn a lot when they have to create a challenging WebQuest. It is very demanding and time consuming because everything is explicit especially all steps of the Process, and in the Evaluation with the self and peer evaluation grids.

A WebQuest contains five components: Introduction, Task or Tasks, Process, Evaluation, and Conclusion (Dodge, 1999a).

Table 2: Structure of a WebQuest

WebQuest	Description
Title	Target audience The author's name Author's e-mail
Introduction	To motivate the students about the topic.
Task (s)	The task is the single most important part of a WebQuest. A well designed task is doable and engaging, and elicits thinking in learners that goes beyond rote comprehension. Dodge (1999b) creates a WebQuest taskonomy, i. e., a taxonomy of tasks.
Process	Describes all steps to achieve the task or tasks.
Evaluation	Indicates how the product and the students will be evaluated. Questionnaires and grids help this evaluation for self and peers evaluation.
Conclusion	Presents what the students gain in solving the WebQuest and a new challenge is proposed: a new website, a new question, a game, …

According to Dodge (2007) a real WebQuest has the following attributes:

-"is wrapped around a doable and interesting task that is ideally a scaled down version of things that adults do as citizens or workers;

- requires higher level thinking, not simply summarizing. This includes synthesis, analysis, problem-solving, creativity and judgment;

- makes good use of the web. A WebQuest that isn't based on real resources from the web is probably just a traditional lesson in disguise. (Of course, books and other media can be used within a WebQuest, but if the web isn't at the heart of the lesson, it's not a WebQuest);

- isn't a research report or a step-by-step science or math procedure. Having learners simply distilling web sites and making a presentation about them isn't enough;

- isn't just a series of web-based experiences. Having learners go look at this page, then go play this game, then go here and turn your name into hieroglyphs doesn't require higher level thinking skills and so, by definition, isn't a WebQuest."

Students were required to check the WebQuest developed in the WebQuest evaluation rubric (Bellofatto et al., 2001) and the Fine Points Checklist. With our experience, we realized that teachers with several years of teaching experience understand better what to write on each WebQuest component, however, they tend to propose a task similar to what they teach. It takes time to understand the idea of a challenging task. The younger teachers or those with no teaching experience have difficulties in developing the Process and the Evaluation (Carvalho, 2003; 2006) and thus, particular guidance is needed.

PUBLISHING AND INTERACTING ON THE WEB 2.0

The appearance of Web 2.0, an expression proposed by Tim O'Reilly (2005), changed the way we can publish and connect people and ideas. The Web 2.0 tools are easy to use because they are user friendly.

Publishing online became as simple as writing on a word processor. The RSS feeds allow the user to subscribe and to automatically receive information regarding new posts in blogs, journals news, Flickr images, podcasts or other new materials.

The Web 2.0 enables social networks such as Facebook, Linkedin, MySpace, Orkut, hi5 (Bacon, 2009). There are a myriad of tools. The most commonly used are blogs, wikis, podcasts, Flickr, YouTube, Delicious, Google Docs, Google Sites. Now we focus on blog, Google Sites and podcasts.

A blog is useful as a first tool to post small messages, linking to thematic websites or events, to videos for example on YouTube, to images, to synthesize readings, etc. It is used as an e-portfolio (Carvalho, 2006).

Google Sites is used to create students' websites. For example, to create a personal website or a website to support activities, such as WebQuest, exercises and links regarding a subject.

Podcasts are also very useful. We start with audio podcasts, using the Audacity software, the students learn to upload the mp3 files to MyPodcast (Carvalho et al., 2009). Then, they also learn to create enhanced podcasts. It combines images, text and voice as an automatic presentation slide, and a screen cast in Jing software. Vodcasts can be created with MovieMaker. All these podcasts can be uploaded by students to their portable devices thus allowing them to learn whenever they wish, even when on the move.

MOBILE LEARNING

There are conceptualizations of mobile education that define it in terms of its technologies, its devices and its hardware (Kukulska-Hulme & Traxler, 2007; Moura, 2010). Such a definition is technocentric. Winters (2006) identified four perspectives on mobile learning:

-the *technocentric* – this perspective is dominant in literature. It is viewed as learning using a mobile device;

- *relationship to e-learning* – this perspective considers mobile learning as an extension of e-learning;

- *augmenting formal education* - the perspective that regards the place of mobile learning in relation to all forms of traditional learning, not only classroom;

- the *learner-centered* perspective emphasizes the mobility of the learner. "Learning that happens when the learner is not at a fixed, predetermined location, or (…) when the learner takes advantage of learning opportunities offered by mobile technologies" (O'Malley et al., 2003 apud Winters, 2006, p. 6) . Traxler (2007) considers that m-learning integrates any and all the features presented by Winters (2006).

More recently, the authors emphasize the process in m-learning. Sharples et al. (2009) characterized mobile learning as the processes (personal and public) of coming to know through exploration and conversation across multiple contexts, amongst people and interactive technologies. Pachler et al. (2010) described that "mobile learning is not about delivering content to mobile devices but, instead, about the processes of coming to know and being able to operate successfully in, and across, new and ever changing contexts and learning spaces" (p. 6). The definition proposed by Mobile Learning Network about m-learning focuses on "the **exploitation of ubiquitous handheld technologies, together with wireless and mobile phone networks, to facilitate, support, enhance and extend the reach of teaching and learning**" (MoLeNet, 2011). Mobile learning can occur in any location, at any time, and in transit.

Mobile learning can be seen in terms of the learners' experiences with an emphasis on device ownership, informality, movement and context that will always be inaccessible to conventional e-learning (Kukulska-Hulme & Traxler, 2007). It increases learning flexibility for students.

Kukulska-Hulme & Traxler (2007) refer the work of Naismith et al. (2004) who have demonstrated that mobile technologies can relate to six different types of learning:

- behaviourist-type - the quick feedback or reinforcement element is facilitated by mobile devices;
- constructivist – immersive experience are provided by mobile investigations or games;
- situated, learners can take a mobile device out into an authentic context, or use it to access information while moving around an environment in a specially equipped location such as a museum;
- collaborative, mobile devices provide a handy additional means of communication and a portable means of electronic information sharing;
- informal and lifelong learning, mobile devices accompany users in their everyday experiences and become a convenient source of information or means of communication that assist with learning, or records it on the go for future consultation;

- Support, or coordination of learning and resources – activities that teachers and learners engage in at various times during the day.

Tasks suited to mobile learning involve data collection, tests and quizzes, consolidation of learning, personal reflection and skills acquisition (Kukulska-Hulme & Traxler, 2007).

> "Whether they are welcome right now or not, mobile devices are finding their way into classrooms in children's pockets, and we must ensure that educational practice can include these technologies in productive ways" (Naismith et al., 2004, p. 36).

Our students must learn how to use software in order to create interactive activities and websites to be accessed using their mobile devices.

MASTER STUDENTS' WEB 2.0 PRACTICES AND REACTIONS TO MOBILE LEARNING

In January 2011, we inquired Educational Technology Master Students as to their presence online using Blog, Twitter, Facebook, etc; what kind of Web activities they use with their students, what kind of mobile devices they have, if they would like to learn to create interactive activities for mobile devices and if they think that mobile learning will be the future in schools. The questionnaire was completed during a face to face session. During this academic year we are not teaching.

Sample characterization

Seventeen students answered the questionnaire: 10 females and 7 males. Their age ranged from 23 to 50 or more years (table 3). The mode is the range 30 to 39 years with 9 respondents.

Table 3: Sample age (n=17)

Age range of respondents	f
23-29	3
30-39	9
40-49	2
≥50	3

It is possible to identify two groups in what concerns teaching experience, the first one with 9 respondents with 4 to 7 years teaching experience and the second one with 8 respondents with 14 to 34 years of teaching experience (table 4).

Table 4: Years of teaching experience (n=17)

Years of teaching experience	f
3	3
4	1
5	2
6	2
7	1
14	2
15	1
18	1
23	1
29	2
34	1

These students have a different teaching background. Five of them teach ICT and other subjects such as Computer Science (4), Visual and Technological Education (2), Sciences (2), Portuguese (1), Musical Education (1), Plastic Expression (1), Mathematics (1), Geography (1), Biology and Geology (1), Geometries (1), Pharmacology (1) and Pharmacotherapy (1). All students possess Internet connections.

Students' participation in Web 2.0

All students have a blog (table 5), but it was mandatory for one of the Master courses. All of them except one, are members of a social network, such as Facebook (13), hi5 (2), and MySpace (1). The e-learning platform is used by 13 respondents to support their classes. Twitter is used by 4 students, and 2 have a website.

Table 5: Students' presence online

Students participation on the Web	f	%
Blog	17	100
Twitter	4	24
Website	2	12
Facebook	13	76
Another social network	3	18
e-learning Platform	13	76

In their classrooms, 16 respondents use tools to publish students' work online (table 6). Unfortunately, all other resources and tools are rarely used. They use interactive exercises (14),WebQuests (11), and only a few use vodcast (3) or send SMS to students (5).

Table 6: Resources and tools used by Master Students in their classrooms

Frequency In the classroom they use …	Frequently f	Rarely f	No f	I do not know it f
Treasure Hunt	0	1	14	1
WebQuest	2	9	5	0
Interactive exercises (HotPotatoes or another)	6	8	3	0
Podcast	0	6	11	0
Vodcast	1	2	12	2
Screencast	0	3	13	1
Tools to publish works online	11	5	1	0
Send SMS to students	1	4	12	0

Most respondents do not use Treasure Hunt (14), Screencast (13), Vodcast (12), Podcast (11), nor do they send their students SMS (12). Two respondents did not know what a vodcast was, and one indicated screencast and another Treasure hunt.

Most respondents (13) mentioned that they have activities online for their students (table 7). Two referred that they do not have time to do so. One indicated that she would like to but she does not know how, and another said that her students do not have access to the Internet.

Table 7: Carrying out online activities

Activities online for your students	f	%
Yes	13	76
I do not have time	2	18
I would like to, but I do not know how to do	1	6
Other	1	6

Those who answered that they have online activities for their students indicated HotPotatoes or other interactive exercises (4), exercises in the LMS (3), Exercises in Google Docs, searching online, posts in blogs, challenges but it was not indicated what kind, and activities sent by e-mail. This list was a little bit disappointing.

Portable devices

They were asked about their portable devices (table 8). All of them have a laptop and a cell phone. Most of them have MP3 players (10). The MP4 player and the PSP is only owned by 5 respondents.

Table 8: Students ownership of mobile devices

Ownership of mobile devices	f	%
Laptop	17	100
MP3 Player	10	59
MP4 Player	5	29
PSP (PlayStation Portable)	5	29
Cell phone	17	100
Another mobile device	4	24

Four students indicated another mobile device such as GPS, digital audio recorder, PDA, iPad, and iPhone. They use their cell phones for calling (15), sending and receiving SMS (14), alarm clock (15), calendar (3), taking photos (1) and two to access the Internet daily (table 9). Seven do not use their cell phones to access Internet and eight do so but not often. Twelve respondents have Internet access as they reported.

Table 9: Uses of their cell phone

Cell phone is used for …	Daily	Weekly	Rarely	Do Not use
Send and receive SMS	14	2	1	0
Send and receive MMS	0	2	9	6
Calling	16	1	0	0
Alarm	15	0	2	0
Playing games	0	2	7	8
Calculator	0	5	8	4
Calendar	3	7	3	4
Listening music	0	4	7	6
Taking photos	1	4	11	1
Making movies	0	1	11	5
Internet access	2	2	6	7

They seldom take photos (15), use the calculator (13), make movies (12), listening to music (11), sending and receiving MMS, calendar (10), and they play games (9). Six respondents have free SMS.
The students were asked if they would like to receive on their cell phone: a paper to read, reminders of due dates or class alterations. All of them were receptive to class alterations, 14 to reminders of due dates, and 9 to receiving a paper to read. Only 3 students had used the cell phone to study.
They were asked if they would like to learn how to elaborate interactive activities or interactive exercises for mobile devices. The majority of students (71%) would like to learn to elaborate interactive activities or interactive exercises to mobile devices, but 29% indicated that they could not identify any relevance in learning that (table 10). No one knows how to do so.

Table 10: Learn to do interactive activities to mobile devices

Would you like to learn to do interactive activities or exercises for mobile devices?	f	%
Yes, I would like	12	71
No, there is no relevance in knowing that	5	29
I know how to do it	0	0

Reactions to mobile learning
They were asked if they think that mobile learning will be available in schools. More than half of the students (53%) considered that mobile learning will be available at school soon (table 11). One student did not answer.

Table 11: Mobile learning available in schools

Years of teaching experience	Number of teachers		Yes, mobile learning will be available in schools		No, m-learning will not be available in schools	
	f	%	f	%	f	%
3 to 7	9	53	3	18	6	35
14 to 29	7	41	6	35	1	6
34	1	6	-	-	-	-

Master students with more years of teaching experience (from 14 to 29 years) are all receptive to mobile learning except one. The majority of younger master students are not so receptive to the technical evolution of learning in schools. This result was not expected. We expected younger teachers to be more receptive to mobile learning than older ones.

CONCLUSION

We propose five topics in educating teachers in ICT. All of them are related and contributed to an increasingly skilled teacher for the 21st century. We start with a framework regarding learning in the 21st century, focusing on the evolution of the concept of being literate; the teacher as a students' guide supported by Web 2.0 tools; and the relevance of connectivism. Then, the evaluation of the information online and the concepts of quoting and of plagiarism will be addressed. This topic will be followed by the analysis and creation of a Treasure Hunt and/or a WebQuest that foster web exploration. The fourth topic pertains to publishing and interacting using Web 2.0 tools, such as Google Sites, Podcasts, and social networks. Finally, we focus on mobile learning and its importance nowadays.

An inquiry was conducted to the Educational Technology Master students about their presence online, what kind of Web activities they used with their students, their opinion regarding the future of mobile learning in school, if they would like to learn how to create interactive activities for mobile devices, and what kind of mobile devices they possess. All of them with the exception of one belong to a social network. In what concerns the use of resources and web 2.0 tools in the classroom, they use them, but most of them rarely. The majority of respondents (76%) have activities online for their students, but we expected more interactive activities. They have mobile devices, but only 53% believe in mobile learning in school. They are also receptive in learning how to create interactive activities or exercises to mobile earning (71%). These respondents must learn about interactive activities based on online resources to use them in the classrooms frequently.

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292 - Audiovisual Materials and Environmental Education: Experiences of Teachers in a High School

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Abstract: The world is experiencing a rapid development, in which technology is directly or indirectly present in most common activities. The school is part of this world and it must fulfill its mission of contributing to the formation of citizens, being open to incorporate new habits, attitudes, perceptions and demands. However, school still has many difficulties in working with audiovisual materials, insisting on teaching, basically, with the spoken and written word. From the beginning of the expansion strides of the digital era, the classroom seems unable to keep up with the changes of the virtual world. On the contrary we see students increasingly dispersed and tuned up with new technologies and virtual tools. Students are always ready for multimedia but their teachers, in general, are not. Even when advanced technologies are available in schools, teachers feel insecure due to the changes that technologies represent in teaching and learning processes. They are, indeed, afraid of revealing their difficulties before the student and, therefore, maintain an attitude of detachment. Thus, schools need educators who organize more meaningful activities than lectures. They need to be mediators of knowledge rather than informants. The new Brazilian school must be built as an institution that can effectively work with a multiplicity of world views. In Environmental Education (EE), the use of modern technologies represents an advance, since the integration of audiovisual resources allows the knowledge of different environments and their specific problems. Therefore, in this work, we investigated how the inclusion of audiovisual resources occurs in school, especially when the focus is environmental education (EE). In Brazil, according to National Policy on EE, defined by Federal Law 9,795/99, EE does not have the rigidity of a discipline but has to be articulated with different areas of knowledge. In this way, it becomes necessary to develop processes of teaching and creative learning that are related to projects of social transformation. Moreover, educational technologies such as videos, films and internet, using images, texts and sounds, can offer much innovation and dynamism in these processes. For this research we used qualitative methodology, through questionnaires (in this case, semi-structured). We interviewed an EE group of twelve teachers from a public high school, located in the west side of Rio de Janeiro city, near the Pedra Branca State Park. Despite the excellent work developed by the EE group from "CIEP-165 Brigadeiro Sérgio Carvalho" in the region, including transdisciplinary approach, the majority of the group does not use audiovisual resources in their classes.

Keywords: Audiovisual materials; environmental education; school context.

INTRODUCTION

Much is said about the need to incorporate the vast Brazilian audiovisual production to the everyday experiences of our public schools. However, elementary and high school teachers, along their career path, generally do not have any specific training for this.

Despite that the development of audiovisual means and the diffusion of hypertexts are managing to break the central role imposed by the didactic book and by the conservative model of transmitting knowledge, the school, mostly, is still closed to these new types of experiences in the name of a tradition that delegitimizes the knowledge acquired from social practices (Martín-Barbero, 2003).

Teacher-focused teaching models are still predominant, in spite of the theoretical advances in search of changes for the sake of the bi-directional teaching-learning process and the pedagogic proposals that encourage greater interaction. If, on the one hand, the students are ready for multimedia, on the other, their teachers, generally, are not. Many are even afraid to reveal their difficulties before the student and, as a result, maintain a repressive and controlling structure, preferring to conserve their *modus operandi* due to the insecurity that the changes represent.

Martín-Barbero (2001) stated that the older generations should confront the fears that they feel in the face of the transformations that the contemporary brings to culture and to modes of communication, confronting the

future and allowing it to be born, and not remaining imprisoned to the false imaginary of the past as a lost paradise.

One of the generalized complaints of the schools and universities is that the students can no longer tolerate the way teachers give classes. Students complain about the boredom of listening to teachers in the front for hours, the rigidity of the schedule and the lack of meaning that class content has on their lives (Moran, 2004). Technology could, at least, offer greater stimulus to the classes, but, when used, it is, generally, more restricted to complementing the teacher content, as a demonstrative illustration, rather than creating new didactic challenges.

According to Moran (1995), the school needs educators that organize significant activities more than descriptive classes, so that they, effectively, are mediators of knowledge and not informers. It is a necessary cultural change, more complex, with little perspective of being carried out, at least in formal education, to the degree that the teacher-educator courses have not undergone the changes that transform the professional paths of the future educators.

In this context of transformation, the new Brazilian school needs to be thought of as an institution that can effectively work with multiple world visions. According to Pretto (2005), to work with this perspective means to consider audiovisual language as a language of the society of the next century. Observing the behavior of school-aged children which have already been created through avid contact with video games, televisions and computers could be meaningful in understanding some of the reasons for the failure of today´s schools and could also point out some elements to overcome these failures.

In this way, while technology is ever-seductive with novelties and facilities, it is not autonomous in that. Nothing can happen without the pedagogic direction given by teachers. In school, as in any other environment, it is necessary to use methodology. The more one studies about the use of technology in the educational environment, the more evident the premise that without the main actors, student and teacher, nothing is accomplished and nothing in the learning process is changed.

As a result of all that has been mentioned, the idea of this study stemmed from the principal interest in investigating how the audiovisual resources are being inserted into the educational environment, specifically when the focus is environmental education (EE) which, according to National EE Policy defined by Federal Law no. 9,795/99, does not have the rigidity of a discipline and, therefore, can be approached articulated to diverse areas of knowledge.

EE AND NEW TECHNOLOGIES

With the elaboration of the National Curriculum Parameters (NCP), in 1997, the "environment" was included in one of the transversal themes. The environment as a transversal theme is postulated within a curricular concept of interdisciplinary knowledge construction and aims the consolidation of citizenship, pointing to contents linked to the daily lives and interests of the majority of the population. Transversality proposes to surpass discipline specialties, thus making an environmental theme an issue, in the area of knowledge that has no explicit borders (Araújo, 2005).

The interpretation conferred to curricular integration in the elementary and high school is not the same. In Elementary Education, the option is transversal themes; on the high school, interdisciplinarity (Lopes, 2002). To express the interdisciplinary focus in high school, the NCP organized the three areas with their respective disciplinary knowledge: Languages, Codes and Related Technologies; Natural Sciences, Mathematics and Related Technologies; Human Sciences and Related Technologies. The division into areas is based on the union of the knowledge that share study objects and, therefore, communicate more easily, creating conditions so that the school practice develops in an interdisciplinary perspective.

As such, the NCP are references of quality for elementary and high School in the country, elaborated by the Federal Government. One of the objectives is to subsidize the elaboration and re-elaboration of the curriculum, bearing in mind a pedagogic view in function of the citizenship of the student and a school where one learns more and better. Furthermore, NCP guarantee that children and teens have access to the knowledge that is necessary to integrate into a modern society as conscious, responsible and participating citizens. Also, in this official governmental document, is that technology should serve to enrich the educational environment, propitiating the building of knowledge through the active, critical and creative performance by both students and teachers. It also establishes that the citizenship education requires that social questions are presented so that students reflect and learn, seeking didactic treatment that contemplates their complexities and dynamics.

If the proposal of EE is to form the youth with a critical consciousness about environmental and social problems, then it becomes necessary to develop creative teaching-learning processes linked to projects of

social transformation. Therefore the educational technologies such as educational videos, films and the internet, could offer much innovation and dynamism in this process.

Different didactic material focused on environmental education is increasingly being produced. In the case of audiovisual material, an important evaluation was realized by Costa and Trajber (2001). The authors stated that it was necessary to investigate about the reception and real use of these materials in the classroom. They tell about a friend, a video-maker, who received an environmental video award for a Project on Brazilian fruits, and then watched numerous environmental films and was thinking about who, in fact, would watch all of that? Who will receive them? How are the audiovisuals perceived, felt and interpreted? What kind of work do the educators do with these?

Therefore, the idea of this study is also to verify if there are many teachers using the vast didactic audiovisual material that is linked to EE; how have the teachers made use of them in the classroom; and if the mode of use is only focused on information and the transmission of knowledge without taking into consideration the different meanings that the material can assume in the school community. Additionally, it is to verify if they have produced new material together with their students.

EE CONCEPTS AND PRACTICES IN THE SCHOOLS

For Pérez Gomez (1995), school is extremely conservative. As any other social institution, it develops and reproduces its own culture. The traditions, customs, routines and inertias that the school stimulates and endeavors to conserve and reproduce, clearly condition the type of life that it develops and reinforces the enactment of the values, beliefs and expectations linked to the social life of the groups composing the school. The EE should be understood as an instrument of social transformation to achieve environmental change and a society ecologically prudent and socially just. According to Quintas (2004), EE should be critical in that it discusses and explains the contradictions of the current model of civilization, of the relationship between society and nature and of the social relationships it establishes. Transformer, because by bringing into discussion the character of the civilizing process under way, it believes in the capacity of humanity to build a different future from the construction of another present and, thus, establishing new relations of human beings among themselves and with nature. It is also emancipatory, by taking freedom as a fundamental value and seeking the production of autonomy of subordinate groups, oppressed and excluded. As per Tozoni-Reis (2005), although EE is known as a necessity of contemporary society, it is not a mode of education whose principles, objectives and education strategies are equal for all those that practice it. This means that there are conceptual differences that result in the construction of different environmental educational practices. For this author, there are conceptual differences of EE that can be synthesized in some major groups: (1) those who believe that EE is tasked to promote changes in environmentally inappropriate behavior - the EE of discipliner and moralistic backgrounds as "environment training"; (2) those who think EE as responsible for the transmission of technical-scientific knowledge on environmental processes - the EE focused on the transmission of knowledge; (3) those who think EE as a political process of appropriating critical and reflective of knowledge, attitudes, values and behaviors that are intended to built a sustainable society from a environmental and social viewpoint - the EE transformer and emancipatory.

In according to Tozoni-Reis (2005), EE is, therefore, not a modality of education whose educational principles, objectives and strategies are the same for all those who practice it. This means that there are conceptual differences resulting in the construction of different environmental education practices. Thus, there is a great need to reflect on EE knowledge that is being produced in the schools, beginning with the insertion of the audiovisual material used by the teachers in the classroom. For example, if the teacher presents an EE concept centered on the transmission of knowledge then it is possible that he looks for didactic material that is focused only on informing, without trying to provoke, in the students, a critical, transforming and emancipating posture relative to the world in which they live (Loureiro, 2004).

It is true that production format diversity is always welcome, but it is necessary to know if the way in which they are used corresponds to the adequacy of the material – nothing against the creativity that makes the material versatile, but against inadequate use of the material.

CONTEXTUALIZING THE SCHOOL WHERE THIS STUDY WAS DEVELOPED

The school chosen for this study was CIEP-165 Brigadeiro Sérgio Carvalho, located on Rio da Prata, a suburb of Campo Grande, in the eastern zone of the City of Rio de Janeiro, in Brazil. CIEP-165 has an average of 2,000 (two thousand) high school students, teens and adults. The teaching body is comprised by 100 (one-hundred) teachers working with the 46 (forty-six) classes, graduated by the school annually. This teaching modality works only in 3 shifts and has a representative number of the region's inhabitants.

Rio da Prata is one of the gateways to the Pedra Branca State Park. The Pedra Branca State Park, the largest urban forest in the world, is located in Eastern Rio de Janeiro. It was created by State Law No. 2,377, on June 28, 1974, incorporating all of the hillsides of Maciço da Pedra Branca 100 meters above sea level. It covers 12,500 hectares (125 square kilometers), and is delimited by numerous neighborhoods of the East Zone and the Jacarepaguá area. Maciço da Pedra Branca has an important hydrographic network, with a part of it contributing to the supplying of water to Rio da Prata. The region is lacking in basic infrastructure, the result of a disorganized occupation process. There is a large population contingency in the situation of social and economic exclusion.

In the school, there is a multidisciplinary EE team formed by twelve (12) teachers. They meet periodically to trace strategies of action involving not only the school community but also the surrounding community, environmental movements, resident associations, municipal schools of the region, among others.

CIEP-165 Brigadeiro Sérgio Carvalho was chosen for this study because of its history, as it functions as a facilitator pole for the EE actions of the region. Since 2000, when the school officially became the Citizenship Movement Reference Center for the Waters of Campo Grande, and by the Regional Counsel of Architecture and Engineering of Rio de Janeiro (CREA/RJ), it has fought to improve the quality of life. Numerous EE activities have already been developed with the surrounding municipal schools, with the mass participation of the school communities and neighboring regions.

An important example of the partnership between the local schools was the I Environmental Forum of Rio da Prata, in 2007, where an educational video about the region was released, students of the city schools and CIEP gave presentations and a round table with local community representatives, environmental institutions, government representatives, besides groups of projects about the themes of "Water and Sanitation"; "Environmental Education"; "Urbanization"; "Local Agriculture" "Pedra Branca State Park" and "Health and Environment". Based on the themes that were discussed in the projects, a document was elaborated in which the quality of the water was indicated as being a serious environmental problem of the region.

The unfolding of the projects that were developed at the school in 2007, were announced on the site of the Secretary of Education of the State of Rio de Janeiro (SEEDUC/RJ). Consequently, the "Salto para o futuro", which integrates the grid of School TV (channel of the Ministry of Education), entered into contact and filmed a program about environmental education in Brazil for the channel, and was aired in 2008. CIEP-165 was also one of the schools selected to implant the "School Agenda 21", a project sponsored by SEEDUC/RJ together with the Environmental Secretary of the State of Rio de Janeiro (SEAM/RJ). In addition, two projects with an environmental focus were approved for financing by *Foundation of Support to Research of the State of Rio de Janeiro (FAPERJ).* One entitled "For Investigative Education and in Favor of Transdisciplinarity", announcing the improvement of science education, coordinated by a researcher of the Oswaldo Cruz Foundation, and another "Environment and Citizenship: Ways of Popularizing the Scientific Knowledge Developed at the Universities", announcement for popularizing the sciences, coordinated by a professor at the State University of Rio de Janeiro (UERJ).

AUDIOVISUALS, CIEP-165 AND EE

There are numerous definitions for the word audiovisual. In an extremely open way and one that is not coherent with the name, usually, in the centers of information, audiovisual is considered as the part of the inventory that, obviously, deals with audio and/or visual and does not have the format of a book. It doesn´t matter if the sound and image are together or separate and, sometimes, if the support has or does not have words included.

Some authors consider audiovisual as a polyphone of languages, images, musical sound, words and writing. Advancing along this line of thought, the audiovisual does not represent only two different paths – the visual and the auditory – of access to knowledge. It is seen as multidimensional and plurisensorial, integrating other sense organs in sophisticated forms of sensorial communication (Bethônico, 2006).

The teachers composing the EE group of the school were the object of this study. The type of material that was considered to be audiovisual was not delimited. Each teacher was free to choose. Within the EE group of CIEP-165, made up of twelve (12) teachers, only three (3) of them used audiovisual material in their classrooms. Two (2) of them were chemistry teachers and the other a Portuguese Language teacher. It is important to emphasize that the Portuguese Language teacher, Ana Beatriz, entered the EE group at the school in 2007, the chemistry teacher, Antônio Cláudio entered the group in 2009 and teacher Jamilson, also of chemistry, entered in 2004.

Among the teachers that did not use the audiovisual resources, they claim, mainly, not having the time necessary to prepare a more elaborate class; lack of infra-structure in the school as there were no projection rooms (the school has only one 29" TV and a data-show and it is necessary to schedule time), much time is

lost setting up the devices, also it is frequently necessary to think out all of the details, even if the school has an extension; a lack of intimacy with the resources (a real lack of experience); a lack of knowledge of all that exists in the video market and the absence of an "instruction manual" explaining how the videos should be used on the classroom.

To realize the study a qualitative method, a semi-structured interview, was used. The questions were about the following: Which audiovisual materials are used in the classroom? Are the proposed objectives achieved? How is the audiovisual material selected? What are the criteria used to select the material? In which manner is the pedagogic domain of audiovisual language optimized in environmental education both in and out of the classroom? Does the use of audiovisual material in EE facilitate the production of knowledge related to environmental questions, stimulating greater participation and intervention in the local reality? What were the difficulties with the school infra-structure on the day of use?

CIEP-165 AND THE TEACHERS THAT USE AUDIOVISUALS IN EE

The principal excerpts of what was said by the three (3) teachers who use audiovisual resources in EE were reproduced below, seeking not to alter the original content of same.

The chemistry teacher, Antônio Cláudio, not long ago, acquired a DVD player-recorder, making it possible to generate his own didactic material, taping reports, advertising and documentaries directly from the TV. In this way he can easily insert different material into the classroom. He said that he has been working with images since 1985 and has observed that technology advanced during these last years, from the video-cassette to the computer. He has also gained the freedom to edit images that he never even dreamed of at the beginning of his career. He has also noted that, pedagogically, his performance has suffered great variations. He adds that he does not have a single criterion for selection, at times he records everything (he has a 180 GB external HD), cartoons, films, TV-journals and others. He has these files readily available and when a theme is brought up or proposed in the classroom, he uses them. These files are available to the students in computer labs and they go off on their searches and constructions, and it is their task to reorganize the presentations in a more didactic manner relative to the subject that they are working on. He states that he has already presented some projects produced by the students in other Institutions. He adds that one was presented at State University of Rio de Janeiro (UERJ), during the week of visual education in 2007, where the students revisited the theme of water. In 2008, his project was among the 100 best on "Who reads newspapers, knows more", from the newspaper "O GLOBO", with his presentation of "Rio 45 Graus", where the students showed the transformations caused by global warming in the vicinity surrounding the school. He also gave a presentation at Federal University of Rio de Janeiro (UFRJ), developed by the students, called "We don´t only want food", where the local assets were demonstrated via photos, seeking to construct the concept of environmental assets. He believes that these presentations, in other Institutions, have motivated great transformations in the students. The teacher further adds that there really are infra-structure problems at the school.

Teacher Jamilson searches the internet to select material, using films that can explore environmental questions. His objective is to better exemplify the class with the material used. He states that he is able to achieve his objectives, as the classes are more dynamic and the students pay greater attention. His criteria for selecting the material are dependent on the theme centered on in class. He selects the material according to the planned theme, always concerned with previous testing and watching to avoid any last-minute problems. Mr. Jamilson says that it is not enough to show a film and then not get deeper into the idea presented. The tool of audiovisual material, if worked well, can be a great motivator, resulting in more effective local participation. He states that there are many difficulties with the school infra-structure, as most of the schools do not have the appropriate rooms for constant audiovisual use and does not have sufficient equipment for the use of these tools making it necessary to reserve the room.

The teacher Ana Beatriz uses, for example, movies such as "A Carne é Fraca", "A Maravilhosa História da Batata", "Os Outros", and "Ilha das Flores". The latter, a short-film, in her opinion, can be used in numerous activities. She says that it is almost poetry, as it cites excerpts from "Cancioneiro da Inconfidência" by Cecília Meirelles and broaches polemic themes. She works with the production of text after a discussion in the classroom. She adds that she always stimulates the discussion as she doesn't want her students to continue as the "manipulated masses" and wants them to have a critical view of the world. The teacher believes that she achieves her objectives with inserting audiovisual material in themes linked to EE. She adds that, according to the age group of her students, she plans the class beforehand, principally because she still uses VHS films. Her criteria for selection of the material used in the classroom are those that use language that is easily accessed by those she is working with. She states that, after a film, the students like to have discussions, to remember the ideas, the funny, sad or interesting scenes. The films are a great help. She

completes that the school does not have a video-library that is adequate for the reality of a site that attends to the needs of the teacher.

RESULTS AND FINAL CONSIDERATIONS

The demand for environmental video is growing. The opportunity to look at the environment in which we live, that which surrounds us, as if for the first time, a sensitive and critical view that permits the evaluation of what is and what is not good (Rother e Tomazello, 2004). Any and all images offer the possibility of multiple and complex readings. Video-graph and film languages are, markedly, moving images. They are valuable instruments in working complex themes with the students, as they allow one problem to be broached from various angles and perspectives.

Despite the exquisite work developed by the EE group of CIEP-165 Brigadeiro Sergio Carvalho in the region, with even a transdisciplinary focus, few of the group use audiovisual resources. None of those interviewed who use audiovisual resources have used the theme of the local environment as criteria, for example, of selecting a video. Only teacher Ana Beatriz cited the lack of a video-library that is adequate to the reality of the region. The objective of the three teachers interviewed is to induce reflection and generate debates from the videos. They perceive the strong vocation of the video as a motivator, according to Ferrés (1996).

Professor Antonio Claudio was one of the most experienced teacher in using new technologies in educational process. He stimulates his students to prepare their own materials based on collection that he provides, while teachers Ana Beatriz and Jamilson utilize audiovisual material that already exists in the market. Professor Jamilson says that if the audiovisual material was worked well, it can motivate a more effective local participation but he does not mention how to achieve that. Professor Ana Beatriz brilliantly manages to establish a link between the discipline Portuguese Language and EE, working with production of text prepared by students based on selected films that deal with socio-environmental issues.

In the schools, generally, the productions by the teachers are not systematized, registered in writing. Nonetheless, they can be shared orally and the sharing of this knowledge benefits the entire group. In the school it is necessary to guarantee a space for the socialization of this knowledge relating to the teaching-learning process of the environmental questions constructed by each teacher in the classroom.

The municipal schools of Rio de Janeiro received, in 2009, a TV with DVD-player to be installed in each classroom, possibly indicating an advance and the hope that audiovisual use increases. In the years 2008 and 2009, all of the teachers from the Municipal and State Education Network of Rio de Janeiro received laptops, which is a great step for the insertion of new technologies in education, including in EE. However, the teachers of elementary and high school need to have a specific formation. There is still, without a doubt, a long way to go.

Finally, it is important to emphasize that for audiovisuals to truly be a cognitive tool there should be an environment that is contextually rich in knowledge that gives support to the students. Despite that they are able to be projected with the objective of stimulating, sensitizing the students to the environmental theme, audiovisuals are a resource that can only inform and will not result in the learning through didactic material.

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315 - Digital Literacy and the Construction of Meaning

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Abstract: The presence of educational laptops in the routine of students and teachers might contribute for the construction of innovative alternatives for the teaching practice, favoring collaborative networks to emerge in the development of concepts and socialization of knowledge. This reflection starts from the idea that the insertion of educational laptops, in a 1:1 model, should be firmly based on the concepts of cooperation, autonomy, criticism, and the construction of meaning. In that sense, digital literacy implies on the interaction in social networks that allow exploration and research, teaching and criticizing in a process of learning and knowing mediated by digital technologies. To do so, from the non-linearity that accompanies the communication flows emerging from these technologies, students and teachers are instigated to find new meanings, where reading and writing consist in sharing knowledge and opinions and not only an assignment to hand in.

Keywords: literacy, digital technologies, learning, social interaction

DIGITAL TECHNOLOGIES IN THE CLASSROOM

Schools and classrooms are being challenged by digital technologies, which – nowadays more than ever – permeate everyday lives in our society. Although the presence of digital technologies has been influencing education and society for many years, it seems that impact has not yet been noticed in the school context. Computers and communication technology can be seen in our students' and their families' everyday lives, in professional and commercial environments, but very scarcely in classrooms. What we actually see are computers isolated in a room especially designated for them – the IT lab – where students are taken to work or play with them. And the activities carried out in the IT lab in this context are not usually related to the learning process.

With that in mind, it would be fair to say that computers and digital technologies seem to have been underused in the school context. One of the reasons for this underuse is that their potential as means of communication and precursor of interactions and cooperation that can serve as a foundation for learning is not taken into account when planning the teaching-learning process.

Apparently there is also some kind of aversion to using digital technologies in the classroom. The activities proposed by teachers at school are time-consuming and teacher-centered, involving standardized exercises and problems to be solved, along with repetitive tasks, test taking, among many other actions that seem to never change in some teaching practices. Although a lot has been said about introducing technology in the educational context, not much has been done to actually include it in the classrooms, learning environments, students' cognitive actions, and teaching practices. And having state-of-the-art technology in the school with computer labs and interactive boards does not assure effective changes in the teaching-learning processes. Would it be enough to replace the old blackboards by interactive whiteboards? It is our assumption that much more has to be taken into consideration if we want to introduce technologies in schools' learning environment effectively.

In Brazil, as in many other countries, it is likely that within 5 years or so all the children studying in public schools will have laptop computers in their classrooms if we consider the ongoing public policies. That leads to a few questions that guide our study. What impact will that cause on learning processes and teachers' education? On teaching processes and on school culture?

This paper intends to reflect on digital literacy in the context of one laptop per child (1:1) from a pilot experience being carried out in a public school in the southern region of Brazil.

Inserting educational laptops in the 1:1 model

The Brazilian National Program for Information Technology in Education (Programa Nacional de Informática na Educação - Proinfo) has been increasing its actions in public elementary schools by introducing the project known as Um computador por Aluno – UCA (or internationally known as One Laptop per Child), 1:1, which started its first stage in 300 schools around the country. Currently, there are

other cities and towns joining the next stage of the project – now as a program – with many city and town halls purchasing the laptops and increasing the number of schools to use educational laptops in their classrooms. Within a few years it is likely that all public schools in Brazil should have this 1:1 situation in their classrooms.

This might be an opportunity to transform school practices, starting with qualification programs for the teachers and the engagement of students from public schools in practices that privilege interaction, cooperative-based learning and construction of knowledge, with laptops connected to the Internet. However such pedagogical movement is much longer and more complex than introducing laptops in the classroom and teachers' appropriation of the technology available with the equipment. Teachers' education programs are also concerned with the importance of pointing out the need for changing schools' political-pedagogical proposals, so as to align possibilities with the educational laptop to innovative pedagogical strategies, favoring collaborative networks to emerge for the development of concepts and socialization of knowledge.

If, in the past, digital technologies used to be secluded at the school's computer labs far away from the classrooms and from students' everyday practices and occasionally present in teachers' lesson plans, the situation of one laptop per teacher nowadays can somehow be like an unbalance of the order. All students can have simultaneous access to information and to instant messaging tools. New possibilities arise for learning, as well as new demands for teachers regarding their knowledge, lesson planning, and classroom management.

Introducing laptops as motivation to redimension educational practices towards digital literacy

As we introduce the educational laptop in the classrooms we should think of ways that go beyond simply using technologies as a resource to modernize current practices. They should be seen especially as a possibility of innovative practices that favor the development of cooperation, autonomy, criticism and construction of meaning. In the knowledge society (Castells, 1993), the teaching-learning process has to be focused on the full development of the individuals. To do that, it is necessary that they can appropriate the several forms of accessing information available in the context of this society, and that they can understand those forms, making sense out of them and interacting with their peers, building knowledge and being able to transpose it to their domain of action.

Introducing laptops as it is being proposed requires other kinds of languages to mediate the educational process from teachers and students, because directions and tasks will not be centered on the teacher and on written texts. When dealing with hypertexts, browsing on the Web and being active participants in social networks – all made possible thanks to the laptops - students and teachers are immersed in an interactive domain where new reading and writing practices are taking place.

The conception of using technologies is related to a concept of digital literacy that goes beyond the simple appropriation of how to use digital resources in an operational dimension. It is not enough to be able to read the codes of a language for an individual to be considered literate in the sense of using language for their social and cultural inclusion. Likewise, knowing how to use digital resources is not enough to transform that use in significative social and cognitive practices and actions.

Digital literacy – as we understand it – is related to the use of digital technologies that is both critical and aware in order to make sense of its use and make it relevant in the individual's being and acting in the world. According to that approach, the concept includes the use of digital technologies with a specific competence, significatively, understanding limits and potentialities in the context of social and educational practices. That means this use has to take place in such a way that the practice becomes meaningful in its domain of action. Such action domain includes searching for information, communicating and publishing while using the Web, in a responsible way and with a purpose.

Lévy (1999, p.17) defines digital literacy as a set of material and intellectual techniques, practices, attitudes, ways of thinking, and values that develop along with the growth of the cyberspace, as a means of communication that emerges from the worldwide interconnection of computers. So that children can enter a process of digital literacy, it is necessary that they have access to computers and that they take part in educational practices that require using IT according to that perspective.

In that sense, digital literacy implies in interacting in social networks that allow exploring and (re)searching, teaching and criticizing in a process where learning and knowing is mediated by digital technologies. And upon the non-linear feature that lies within these technologies, students and teachers face the challenge of finding new meanings, with reading and writing becoming an action of sharing knowledge and opinions and not only an assignment that has to be handed in.

As a result, digital literacy will make it possible for schools to become a place for social interaction. According to Xavier, schools should provide "digital literacy for a new generation of learners – children and

teenagers – who are growing up and experiencing the advances of information and communication technologies" (2002, p 28-29. Free translation).

A Brazilian Law (Lei de Diretrizes e Bases da Educação Nacional - LDB), from 1996, praises the importance of focusing on "digital literacy" at all levels of schooling, from elementary school to college. In that sense, the use of the Internet enables the arousal of social practices and situations for literacy through communication tools available.

So, from the considerations pointed out here, how can literacy practices be understood in the context of the introduction of laptop computers in the classrooms? Which abilities may be related to literate practices as we understand this concept? Which actions and conducts that were observed may be related to literate practices?

INITIAL STAGE: INTRODUCING LAPTOP COMPUTERS IN A PUBLIC SCHOOL

With the previous considerations in mind, this paper is aimed at the analysis of the context of laptop computers being introduced in a public school focusing on practices showing digital literacy of students and teachers involved. The study is outlined as a qualitative exploratory research (Richardson, 1999). Data were collected within a larger scenario, which is a research project that is aimed at the study of digital technologies in education investigating school cultures and the appropriation of innovative ways of teaching and learning. The school is located in a beach of a small town that is 165km away from the capital of the state of Rio Grande do Sul, Brazil. During the off season, population is not more than 8 thousand inhabitants. There are 209 students in the school, ranging from pre-school to the final grades of elementary school and including the especial program for Youth and Adult Education (Educação de Jovens e Adultos - EJA), which takes place in the evening shift for young adults who are already placed in the work market. The school counts on a staff of 24 teachers.

Students attending this school come from different suburbs and villages in town, and are mostly from low-middle income families. Most did not have a computer before. Some report using computers occasionally at the telecentre available in the region. Before joining the 1:1 project, the school only had 3 computers, located in the library, and counting on a very unstable access to the Internet via radio.

As it joins in the UCA Project, the school is enrolled in a qualification program determined by the Brazilian Ministry of Education and which has been coordinated by the Laboratory of Cognitive Studies of the Federal University of Rio Grande do Sul (UFRGS) and the support of the University of Caxias do Sul (UCS). Teachers, school managers and other school staff members are participating in the program.

The corpus for analysis in this study is comprised of video recordings from the first interactions with the educational laptops by students, teachers and employees of the school. The corpus was built from the transcripts of the videos made in the school 3 months after the laptops had been distributed and teachers had already started their qualification program. Recordings were made in every classroom during the 3 shifts of the school's working hours. An average 30-minute period was spent in each classroom with the video recording and observation. Data transcription was carried out following a sharp observation of the videos, whose second step was the transcription of dialogues, with special attention given to expressions and actions, and the third step was checking transcripts while watching the video recordings.

A FIRST ANALYSIS

From an initial organization of the data, which was based on thorough reading of the transcripts resulted the categories and subcategories defined upon theoretical approach chosen for this analysis and displayed in Chart 1.

Observations and video recordings of the classrooms where laptops were being used showed that most activities were focused on using the Internet. The transcriptions that were analyzed show that Internet use was mostly for the exploration of search engines as a complementary activity of studies being carried out in the classroom, and that were focused on teacher's lectures, explanations and definitions. In general, students were guided by the teacher in their search on the Internet and told to write down their findings in writing using paper and pen. Searches ranged from complementing contents of the subjects studied in class to support materials for learning projects that were being carried out.

The data analyzed showed that teachers and students from the 4th grade on – students aged 9-10 – are fluent users of search engines when looking for specific information, using keywords, searching for images and texts, commenting their findings with their classmates and teachers. Younger children – from pre-school groups to the 3rd grade were not using the Internet to search information and for that reason we cannot infer anything about its influence. Activities with these groups were centered on educational games, introduction to email messaging, and using text editors, which can also be considered evidence towards digital literacy.

Chart 1

Categories	Subcategories
Searching the Web	Learning how to use search engines.
	Reading and attributing meaning.
	Transposing information to individual's reality.
	Producing new texts.
Communicating	Using email, social networks, etc upon demand – Learning how to use resources available.
	Interacting spontaneously. Adopting, adapting and appropriation of different resources.
	Inviting others for communication purposes (email messages and social networks).
	Innovating their forms of communicating by integrating different digital technologies.
Publishing	Learning about technical resources and copying and pasting ideas, texts, images, and videos from other contexts. Publishing upon demand and in specific contexts (school, community, and classroom).
	Appropriation for publishing tools, exploring possibilities, expressing personal opinions and publishing in external publications.
	Creating and producing (texts, videos, images), integrating media, building possibilities in authorship. Increasing options for publication.
	Ethical and responsible authorship to publish their opinion, placing themselves as the other as a reader and polyphonic author.

Attributing meaning to search actions and criticism towards their findings were observed in very few groups. Only students being guided by their teachers showed this. On the other hand, these subcategories were observed a few times on teachers attending the qualification program. During these meetings, there was some evidence of teachers transposing the information they found to their reality, in addition to creating and inventing new productions for their online publications (blogs, portfolios, etc).

Only in two classrooms were we able to observe students discussing, reflecting, problematizing and reconstructing what was found in their searches, what would characterize transposing information to reality and producing new texts from the search. In these two groups, other kinds of support material was available in addition to the laptops, such as books, notebooks, magazines, and encyclopedias were being used by the students to confront with the information they found online. The transcription of teachers' statements in these groups shows their concern with having students criticizing and analyzing their searches on the Internet and constantly problematizing what they took for granted. The purpose was to transpose information to their reality. In these classrooms, we could observe that other resources from the laptop were being used simultaneously with the Internet search, such as image and text editors.

It is possible to notice some distance between the actions and meanings that arose during the qualification and how they were transformed into teaching practices. That distance can be understood at the light of the biology of knowledge (Maturana, 2002). This theoretical framework emphasizes changes in conduct result from learning that follows structural transformations, which are produced from convivence and the coordination of actions. One can think that this is the way how the use of laptops based on practices aiming at digital literacy will result in effective changes on teaching-learning practices. When that does not happen, we can understand that structures have not yet been changed, and what one has are intentions and verbalizations signaling possibilities of changing. That means no matter how the context can instigate, disturb, and make things possible, what will really happen to the teachers depends on their structure and that structure only can determine changes, which can be observable in their interaction with their peers and in their teaching practice as well. Writing – in the context of digital literacy – becomes an important communicative possibility. And with the resources available for online communication, such as email, social networks, instant messengers, etc., writing becomes real authentic communication, rich in meaning (Valentini, 1996). Communicative exchanges on the web can be a way of promoting cooperation and confront among students, and of building a social practice with enough conditions to favor the learning process.

From the data analyzed in the recordings of students practices(from 1st to 3rd grades – ages 6 to 8 years old), we could see that they were learning how to use email messages, to create their email addresses, to send and reply messages, still guided by their teachers. Students from the 3rd grade were also using the text editor to write their production (stories and poetry) that would later be presented to the other groups of students in other grades. It is possible to identify here some transformation of the communicative social practice evident

from the innovation in their ways of communicating in writing, using a text editor, integrated with different digital resources and with an audience in mind.

Another observation concerning communication was possible in a polyphonic movement on which some students (5th to 8th graders – 11 to 16 years old) were engaged while using the instant messaging tool available in the laptops. Many were using the instant messenger (IM) to interact with students in their classrooms or in other rooms. This alternative for communicating was an initiative taken by the students – whereas many teachers do not know how to use that tool, and data indicate that some teachers were not even aware of that communication going on between the students. Several students claimed that they used the IM and listened to music simultaneously to the activity that had been assigned by the teacher. These simultaneous and independent activities – whether teachers knew they were taking place or not – offer evidence of how the generation described by Prensky (2001) acts and thinks. This generation, described by the author as the digital generation, is used to dealing with technology naturally and carrying out several activities at the same time. They are multitaskers and in front of the computer, or in the case of our study, in front of the laptops in their classroom, they bring up the need of reorganizing the classrooms. And that reorganization does not refer to physical configuration only, but also to its pedagogical dynamics, that has to be different from lecture-based lessons.

And even though the data analyzed in this study refer to an initial stage of the introduction of laptops in the classrooms, we were able to identify several movements related to the category "publishing", which was evident in different moments and with different groups. We were also able to observe a movement towards copying and pasting texts and images into students' productions, and in many cases these assignments were published upon teachers' demands for students to do so. We have also found some evidence towards communication and written production in our observation of the teachers and staff members of the school. In the transcriptions of the video recordings, there are statements by the students indicating that they publish their personal opinions in blogs built with their teachers where they discuss matters that interest both students and their community.

In fact, blogs seem to be a common practice for communication and publishing within the school and not only for individual groups, and their use is not limited to subjects that have been discussed and studied in their classrooms. For example, the blog registered as "My favorite writers" (Meus escritores favoritos) was built in order to publish and comment texts and poems written by students, teachers, school staff and other members of the community. In these blogs, we can find posts made by students and teachers, pictures, posters, poems, photos registering activities carried out by the school. Most posts have been commented by teachers and students, indicating there is a polyphonic movement being built and the possibility of transforming communicative and social practices.

CONCLUSION

In the analysis of the initial stage of the introduction of laptop computers in a Brazilian public school we were able to identify some evidence of practices related to digital literacy. It is important to point out that students received the laptops to use in their classrooms less than 3 months before the data for this study were collected and that most of those students did not have systematic access to IT and the resources made available thanks to the laptops. Mobilizing and engaging teachers and school managers – as well as offering continuous education and qualification programs – is extremely important to build new possibilities for the teaching practices and redimensioning current practices.

It is important to emphasize that changes and innovations should be founded on a vision of learning based on interaction and cooperation aiming at the construction of knowledge. Otherwise, the presence of laptops will only be some kind of instrumentation and not an opportunity of changing and redimensioning educational practices and school culture. In this scenario, teachers need to function as mediators and guides, much more than instructors or lecturers.

It seems to us that – when introducing laptop computers – it is necessary to take into consideration strategies and interventions that can enable insertion to become digital inclusion. That means "forming people digitally literate, with competences to solve everyday and professional life situations and to face the challenges from their insertion in the information society" (Almeida, 2005, p.173. Free translation). The single presence of laptops or any other technological device does not assure per se any improvement in quality in education. To achieve that, it is necessary that teachers, students, school and society together engage on processes aiming the transformation of educational and social practices, in order to characterize digital inclusion, providing the exercise of citizenship, authorship, and critical and autonomous participation of the learning individuals in the world.

From these considerations, we can say that digital inclusion as a consequence of practices aiming at digital literacy may result from convivence, starting from a common goal: to discuss and reflect on teaching practices, on the possibilities that arise from the resources available on the laptops, and to rethink educational processes, supported by flows of interaction and cooperation. The way how this flow organizes itself is given by recurring actions by teachers and students, besides the school managers, who – together – are renewed and transformed. This flow is the source of energy that by circulating in the interactions can generate and regenerate the system itself through ideas and questions that arise. Therefore, we can infer that digital inclusion will take place from this communication flow running between the participants, feeding them and being fed by them, and the dynamics that emerges from that flow supports the process of convivence.

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315 - Laptops for Students: Strength and Weakness of the Portuguese Initiatives

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Abstract: This paper focuses on the Portuguese initiatives to offer laptops with Internet connection to students at a reduced price. Five initiatives were launched: "Schools, teachers and laptops"(2005-2006), "e-school" (e-escola) (2007-2008), "e-little school" (e-escolinha) with Magellan (2008-2009), "Learning and Innovating with ICT" (2010-2013), and this year "e-school 2.0" (e.escola 2.0). These initiatives are briefly described and criticized with regards to its strengths and weaknesses as well as teachers' ICT competencies to integrate laptops in the classroom.

Keywords: Laptops, Initiatives, ICT, Teachers training

INTRODUCTION

Several countries adopted the initiative One Laptop per Child launched in United States of America and reported their effects on teaching and learning such as in the United Kingdom (BECTA, 2004) or in New Zeland (Cowie et al., 2008).

In Portugal, five initiatives characterize this laptop adoption process by teachers and students from the academic year of 2005-2006 to 2010-2011, namely: "Schools, teachers and laptops", "e-school" (e-escola), "e-little school" (e-escolinha) with Magellan, "Learning and Innovating with ICT", and "e-school 2.0". All these initiatives will be described and the data will be reported. This paper also focuses on teachers' ICT competencies and training in order to integrate laptops in the classrooms.

Schools, teachers and laptops initiative

The initiative "Schools, teachers and laptops" was launched in 2005-2006. This allowed schools to apply for 24 laptops, a multimedia projector and one wireless access point. Of those 24 laptops, 10 were for teachers to use individually and professionally and the remaining 14 were to be used by the teacher with his/her students in the classroom. Access to the initiative was made through an open call which was an innovative and important method for engaging teachers and schools in the use of ICT. Most schools (95%) from the second and the third cycle of primary and secondary applied for it.

The duration of school projects could take one, two or three years, namely 2006-2007, 2007-2008 and 2008-2009. The public announcement call included the regulations under which the proposals were accepted and evaluated. It includes the use of computers, networks and the Internet by students and teachers; the production of class materials using laptops; visible evidence of the contribution made towards school teachers´ professional development; use of the computer as a school management instrument; and the availability of information regarding project development on the Internet.

Each project proposal had to define: goals to be achieved, activities to be developed in addition to its chronogram; number of laptops necessary, the name of teachers enrolled in the project; professional competencies to be developed; teachers´ training needs and support; indication of the departments and courses involved; students to become involved, outcome indicators, and project evaluation criteria.

The project activities should also include the policy for equipment use as well as their assignment to teachers and students.

Table 1: Number of schools participating in the Initiative and number of laptops

Region of Portugal	Number of schools		Number of laptops
	f	%	
North	401	34	9,585
Center	252	22	5,949
Lisbon	351	30	8,396
Alentejo	95	8	2,243
Algarve	65	6	1,538
Total	1,164	-	27,711

The number of laptops distributed in 1,164 schools was 27,711 (table 1). This initiative was very well accepted by schools being as 95% of them applied to it.

A study regarding this initiative was conducted by Ramos et al. (2009) which included quantitative data concerning the initiative's impact on schools, teachers and students. Two questionnaires were developed to collect data from schools and teachers. The study also included qualitative data collected using an ethnographic study which aimed to analyze and comprehend the impact of the initiative and understand the innovative approaches in class. Ten schools were analyzed as case studies, including 50 statements from teachers and 100 student interviews.

Data presented in this paper regarding this initiative is based on Ramos et al. (2009) report.

INITIATIVE'S IMPACT ON THE SCHOOL, TEACHERS AND STUDENTS

The population of this study includes the schools and teachers enrolled in the Initiative. The questionnaire was completed by 736 schools (63%), the school executive board, and by 4,666 teachers (33%).

Table 2: Age and gender of the respondents teachers (n=4,666)

Items	Variables	f	%
Age	<25 years	15	0.3
	25-34	559	12.0
	35-44	2,165	46.5
	45-54	1,548	33.3
	>54	367	7.9
	Did not reply	12	-
Gender	Female	2,995	64.5
	Male	1,652	35.5
	Did not reply	19	-

In what concerns the teachers´ age, 46,5% range between 35-44 years of age and 33.3% between 45-54 (table 2). The majority of respondents were females (64.5%). More than half of the respondents (52%) possessed 10 to 19 years of teaching experience, 21% 20 to 29, 17.7% 0 to 9, 9.1% 30 to 39, and 0.1% 40 to 49.

Most respondents were Mathematics, Biology and Geology, Physics and Chemistry, Portuguese and Computational Science teachers.

The schools´ administrators considered that the initiative results were positive in what concerns student involvement, previous outcomes and results achieved. The less successful one was teacher training. However, the project contributed to professional development through the possible training, self-learning, and peer learning. The laptops were mostly used in teaching classes followed by the production of pedagogical materials. Laptops were also used for team work as well as for working with students in educational projects. They were less used in school management.

The Centers of Competencies to support the use of computers and Internet in schools (CRIE), disseminated in the country supported educational activities in schools. Each Center had to collect data regarding the project development. The Center staff had meetings with the teachers in each school and later reported the situation.

From 1,212 schools from the 2nd and 3rd cycle of primary and secondary school, 1,164 involved themselves in this initiative (table 3). Each laptop was used by an average of 3.5% of teachers and 20.5% of students (Ramos et al., 2009).

The study allowed the identification of the major difficulties experienced during this process in schools. One of the major constraints is related to the number of laptops per school; followed by technical difficulties with laptops and Internet access; the organization and management of rooms and timetables for teachers and students; the articulation and interaction between teachers, and the lack of teacher training in the educational use of laptops and ICT. It is also important to note that some schools waited long for the equipment to be delivered. The worst situation was the lack of teacher training in ICT.

Table 3: Main indicators of the Initiative (Ramos et al., 2009, p. 31)

Entity	Indicators	f
Schools	Number of schools (2nd and 3rd cycle and secondary)	2,112
	Number of schools applying to the Initiative	1,181
	Number of school projects approved	1,164
	Number of school projects not approved	48
	Number of schools participating in the evaluation	736
Teachers	Number of teachers involved in the school project	13,968
	Number of teachers participating in the evaluation	4,666
	Number of teachers that used the laptops	40,591
Students	Number of students that used the laptops	333,086
Laptops	Number of laptops	27,711
	Maximum number of laptops per school	48
	Minimum of laptops per school	14

The initiative did not contemplate teacher training. Teacher training had to be carried out by the school. This option was not well succeeded. Many schools had difficulties in providing appropriate training.

The advantages of the initiative, according to Ramos et al. (2009), are related to the portability of the technical equipment, teacher motivation and the students using laptops, better access to the equipment, and an ICT modification in teaching. The students were more interested in learning and showed more interest in the activities developed using a laptop.

The school laptop project involved teachers, school administration and an effective participation of the school community. Each school and its participants get involved in a shared project supported by all members.

The impact of the initiative on the school dynamic is related to the augment of laptop use in the classroom. In most schools, laptops were used in different classrooms taking advantage of its portability however, in some schools laptops were always in a specific room such as a computer lab.

Table 4: Use of laptops in the classroom (n=4,666)

Use of laptops in the classroom	f	%
Did not use	65	1.4
Once or twice per term	686	14.8
Once or twice per month	1,259	27.1
Once or twice per week	1,992	42.9
Every day	637	13.7
Did not answered	27	-

The teachers indicated that 1.4% did not use laptops in the classroom, 14.8% used it once or twice during each term, 27.1% used it once or twice per month, 42.9% used once or twice per week and 13.7% used the laptops daily (table 4). These percentages prove the effort put forth by teachers in order to integrate the laptop in their classrooms.

The laptops in the classroom were used to present content (58%), searching information online (50%), group work (50%), project work (48%), solving exercises or problems (39%). The impact of the initiative on teachers and teaching is related to the diversity of pedagogical strategies, the production of materials and resources, and a facilitated access to ICT for teachers and students.

Ramos et al. (2009) identified that teachers required technical and pedagogical training in accordance with the goals of each project. The need for technical support as well as school equipment and laptop maintenance was also identified.

e-school (e-escola) Initiative
The initiative "e-school" (e-escola) was launched in 2007-2008 and offered laptops with Internet access (Mobile broad band) to 10th grade students, teachers and students of New Opportunities (Novas Oportunidades) programs at a reduced price. In 2008-2009, this initiative was expanded to students from the 5th grade to the 12th grade. The price depended on the student's family income. If it was low or too low, they would receive a free laptop and pay a small amount for the Internet connection (table 5).

Table 5: Acquisition of laptops and Internet connection

School Social Support	e-School levels	Acquisition
A	Level 1	Free laptop. Internet connection 5€
B	Level 1	Free laptop. Internet connection 5€
C	Level 2	Free laptop. Internet connection 15€
Students with no SSS	Level 3	Laptop 150€. Internet connection with 5€ discount to regular prices.

e-little school (e-escolinha) Initiative

The initiative "e-little school" (e-escolinha) was launched in 2008-2009. The netbook Magellan is for primary students only. The netbook is free for students with a very low family income. The Internet connection was not mandatory.

The Magellan includes some educational software (GCompris). It contains Windows XP and Linux.

A survey was conducted to primary school teachers from May to July 2010. 9,473 teachers completed the questionnaire online (GEPE, 2010). Most teachers (74%) considered the initiative good (55%) or very good (19%).

More than half of the teachers considered that the laptop stimulates creativity in students (68%), augments students´ interest in learning (59%), and stimulates teacher work (53%), table 6. The respondent teachers are divided when it comes to the Magellan effects on learning: improving (50%) or not learning results. Less than half of the respondents (49%) indicated that the laptop is an indispensable learning tool. All of them, except 14%, considered that Magellan is useful for other things rather than playing games only.

Table 6: Use of Magellan

Magellan…	Disagree	Not agree nor disagree	Agree
Stimulates creativity in the child	13	19	68
Augments the child interest in learning	20	21	59
Stimulates the teacher work	21	26	53
Improves learning results	19	31	50
Is an indispensable tool for learning	28	23	49
Is useful for playing games only	73	13	14

Most teachers (92%) referred that they use the Magellan in the classroom. Most used activities that would teach the child how to use the laptop (93%), access the Internet (79%), browsing and searching the Web (78%), reading (71%), doing content presentations (64%), listening to music or watching videos (60%), and accessing the digital library (59%). With less use, we have drawing (47%), playing games (40%), sending messages (29%), and supporting homework correction (23%).

Teachers use the laptop to teach Portuguese (95%), Environmental Studies (90%), Mathematics (67%) and Arts or Physical education (37%).

Table 7: Use of Magellan per discipline

Disciplines	%
Portuguese	95
Mathematics	67
Environment Studies	90
Arts or Physical education	37

In terms of the frequency of use in the classroom, the highest percentage is 49% indicating once per week (table 8).

They were also asked if they use the resources available in the School Portal to prepare their classes: 33% did and 65% did not.

Although most of the respondent teachers are using Magellan in the classroom, the daily frequency of use is still very low (8%). One possible explanation is the lack of training in using Magellan and ICT in the classroom.

Table 8: Frequency of Magellan use in the classroom activities

Frequency of Magellan use in the classroom activities	%
Everyday	8
Four days per week	4
Three days per week	14
Two days per week	24
One day per week	49
Did not reply	2

Learning and Innovating with the ICT Initiative

The initiative "Learning and Innovating with ICT" (Aprender e Inovar com TIC), 2010-2013, promotes the educational use of ICT in order to improve students' learning. The schools were invited to submit a project until the 15th of December 2010. The idea of an open call was used again, as was done in the initiative "Schools, Computers and Internet". It intended to motivate teachers to submit a project that used the laptops. The open call announcement privileges the 1st Cycle of primary school, the use of Learning Management Systems, and the production and sharing of digital educational resources.

One hundred schools were selected. The approved projects will be carried out until the end of the academic year of 2012-2013.

e-school 2.0 Initiative

On the 8th of February 2011, the initiative e-school 2.0 (e.escola 2.0) was launched. It follows the initiative e-school, maintaining the offer of laptops and Internet access, with no cost to the State. It intends to promote the creation and usage of educational contents, and intends to motivate the use of the next generation networks (NGN).

Teachers' ICT Competencies and Training

The initiative e-teacher (e-Professor) was launched in 2007-2008, allowing teachers to buy laptops and Internet connection at reduced prices. The initiative affected kindergarten educators and teachers from primary and secondary schools.

Until 2005, some ICT training courses were available in Teachers Training Centers, but they were not mandatory. Teachers could choose ICT courses or other subjects.

In 2006-2007, teachers received training regarding the Learning Management Systems Moodle. This training was demanded by the Ministry of Education and was mandatory for teachers.

In 2009[ii], a plan for training teachers in ICT Competencies was developed and is being implemented in Teachers Training Centers (table 9). Three levels of teachers ICT competencies were identified (table 9), and level 1 and 2 are compulsory to all teachers.

Table 9: Levels of ICT competencies for teachers

ICT Competencies	Description
Level 1 – Digital Competencies	Access and use of digital information. Writing digitally. Safe Internet. -Editing digital pictures and organizing register data in spreadsheets; -or organizing register data in spreadsheets and data bases organization and creation; -or synchronous and asynchronous communication online. Creation of presentations.
Level 2 – ICT Pedagogical and Professional Competencies	Two mandatory trainings: -Teaching and learning with ICT (applied to the disciplines the teachers teach) -Assessment of learning with TIC. Two optional trainings: - Multimedia interactive whiteboards Or -LMS. -School library, literacies and curriculum. - ICT Special Needs. - Digital educational resources: production and assessment. -Educational e-portfolio -Leadership and technological modernization of the schools. -Coordination of ICT projects.
Level 3 – ICT Advanced Competencies	Master and PhD Programs in Higher Education.

In 2010, almost all teachers received training in multimedia interactive whiteboards. The training for each course of level 1 or 2 takes 15 hours.

CONCLUSION

The objective of having teachers and students using laptops was achieved. The initiatives were important in motivating teachers and students to use laptops in the classroom, to access the Internet and collaborate with others. Nowadays, in Portugal, 98% of students aged 9 to 16 years have internet access.

There has been an effort to offer teachers ICT training. . Firstly, ICT training was optional mainly during the nineties and before 2005. In 2009, a plan for training teachers in ICT Competencies was developed and is being implemented. However, the number of hours per session (15h) is insufficient for teachers to feel comfortable with ICT.

Students from the 2nd cycle of primary school to secondary school could buy a laptop with Internet connection at a reasonable price. However, most of them do not bring their laptop to the school because it is heavy (3kg), as was reported in the studies of Moura & Carvalho (2008) and Certal & Carvalho (2011). The Magellan is lighter (1,4kg) but teachers do not use it daily. More specific ICT training is necessary.

We may conclude that many things change the way some teachers teach nowadays. However, we must enhance the number of teachers using ICT in an educational context. More training and pedagogical support is necessary.

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315 - Citizen Digital Emancipation and 1 to 1 Model: New Cognitive Regimes for the Use of Laptops in Schools?

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Abstract: Over the past twenty years the use of digital technologies (DT) in schools has been ruled, among other factors, the maintenance of cognitive pre-established cognitive regimes. These regimes have been characterized mainly by the hierarchy and homogeneity of the actions and interactions, in addition to the institutional control over the times and spaces of learning. This model has been challenged by new cognitive regimes sustained by the digital culture idea, guided by heterarchy and heterogeneity of authors and modes of authority. The modality 1 to 1 brings new challenges and questions about the established cognitive regimes. How the idea of citizen digital emancipation could help in the review of these established cognitive regimes? This article aims to present this discussion based on early evidence and thoughts on a public school that is part of governmental Program One Computer per Student in south of Brazil.

Keywords: digital emancipation, citizenship, laptops on education, primary schools

INTRODUCTION

The technological development of the current era has been producing new possibilities of expression of the subject, therefore, new possibilities for its inscription in the world, its socialization. From the hand written book, going by the printed paper and for the diversification of the formats of the book, until the coming of the digital technologies as the Web and the handhelds (portable), the individual has been finding many and diversified forms of enrolling in the society. Communities in the internet, social nets of relationship, blogs, Twitter, fan fictions, virtual digital worlds in three dimensions (MDV3D), among other, they offer new possibilities for the individual to manifest feelings and ideas, be through text or of audiovisual images and, in the case of MDV3D, besides the text, the voice, the gestures and the graphic representations in 3D. When they break up with the visible borders of the bindings and printed papers and they allow new compositions, cuttings and transmission online, the digital publications and the electronic books indicate "a revolution in the structures of the material support of the writing as well as in the ways to read" (Chartier, 1999, p. 13). On the other hand, the author emphasizes that this revolution also concerns the production manners and reproduction of the texts, as the digital technologies make possible that a same person could be author, publisher and dealer at the same time, simultaneous. The technology that offers support these new reading and writing forms appears as new possibility of inscription of the individual, when, enrolling themselves in the virtual spaces, he recognized himself and he is recognized for others. In that sense, the digital culture indicates a radical transformation in the production devices and of spreading of the knowledge, pointed for some authors as essentially democratic, in the way that it potentiates new authorities facing the scientific productions, informative and cultural (Lévy, 1999, 2004; Castells, 2005; Lemos, 2002, 2009).

In fact, the digital technologies have been making possible new socio-cultural manifestation forms of several orders, from social movements to public and private entities, as well as they have reconfigured and created new forms of collective organization. But who has been inhabited those virtual spaces? How is the socialization of the individuals facing the new reality?

As these sophisticated and complex technologies increase manners of being and of inhabiting the contemporaneity, conditioning almost everything to the informational pathways, at the same time, it also creates an exclusion pathway in relation to the knowledge, to the culture and to the work, since the technological apparatuses that give access to the digital means many times have an inaccessible cost for the social layers less favored economically. In order to minimize the social impacts of that phenomenon, it is possible to observe in Brazil several actions of the civil society, ONGs and of the own government designated under the *digital inclusion* term. In Brazil we can still highlight, inside of the national politics of *digital inclusion*, the Broadband in Schools Program, that has been making available the fast access to the internet in Brazilian public schools, besides offering qualification courses in the pedagogic use of TD to the

teachers of the participant schools with support of the Nuclei State and Local Technology in Education (NTE and NTM).

These politics and inclusive actions seek mainly to make possible the access the some digital resources, mainly to the internet. However, the reflection on the exclusion pathway in relation to the digital culture can not be limited to the economical subjects, to the subject of the material access to the technological apparatuses that make possible the access to the digital world. It is necessary to take in consideration the analysis of the new cognitive regimes that are produced in interaction with the digital technologies, mainly in the school spaces, as those spaces start to exercise primordial role in the public politics of digital inclusion. In that sense, the problem of making part of a digital culture that enters in the line of the attributions of the school brings to the surface a double process: technician and symbolic. Being like this, the discussion that involves the digital technologies demands taking into account as much the technique as the culture.

COGNITIVE ECOLOGIES

Lévy (2004), when analyzing the technological development and the culture, proposes that the ways of thinking are deeply molded by material devices and sociotechnical collective. With the term *cognitive ecology* Lévy defends "the idea of a thinking collective human beings-things, dynamic collective populated by active singularities and mutant subjectivities" (p. 11). In the same sense, he introduces the idea that the society can be considered as a great hypertext or a wide cognitive net, mobile, of several formats and ways, where individuals participate connected to a common net, but that, however, they just possess a partial and deformed vision for countless translations and interpretations. For the author, these individuals compose what would be local machines, singular, subjective, each moment injecting movement in what would be the great social hypertext: the culture. The author adds that the state of the techniques influences directly on the topology of this wide cognitive net, on the relationship types in its executed, about the association manners, the transformation speeds and circulation of the representations, always in a constant metamorphosis.

Such analysis is clearer when Lévy establishes an analogy between the model of the thermodynamics, analyzed by Michel Serres, and the computational model. In the same way that the creation of the steam machine provided the elaboration of a measure of power (Horse Power) - defined by a relation between time and space - Lévy tries to show that the computer became today one of these technical devices for which we noticed the world. It is not just in an empiric plan (as in the calculations of astronomical distances), but also in a transcendental plan. He affirms that more and more we conceived the society, the alive beings, or the cognitive processes through a matrix of computational reading. In the same way as the telegraph and the telephone served to think the communication in general, he affirms that the experience can be structured by the computer. Like this, the products of the modern technique are important sources of imaginary, entities that participate fully of the institution of noticed worlds.

The Lévy's idea about the existence of a symbolic hypertextual net understood from the concept of cognitive ecology, it finds in the digital technologies new possibilities of collective agency of socialization. For so much, it is necessary to define as that discussion can help to think the constitution of several social nets (of learning, of work, of leisure, of art and culture, etc.). As a necessary way, Maraschin (2000) defines the socialization "in the sense of the inclusion, of the active belonging, propositional in the social/cognitive nets; assumption of a subjective position of authorship inside of the predominant cognitive ecology" (p. 55). The author detaches that, differently of the usual understanding that there is about the studies of the cognition in relation to the human development, the cognitive ecology places the discussion in the field of the social psychology, in the collective ways of producing knowledge and of socializing. At the same time in that this perspective enlarges the focus of the individuals' analyses for the collectivities, Maraschin proposes that the object of a cognitive ecology is thought from the cognitive activity as "(...) invention-construction subjective-objective and not as a representation of something given out, in the exteriorities. The cognitive ecology constitutes a space of agencies, of interactive lines, of constituent relationships, in which are define and redefine the individual, institutional and technical cognitive possibilities. It is in that space of agencies that are conserved or generated modalities of knowing, the forms of thinking, the technologies and the institutional manners of access and of knowledge acquisition" (p. 56). The author complements this idea affirming that a predominant cognitive ecology allows "(...) the consolidation and emergency of 'cognitive regimes' constituted by the groups of rules created through processes of learning, through concrete practices involving the coupling with cognitive technologies" (p. 56).

STRUCTURAL COUPLING AND THE DIGITAL TECHNOLOGIES

In the extent of the discussion related with the digital technologies, Maraschin (2000) does an analysis proposing that be thought the hardware aspects (physical structures, biological or technological) in a way

integrated into the software (logical/symbolic structure), proposing that the physical structure constrains the symbolic structure, while this can establish new meanings and logics that echo in those (transformation of the structures). In the case of a cognitive ecology of regime predominantly oral, for instance, the informational way is determined by the own biological structure (apparatus vocal, hearing, neurological, etc.) that any healthy individual disposes. However, the conceptual/symbolic structure is a product of the socio-historical and collective processes; whose interactions and couplings have been allowing the production of shared and diversified senses. Everybody that share of the oral regime is capable to do part of that socio-cultural net, and to socialize as they participate actively of that ecology. Historically, the individual's inclusion in that regime has been happening spontaneously, without a formal institutional process. However, it is not possible to think this process of spontaneous inclusion as a simple process, because that cognitive ecology of oral regime is not structured in a homogeneous way. It still may be consider other regimes that interfere in this ecology, as the different regimes of power, the politics, the knowing, among others. Depending on the context can be certain *orally type* accepted that determines the inclusion or not of the individual.

In the case of a regime ecology predominantly writing, it is added to the biological-symbolic coupling of the oral regime, the coupling of technological tools (boards, parchments, books, feathers, pen, and machines). This coupling, at the same time in that it enlarges the reflection/formalization possibilities and it materializes the support of the ideas through the inscription, it brings new meaning to the speeches as it distances the statement from the context of their speakers, giving new meaning to the space and time categories present in the speeches of the orally regimes. It appears, like this, new forms of collective agencies, constituents of new social nets and, at the same time, of new inclusion and exclusion regimes.

With the appearance of the digital technologies and the emergency of a digital culture, it can be affirmed that it is in process the appearance of a digital cognitive ecology, what turns fundamental to study the socio-cultural agencies in course, as well as the inclusion and exclusion processes in the social nets that are formed. In this context, the school, while space of the individuals' socialization, surged as an important agency of these processes, because it is inserted in the projects of life from the childhood and from the youth.

COGNITIVE REGIMES, SCHOOL AND COMPUTERS

In spite of the education do part of the life and of the socialization process in the childhood and in the youth, the meanings attributed to the school not always are positive. For some, to be at the school can be an imposition; a violence which that should be resisted or abandoned (Sirino; Cunha, 2002); for others, the school can be a fundamental support in the construction of the life course (Abrantes, 2003).

The social question in Brazil has been marked historically by the social, economical, cultural, moral and symbolic inequalities (Arcoverde, 2006). Along the years, it is evidenced a process of accentuation of the accumulation of the wealth and the consequent increase in the inequality of income, fruit of models of development "slave, industrial - developmental, fordist - taylorist and of flexible reorganization" (p. 3). In this context, the image that it is tanking from the school was always nurtured by the promise of reducing such inequalities, mainly from the idea that the education would be capable to promote the individual's emancipation and his/her productive insert in the society and in the culture. In spite of that, what in fact is observed in relation to the schools is the reproduction of exclusion models, fruit of education processes that produce the failure and the abandonment of the studies. And what would be the predominant cognitive regimes at school?

The classroom traditionally has been organized in a way that the time and the space of the activities accomplish pre-established itineraries. The organization by series or stages and the curricular grade or disciplines can be considered as macrostructures of the school. These macrostructures have been conditioning the planning of the activities in classroom, defining what and when certain curricular contents should be approached. In general, that planning guided by the clock and by the curriculum concerns the execution of teaching stages and of evaluation systems that intend to designate or to indicate if the student is or not developing. In order to attest this development, the tests and the written works, applied according to a schedule, have been the main instruments of registration of the productions and of the evaluations, and they can be pointed as an important part of the microstructures of the school. All that organization of the school reveals a cognitive regime mainly of written order and conditioned to the inscription in spaces and predetermined and authorized times. The measure of the success or of the failure happens, largely, in the adaptation or not of the individuals to this regime, as the individual is capable to produce in the time that is allowed to him/her. The learning and the individual's development, under this regime, are understood not as an event, but as a product of the proportionate engenderment by these regimes. The planning of the activities in the classroom follows the defined times, in first instance, by the macrostructure of the school calendar,

that at the same time in that it engenders a way of learning with marked date, it produces the school failure and, consequently, the losers.

In this context, the idea of having computers in the education was nurtured, in part, by the conviction that the technology would transform the school, promoting the overcoming of the problems related to the learning and, consequently, it would reduce the disapproval indexes. In that case, the failure idea as an inaptness of the individual justifies an entire support system and pedagogic reinforcement that it checks to the technologies a prosthetic image, capable of re-conducting the apprentice the condition of more capable.

What is noticed along the last twenty years is that the computer has been introduced in the schools in a way not to interfere in the instituted regimes, and, except for the specific technical courses, what is produced when using the computer, that is, enrolled with the digital support, it is little taken into account, besides not constituting as instrument of evaluation of the development and of the learning.

Under the justification of assisting all of the students' groups and teachers, the computers are gathered usually in rooms or laboratories, becoming almost autonomous units in relation to the remaining of the school, a foreign place to be frequented or avoided. More recently, approximately in the last ten years, the popularization of the personal computers and the appearance of the Internet have been producing new meanings in relation to the computer in the school, and the computer labs, consequently, have been acquiring new status. But the increase of the demand and frequency of using of the computer labs has not been provoking substantial changes in the instituted cognitive regimes. On the contrary, the computer labs are the ones which fix themselves to the established and certain regimes by the macrostructure of the schools.

In the case of the shared use of the computer labs, in some schools the time in an equal way is distributed for all of the groups (for instance: 1h or 2h a week), usually following the orientation of opportunity of using of the technological resources to all the students, avoiding a supposed privilege or monopoly of using on the part of some teachers and groups. At the same time, this is a form of justifying the financial investments, be public or private, for the school community. This regime of shared using of the time is usually defined in a shared way (with the teachers' participation) or by the pedagogic coordination of the teaching institutions. In other cases the shared use of the computer labs follows the same rules of using of the other laboratories for area (for instance: physics or chemistry laboratories), being to the teachers' criterion determine the frequency with they use the resources offered by the laboratories, usually through the previous scheduling. In that regime of time, it is to the teacher's criterion when and how to use the technological resources, usually in function of the topic or the content approached in the classroom. In spite of that, it is common find teachers' reports affirming that to use the space of the computer labs is wasting of time, be for the absence of appropriate software, be for the ignorance of the pedagogic application of the existent resources, or be for the insufficient time that they dispose because of the schedule of their disciplines. It is also common find reports that the space of the computer science laboratory is used as pastime, a form of rewarding the students for activities or stages accomplished through digital games or access to social nets. In that way, the use of the technological resources difficultly is guided by the *pedagogical pertinence* of using, but for a *politics of using* based or by for justness of the access to the labs (institutional politics), or by the specific criteria defined by the teacher and his/her area of performance (politics of the pedagogical action).

Once the teacher moves with his/her group of students to the computer lab, the accomplishment of the activities follows the same established regime for the use of the other laboratories. As well as there are itineraries for the accomplishment of experiences and controlled observation of phenomena that corroborate the subject treated in class, also can be a pre-defined itinerary that drives what happens in the space of the laboratories. Visits or guided researches to websites guided by questionnaires, access to content multimedia in CDROM, simulations and accomplishment of exercises guarantees the execution of a script and an assumption reinforcement for the *learning previously scheduled*.

Regarding to the Internet, some schools have as strategy to adopt firewalls (filters) to control the access, impeding that some websites and/or nets are used at the school. In other cases, the teacher is who determines what should be accessed, defining navigation itineraries or a guided navigation, usually to reinforce some subject worked in the classroom. There is, still, cases in that the teacher combines with their students rules of access, defining in agreement that would be appropriate or not in function of the objective of the activities. In all these cases what it is noticed as common element is that the *politics of using* follows a hierarchy that is going from the institution (school) until the classroom space. The fact of the computers and other digital resources be located in an external space of the classroom guarantees to the teacher and the institution to predetermine a plan of actions and some strategy form to guarantee that the epistemological beginning that orientate his/her pedagogic action are carried out in the context of the groups, series or stages of the teaching. Like this, the times and the spaces for the reading, the writing, the research, the exercise, the dialogue, the listening, the work, etc, are defined. Inside of this process, in order to the digital technologies are part of that

context, it is necessary a displacement, a change of classroom context for the space of the laboratory, where, depending on the adopted politics, are refigured, or not, what has been predetermined in the classroom space. This scenery, common in many Brazilian schools, defines a hierarchical and heterarchy cognitive regime, in which the teacher and the school determine mainly what and when to use the TD, as well as it authorizes the spaces of possible inscription to their students. But, and if, instead of moving a group of students for the computer lab, the computer and the Internet enter in the classroom?

THE MODALITY 1:1 AND THE NOTION OF DIGITAL CITIZEN EMANCIPATION
Viñao Frago (2002), when discussing the educational systems and the scholarization, shows the problem of the teaching and learning processes be decontextualized and they depreciate other no school learning. In the extent of the education politics, the author does an analysis of the historical processes involved in the education reforms, their motivations, consequences and resistances. The author shows that the State has to return their attentions for the educational systems in the moments of crisis or after-crisis, intervening or promoting reforms in the sense of provoking new movements in the education processes.

In the current Brazilian context, the relative data to the employability and the demand of technical competences for the new professions that have been appearing, as well as the unbalance of the trade balance in favor of the imports, that demands improvement of the intern production of consumption goods, it has been doing with that the Federal Government invests as well as increasing the offer of technical professional teaching and superior to take an account a supposed "scientific and technological broken" that can happen in ten years.

In front of this scenery of demand for professional qualification in several fields of the work, mainly in relation to the domain of the TD, it understands why the Federal Government is investing in modernization projects from the schools of basic education, besides increasing the offer of the technical and professional teaching. It can be affirmed that there is an understanding that the school has important paper to carry out in the project of national development and to rescue its meaning inside of the project of the citizens' life becomes indispensable.

Inside of this perspective of rescue of the social function of the school in the plans of development national, several initiatives have been created or leaning for the Brazilian Federal Government. Among other politics, the *digital inclusion* has been winning prominence. In front of this complexity of the society introduced by TD in the most several sections, the politics of digital inclusion appear how "(...) need of social agency differentiated to promote the socialization of the individuals to the new cognitive ecology and to the new regimes for it made possible" (Maraschin, 2000, p. 59). In that sense, how the Brazilian education, as in relation to the school institutions as for the public politics, has been inserted in this discussion in order to take an account of this need?

The idea of digital inclusion in the extent of the public politics is going to the encounter of that is noticed in relation to the current national and world social-cultural, scientific and technological scenery, that indicates an use more and more intensive of TD in the construction and in the spread of the knowledge. In that sense, to adapt of TD has become a concern of not producing or intensifying a new pathway of social exclusion, and, in this process, the basic and professional education acquire fundamental importance in the project of Brazilian development.

More specifically in relation to the basic education, the Ministry of Education (MEC) is under the responsibility of developing the Program "One Computer per Student" (PROUCA), that, for the period of two years, it will involve 300 Brazilian public schools, in urban and rural areas, besides the State Department of Education and Nuclei State and Local Technology in Education (NTE/NTM), with the objective: "to create and to socialize new forms of using of the digital technologies in the Brazilian public schools, to enlarge the process of school digital inclusion and to promote the pedagogic use of the technologies of information and communication" (SEED, 2009). The PROUCA brings a new component for the debate around the applied use of the digital technologies in the education, when starts from an innovative model putting portable computers (laptops) in hands of a whole school community - managers, teachers and students.

The new component that the modality 1:1 (one laptop per student/teacher) brings in relation to the previous experiences involving the use of computers in the education is in the fact that, when putting in each student's and teacher's hands a computer, the TD start to occupy a differentiated place. Instead of the computer labs, the own classroom starts to count with this resource, that opens new inscription possibilities and authorship that, at first, extrapolate the institutionalized hierarchy. But which would be the elements of the digital culture exactly that can interfere and produce new cognitive regimes in the schools?

Lemos (2009) defines three laws or beginnings that are in the base of the current cultural process of the *cyber culture*: "(1) the liberation of the pole of the emission, (2) the connection beginning in net and (3) the consequent socio-cultural reconfiguration starting from new productive practices and recombined practices" (p. 39). The first item refers to what the author denominates of "pos-massive culture", in which the individuals have the possibility to produce and to publish information in real time, "under several formats and modulations, to add and to collaborate in net with others, reconfiguring the cultural industry ("massive")" (p. 38). The second refers to the possibility of emitting in net, to connect with other people, "to produce synergies, to change pieces of information, to circulate, to distribute" (p. 40). The third beginning comes from the first two, because the emission and connection produce "the reconfiguration (of practices and institutions) of the massive cultural industry and of the nets of sociability of the industrial society" (p. 41). For Lemos, the understanding of these beginnings (emission, connection and reconfiguration) allows to understand what he calls "informational combining territories" and the socio-cultural impacts of the current digital mobile technologies of communication and information.

Taking these beginnings as base to understand the emergency of a digital culture in the schools, it is added to this proposition the need to understand also as the beginnings of the cyber culture will interfere on the cognitive regimes that orientate the politics and educational practices in the schools. At the same time, these same beginnings and the new cognitive regimes will be capable to provoke transformations at the point of doing with that the teachers and the students be part of that new cognitive ecology? - in the sense of the inclusion, of the authorship and of the active belonging.

The sense of belonging to his/her time and place finds in the idea of digital citizen emancipation a perspective of a quite fertile analysis, because it crosses the subjects merely technological and it enters in the symbolic field of the subjectivity. The digital emancipation involves a "her/him" inclusion, and no simply to be included. Schwartz (2007) affirms that "Processes of digital emancipation look for promoting the displacement of the paradigm of the "society of the information" for a one that has the "society of the knowledge" as horizon, doing of the access just one of the links, necessary, but insufficient, in the productive chain of information that can give sustainability to the economical, social and cultural emancipation of the citizens" (p. 128). The term digital emancipation began to be used in the context of the group of research City of the Knowledge USP/CNPq, founded in 2001, in the context of the discussions on the processes of digital inclusion, in an attempt of overcoming the understanding of the inclusion as access opportunity.

In synthesis, the concept of digital emancipation appears with the pretension of overcoming the mark of the "society of the information" in the sense of thinking ways of integration of the school in the "society of the knowledge", in the which teachers and students can go besides the passive use of the technologies. The imperative is to form nets, connecting learning and life spaces for the corroborate construction of knowledge that enlarge the job and income opportunities. (Schwartz, 2007, p. 129). Starting from this same comprehension, Schlemmer (2010) proposes that it is understanding the "Emancipation and Citizen Digital Education" in a such "level of appropriation, of digital technological fluency, that propitiates to the individual to be a citizen of this time, checking him/her an empowering that makes possible to exercise the social autonomy and the creative authorship, in a dialogic space, cooperative, traversing through the mutual respect and the internal solidarity" (p. 10).

FINAL CONSIDERATIONS

Along what was presented, we consider the definition of qualitative criteria to evaluate government programs that seek to promote a digital culture from the schools.

First, the term *digital inclusion* is insufficient to account for the complexity of this phenomenon, which is culturally and technically, because the idea of inclusion addresses the issue from the point of view of the inability or unavailability of individuals to access to digital technologies. Moreover, the idea of inclusion assumes that the individual or the school has to overcome its way of being or live, their practices, in favor of a new composition, and better than established. Unless this is even the sense to want to give to public policies for education, the said inclusive actions may generate more processes of resistance than belonging, more processes of stagnation than innovatives. We consider that the term citizen digital emancipation is more in accordance with the epistemological principles that define the field of cognitive ecologies as to broaden the discussion inherent to the collective aspects of socio-cultural phenomena.

Under another aspect, we understand that the school simply assign responsibility for the promotion of digital culture is to overlook the fact that the school itself is not yet part of that culture as it operates under its own cognitive regimes of the analog age and not digital. It should be considered that the structural transformations that are revealed in the contrast between the analog and digital cultures require new structural couplings that necessarily passes through the production of new meanings for such categories as

time, authority, modes of entry, hierarchy, etc. Otherwise, digital technologies such as blogs and social networks will not make sense in the classroom, because they are being understood from a cognitive ecology analog, serving only to reproduce what is already done with pencils, notebooks and posters on the walls. What's the point of making public for the whole world what is done in the classroom? Why have a blog? If these simple questions can not be answered by educators and students, these resources can become a simple extension of their traditional notebooks. One proof of this lies in the fact that the Internet is still seen as a large library, a faster and agile way to accelerate the consumption of information in multimedia format. Instead, we must consider how the categories as the emission, connection and reconfiguration will be assimilated into the school, and whether they would cause some change in the established cognitive regimes. Finally, in terms of public politics, to ensure access remains the principle underlying the proposals for digital inclusion, obviously necessary but not sufficient. The democratic use of digital technologies undoubtedly goes by to ensure access, but it is also necessary to take into consideration changes of both the cognitive regimes and the using politics in process in school spaces.

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322 - Digital Natives: What and How Much they Learn While They're Playing Online

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Abstract: This paper describes the pilot study carried out for my master's research thesis. The study consisted on individual non-participant observation of 3 Brazilian college students, at the age of 21, who were video recorded while they played. The goal was to identify a few actions they used in order to understand the game and interact in English with other players even though they were not fluent in the language. After the observation, the students were interviewed about their interaction while online. The subjects' actions and their interactions were analyzed from the Vygotskian point of view and the results suggest that this generation – coined as Digital Natives, by Prensky (2001b) – is eager to engage in activities where they can cooperate and collaborate towards their learning.

Keywords: Digital natives, lingua franca, interaction, cooperation, learning.

LEARNING AND TEACHING IN THE DIGITAL ERA

Although parents and educators may think that the time children and teenagers spend in front of a computer is a total waste of time and that it should be used in more productive and constructive alternatives, the young people claim they can learn many things while they are playing games in their computers and surfing the web. Dunkels (2007) says some of them might even hurry home after class, sit in front of their computers in order to connect to the Internet and chat online, exchange instant messages, or interact in social networks with the very same peers they had spent the whole day with at school.

One cannot deny the influence that digital interactive technologies (ITs) have in making it possible for people to develop more autonomy and freedom in their search for information and how they build their knowledge. However, that practice has also influenced the way this generation learns, and it seems time has come to rethink our teaching practices if we want to engage these students in their learning process. The traditional lecture-based practice, where the teacher is the only source of information and where students have to sit still, listen quietly and take notes strongly contrasts with the way digital natives (Prensky: 2001b) or the Net generation (Tapscott: 1998) act when they are outside the classroom. Both authors claim this generation is stimulated and motivated by activities that invite them to interact, that allows them to abandon the position of simple listeners or observers and be active participants.

It is probably not an exaggeration to say that this generations' use of digital media has helped them learn many things they had not learned at school and it is this paper's intention to point out a few findings from a research[118] carried out as an attempt of beginning to understand how Brazilian digital natives are taking advantage of the digital media to learn and improve foreign languages. The focus is to observe and think about what they do that leads towards learning and not to analyze linguistic aspects of their learning. By helping teachers and educators understand *how* they learn, the study might help us rethink our classrooms and our approach to digital technologies in order to engage students in their learning process.

ENGLISH AS LINGUA FRANCA

After years teaching English as a foreign language in Brazil, I was intrigued by how many times I heard students telling me they had learned English by playing video or computer games. What surprised me most was to hear it from people who were taking placement tests to become students at the language program where I work. These placement tests are designed to assess students' knowledge level of the language – except for the very beginners – when they first arrive in order to decide which classes they should attend. I realized there were a great number of young people telling me that they ended up learning the language so

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[118] Research carried out for my Master's thesis: *Ações de aprendizagem empregadas pelo nativo-digital para interagir em redes hipermidiáticas tendo o inglês como língua franca,* at the University of Caxias do Sul (UCS), RS – Brazil.

that they could interact with their games[119] and with other gamers around the world while playing online. They were not concerned about learning English as a foreign language, but about being able to use it as a common language to communicate with other people online playing the game synchronously or to take part in discussion forums available on the Internet to exchange information and tips with the other gamers.

First, I suppose it may be necessary to enlighten readers on a few aspects that characterize learning a foreign language in Brazil, a country where the mother language is Portuguese. In 1996, there were a few changes in the law ruling educational matters in Brazil (*Lei de Diretrizes e Bases – LDB*) determining that at least one foreign language be taught in all schools from the 5th grade on, and that a second alternative of foreign language should be available in high schools. Before that, having a foreign language as part of the school's curriculum was not mandatory.

However, the conditions in most Brazilian regular schools did not favor teaching-learning a foreign language with the four skills in mind – speaking, writing, reading and listening. In fact, many schools only have one or two 45-50 minute classes a week, for groups of 30-40 students with the most varied levels of English in the same group. That alone would make it more difficult to focus on students' fluency, not to mention that in some schools textbooks and teaching resources might also be an issue, with teachers actually having to prepare and print all the activities and class materials themselves. For all those reasons, a larger focus has been given to teaching reading strategies in schools, considering the social function foreign languages have in the country (Leffa: 1999). If students wanted (or needed) oral fluency, they chose to study English in language institutes[120].

In fact, globalization triggered a need for people all over the world to speak at least one foreign language. Choosing English as the language used for communication between individuals whose first language is **not** English places it in the status of a lingua franca (Crystal: 1997. Graddol: 2006) since people from the most different countries are using it with the sole purpose of communication and negotiation. Although as a lingua franca the language might incorporate aspects of other cultures in order to be used multinationally, that does not mean that it will replace the local languages. On the contrary, native speakers of other languages will naturally incorporate different lexis, accents and culture (Leffa: 2002) into the language they are using as a lingua franca.

Leffa (2002) states that technology has made great contribution to globalization, transforming the world into a digital village thanks to the fusion of computer and satellite. Thanks to this, it became economically viable for millions of people from the most different countries to communicate with one another, propelling the extensive use of English as a common language. It is common sense that today there are more non-native speakers around the world using English to communicate with other people than there are native speakers. One could only expect that this kind of situation inevitably reached the younger generation online.

AN ATTEMPT TO UNDERSTAND HOW DIGITAL NATIVES LEARN

As a digital immigrant in the world of games (video and computer games), despite my curiosity in finding out how digital natives learned with games, I had no idea of what to ask them about their interaction while they were playing online. For that reason, I decided to divide the experiment in two different moments. The first one was to observe them as they played in order to see if a few actions that I pre-organized as categories to watch took place, and to identify other actions that emerged as they interacted with the game. To help me collect that information there was a camcorder installed by the computer screen to record their facial and body expression and a screen-recording software – Camtasia – was installed in the computers to record what was taking place on the screen. The second moment consisted on a confrontation interview, during which I showed certain segments to the subject and asked a few clarifying questions about what was going on in them.

The study was carried out with two male and one female subject, aged 21 years old. They were selected from a group of six volunteers according to a subject profile I had traced before: they should be between 18-22-year-old college students, who were not taking any English courses at the moment, whose level of English could be described as B1[121], and who attributed part of their language knowledge to have been learned by playing videogames and surfing the Internet. They will be referred to by their login names: SeYa, MrWar and Josefina.

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[119] The word "games" is used in this paper to refer to computer games that can be played on the Internet.

[120] Language institutes are private educational organizations whose purpose is to offer foreign language classes.

[121] According to the language reference descriptions developed by Council of Europe, which range from A1 (basic users) to C2 (proficient users).

Simultaneously to the selection process of the subjects for the experiment, I spent some time choosing a game that could fulfill the characteristics I wanted for it. To do that, I asked some of my students to answer a questionnaire about the topic, on which they could suggest and indicate the games they used to play and liked the best. Then I set up my checklist for the kind of game I wanted. First of all, it had to be free, since I did not have any scholarship to fund my research. Second, it could not be something widely played such as World of Warcraft (WOW), which is the leader of online games in access rates according to surveys. It should have some features described by Prensky (2001b) as "game system", which refers to other media and resources available for players to obtain and exchange information with other players or from specialized magazines, journals, etc – all linked so that this information could be easily found. And it could not offer its players any chance of choosing another language to play other than English. That is how I finally got to Adventure Quest 122, which could be played online, upon log-in only, requiring no downloads to be installed. This was also very important once I was going to use one of the University's computer labs for my research and all I would need would be special permission to turn off the Firewall during the observation sessions by previously informing the IT center of my schedule.

There was one observation session per subject and they lasted approximately 30 minutes each. After that, I watched the video recordings and organized a set of segments per subject to show and discuss with them during the interview. That procedure gave me the opportunity to widen my perspective and guided me through the script for the interview. The interviews consisted of a set of questions that were common to all subjects, regarding their previous experiences with games and another set of questions that were personalized to each observation session.

From their very first login I realized how important had been my choice for the research method. As a digital immigrant, when I was analyzing different games to choose one for the observations, I always started by reading the games' tutorial so I could have a clear idea of what I was expected to do. None of the subjects read the tutorial. All of them started playing immediately after logging in. When I asked each one of them on the interviews why they did not choose to start from the tutorial, their responses were pretty much alike: "because I'd rather learn by doing" and they can do that by exploring the game and observing the consequences of their decisions

This behavior is described by Prensky (2001a) as exploratory learning or learning on the fly, through which digital natives access hypertexts, games and Web by simply "clicking around" in a less sequential manner.

> This new, less sequential information structure has increased the Games Generation's awareness and ability to make connections, has freed them from the constraint of a single path of thought [...] and what has been lost in linearity may have been made up for by a greater ability to perceive, and think in, structure and patterns (p.54-55).

It was possible for me to observe this ability that Prensky describes to perceive structure and patterns in the subjects' interaction with the game. Both MrWar and SeYa justified some of their decisions while playing as the recognition of a pattern in the game. They said that sometimes they start playing a game to see how it works and after they have been able to recognize a few patterns (which would be described in the tutorial had they read it!), they would go back to the beginning of the game and play it again, although this time they would be aware of what to do and how to protect themselves. They also reported that is how they learned many terms, phrases and expressions: by recognizing some kind of pattern in the language use and the consequences of the actions that followed.

Another example of exploratory learning was observed when SeYa's character in the game died in a battle with a monster. He restarted playing and went back to the same scene. When I asked him researcher why he had done that, he said now he knew what had been his mistake while choosing the war tools and equipment for the battle. In the menu of items he had to select, there was a word[123] that was new for him and that he had ignored the first time. When he came back to the scene, he included it in his selection and found out it was the magical protection he needed to win. His words when confronted with the scene were accompanied by a grin, "This time I win, and I'll never forget my spells again!" That consists on a very simple example of how they end up learning a language without even realizing it. As if by accident, a new word was incorporated in his vocabulary in a fun and meaningful way.

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[122] <http://www.battleon.com/default.asp>.

[123] The word was "spell", which SeYa knew as the verb used to name the letters in a word. He did not know till then that it could be a noun, related to a word or formula that had magical powers. (Definitions from www.thefreedictionary.com)

Like SeYa, MrWar also lost one battle because of a word he did not know in English. His situation was a little more complicated, once he did not include a "shield" in the equipment his character in the game should carry to the battles. He won a few, but the character was badly injured, until he finally died. When confronting the subject with that situation, I asked him if he had any idea of what had happened and he said he suspected he had not included something in his warrior's gear. When I asked him if he would have done anything different had he be playing at home instead of at an experimental situation to which he promptly replied "Sure, I'd put the question in my nick on the MSN, and certainly somebody would help me find out what was wrong." I then asked him if he suspected what could have gone wrong, and he asked to watch the scene again. This time he looked at me and pointed to the word "shield" on the list he was supposed to pick it from, and to the question at the end of the selection "Are you sure you are ready to go to battle?". He then realized the game had given him a hint that something was missing and asked to watch the battle again. His comment was "Of course he lost! He doesn't have a *escudo*[124]!" as he slapped himself on the forehead.

MrWar told me that he had thought about using an online translator to find out what a few things were on the list, but then decided not to, because he felt too lazy to do it. He added saying that he and his friends used to download material for their classes and joined forces to understand and translate things, sharing their findings so "everybody could achieve more". This implies in collaborative work under the Vygotskian perspective of Proximal Zone Development in a classical theoretical concept that refers to the savvier being able to help their peers to learn more.

The female player, Josefina, was the only one to use instant messaging as she played. She first tried to engage her friend in the game too, but they found out something I had not considered when choosing the game. Although the game is designed to have players benefit from others' performance, the option for identifying who the multiple players are is not available as it is in other games. Even so, she continued her chat with her friend, keeping three windows open in her computer screen as she played: one for the game, one for the instant messenger (Google Talk) and another one for her e-mail box, which she checked every now and then, minimizing the other two windows.

Here we can think of a few characteristics of the digital natives described by Prensky (2001a, 2004) and Oblinger and Oblinger (2005): multitasking, sharing information, and an attempt to work collaboratively. We can see Josefina multitasking: playing, chatting with a friend and keeping track of her email messages. Interestingly enough is the fact that she was the subject with the highest score on the game at the end of the observation section. During the interview, she told me that this friend is someone who she usually plays with on multiplayer games and that they used to have a group that organized LAN-parties when they were in high school.

Once again I had to admit my ignorance: as a digital immigrant I had never heard about such parties in Brazil, and I asked her to describe a LAN-party to me. I learned it consists on inviting a lot of people to bring their computers (desktops or laptops) to somebody's house (or apartment), and establishing a local area network – LAN – to play multiplayer computer games for long periods of time – sometimes 24 – 36 hours. If someone got tired and needed to take a rest, another friend would take over and keep the scores up.

In a LAN-party, it is possible to form a clan by adding a word in front of their names so that everyone else playing with them online will know that they are a clan or a group. Then this clan would sometimes play against another clan and the whole interaction among the players would be through an instant messaging tool of the game and the language used would be English, regardless the origin of the players. Clans or groups are stronger and have more chances of winning than other gamers who are playing individually.

Josefina told me that people who use Portuguese or some other non-English language while playing online can be ignored by other multiplayers for the simple reason that people will think it will be hard to communicate with somebody "who doesn't speak the new Latin".

This description of a LAN-party clearly shows how cooperation and collaboration are common actions of the digital natives when interacting online with their peers. It also evidences the use of a lingua franca by the players, referred to by the subject as "the new Latin".

During the whole process of collecting data for the study and analyzing it, one thing called my attention: there was a great interest from the students who had helped with the questionnaire with suggestions of games and from the subjects of the study itself on knowing if I had already compiled the results. Many of them came to me with new suggestions of games I could use in further studies or papers they had found on the Internet and thought I might be interested in reading. I suppose this proactive attitude can be added to the many traits used to describe digital natives.

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[124] Escudo = shield

DIGITAL NATIVES FROM THE VYGOTSKIAN PERSPECTIVE

Van Der Veer and Valsiner (2009) claim that Vygotsky was especially concerned with the whole process of learning, and this idea was expressed in the Russian word *obuchenie*, which was originally used to describe the teaching-learning process. Vygotsky's studies were focused on the social determination of an action, which always had a need to fulfill and the mediations toward this fulfillment. He considered man to be an interactive being, whose knowledge came from mediation processes that allowed transforming nature and himself through the use of instruments and tools that had been socially built.

Even though the subjects of this pilot-study were not aware of their learning process while playing, we can say that playing computer games creates a situation where they need to take action in order to achieve goals or fulfill that need. And considering knowledge as the result of the action between subject and object (Vygotsky: 1998), their knowledge of a foreign language, for example, can be built as they achieve their goals in the game mediated by a foreign language. In their search for a solution to the situation (winning the game), they need to understand the language signs, trying to make sense out of them so they can make the necessary decisions to move forward.

As educators, we could transpose this to learning situations mediated by digital and interactive technology, where students could be challenged to obtain information and solve situations by communicating and interacting towards a common goal. I assume that as digital natives they would naturally tend to build some kind of cooperation or collaboration network that would help them achieve their goals. This would certainly call for a new paradigm in our teaching practices as well as it might engage our digital learners once it takes into account how they learn and interact. It would force students to develop thinking and investigative skills, becoming critics (Tapscott: 1998) as they have to analyze situations and make decisions.

This approach would straighten the distance of what digital natives do at home from what they do at school. They want to share and collaborate, contributing to other peoples' learning. That can be inferred from the discussion forums found in the website of the game used in the observations, and from the proactive behavior shown by the subjects of my study and my students towards the research they knew I was carrying out.

In the forums for the game used for the study, I found many postings revealing details and secrets on how to move forward on the game. If this could be applied in classroom activities we would have the possibility of watching students helping each other, trying to solve situations that they have been confronted with before, creating real zones of proximal development in their interactions.

If we think about how digital natives like (and maybe need to) multitask, we could start thinking of ways to propose learning activities where they needed to use several abilities at the same time, just like the female player did during the observation and the way we can probably see digital natives studying when they are not in their conservative and traditional classrooms. Once again by doing that we could wear lenses from a Vygotskyan perspective, since for this author learning means acquiring many abilities to think about several different things (Vygotsky, 2001). According to him, social interaction has a major role in the cognitive development and it is the teacher's role to help learners associate what they know to a literate and scientific language, aiming at the enhancement of their knowledge and at their historical and social integration into the world. So how can we explain that teachers still insist on students' sitting quietly and passively in their classrooms while teachers lecture?

IMPLICATIONS FOR SCHOOL AND TEACHING PRACTICES

Wouldn't it make more sense to have students bonding and teaming up on cooperative and collaborative tasks, as they do when they play online games from their homes or even when some of them form clans to play in their LAN-parties? It has been widely said that digital technologies, especially the Internet, can enable learning experience to be centered on the learner himself, as he explores the subject in a somewhat "discovery" mode, as they learn on the fly (Prensky: 2001a, 2004). And yet nothing seems to be further than that than their daily school experiences.

Our difficulties as teachers, parents and educators to understand what digital natives do on the Internet and on their use of digital media must be addressed and overcome, and we need to rethink our teaching practices and create – or learn how to use – new pedagogical tools. That does not mean we need to be fluent in the digital language, though. But neither does it mean we can insist on leaving digital technologies out of our classrooms. There is no use in having modern computer labs and interactive boards in school if the way we teach remains the same. Teaching and learning has to be dynamic, with full involvement of all actors in meaningful and constructive experiences, and we need to struggle with the teacher-centered attitude that has grown deep roots in the way we think and plan our lessons.

Teaching practices for digital learners must bear in mind that they are sharing people, who like to be active participants in the tasks they need to carry out and that they will tend to do things in a collaborative and cooperative kind of way. Studies being carried out indicate that this kind of practice will probably engage students, helping them make sense of what they are learning and thus making learning a meaningful – and why not – fun experience.

This study was just a glimpse into the way this generation learns on the fly, exploring, interacting, teaming up thanks to social networks and computer games, in a way that was unimaginable for their parents and educators. As an EFL teacher and as a teacher educator, it was my intention to look beyond the computer screen and games and try to understand how digital culture and its multifunctionality have influenced the way people learn. By doing that, we might have the basis necessary to rethink and modify our teaching practices, putting aside the role of the teacher as the one who transmits knowledge – as Freire insisted throughout all his work – and being able to learn with and from students as well. And then classes might probably become more motivating and students will certainly be more interested in being part of their learning process. Teachers and educators might even not have to worry about discipline in their classes as much as we have been doing in the last couple of decades.

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354 - The Impact of Digital Technologies and the Suffering Psychological of the Teacher Before the Teaching and Learning Process

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Abstract: This article linked to the UNISINOS/CNPq Research Group for Digital Education reflects upon the metaphor of hospitality and suffering psychological among trainee teachers in front of digital technologies, which involve the knowledge of new subjects that inhabit the school, this teacher training and the "zapping" student - virtual citizen, who can zap, using multiple digital technologies at the same time (Veen and Vrakking, 2009), which will depend, not only of understanding the suffering resulting from the experience of self and other but before any involvement of changes in that context. Aims to analyze the changes in the context of education before the use of digital technologies (DTs) and the psychological suffering of this process, to (re) think about teacher education. Within the UNISINOS/CNPq Research Group for Digital Education as a methodological approach, we are doing a literature review of the use of technology in school, aiming to articulate the Theory of the Hospitality Metaphor seeking answers next to Psychoanalysis to understand the psychological suffering teachers. In addition we are beginning to apply semi-structured interviews to collect data and analyze them. The aim is also to listen to these teachers, seeking to understand the time that those are living. In the Theory of the Hospitality Metaphor (Ciborra, 2002), hospitality is the behavior that reveals the human effort to cope with the uncertainty that is always involved by hosting a new technology: during the hosting process, you can discover the new technology as a very nice guest, or it may instead prove to be an enemy, stealing the territory of the host and making him a hostage. And, thus, triggering fears, causing suffering. Suffering is an interweaving of the subjective conditions and the conditions objective historical-cultural (Aguiar & Almeida, 2008). The same authors point to a teacher malaise as a psychological symptom, which stems from the intertwining of body and social discourse and the subject's fantasy. To Murta (2001), the teachers's psychological suffering should be seen as the expression of an internal conflict experienced within the profession, a conflict that betrays a profound malaise that encompasses both the professional and personal aspect. Esteve (1999) describes the teacher's malaise to understand the permanent effects of a negative character, which affect the personality of the educator as a result of psychological and social conditions in which teaching has, due to accelerated social change. As research is underway, looking up through this article, provoke a broader discussion on these aspects and possible symptoms of this comes from.

Keywords: hospitality, suffering psychological, teacher training, digital technologies.

INTRODUCTION

We know how positive the use of different Electronic Technologies may be in teaching and learning processes, however we also know how freighting it may also be. There are students today that are breaking into teacher's as well as colleagues' privacy, generating phenomenon such as cyberbullying, what generates angst among the ones related to the fact. These technological resources, that primarily should help and facilitate people's life in all areas, unfortunately are being used in inconsequent and perverse fashion, underestimating and insulting other people, therefore causing severe consequences and harm to the victims. This new reality that discloses to us is very concerning and thus we believe that it is urgent for us to address these thematic in the construction the docent.

The challenge of reflecting about this thematic that comprehends the knowledge of these individuals that exist in the school, the teacher under development and this flipping student will depend not only on the understanding of the suffering that comes from the violence to himself and others, but of a complete involvement ahead changes on this mater.

At this point it is essential to reflect and plan actions about the following topics: What student do we have in class today? Is the teacher searching for information to manage with this new student and electronic

technologies? Is there psychological suffering from that? How is it revealed? Is there virtual violence is this process? Altogether, the school seems to be the stage for all this problematic of interpersonal relations, so intense and so delicate where it happens. Can we conceive education that is capable of teaching and learning in this context?

Thus, the objective of the study linked to the Research Group for Electronic Education - Gpe-dU UNISINOS/CNPq is to analyze these questions in the context of education, facing the use of Electronic Technologies (ETs) and the psychological suffering that comes from this process, so we can (re)think the docent development.

CONTEXTUALIZING TECHNIQUE, TECHNOLOGY, WIRED SOCIETY...

The beginning of human evolution and, consequently, the beginning of the first societies have been marked by the influence of technology. As remembered by Lemos (2002), we can mention some examples such as: discovery of fire, the cultivation of the land, animal domestication, construction of cities, control of energy, construction of industries, the domain of the cosmic, the trips deep into the mater and the space-time.

Lemos (2002) mentions that etymologically the term Technique comes from greek tekhnè that can be translated as art. Accordingly, *tekhnè* comprehends the practical activities, from counting and measuring skills to plastic arts or fine art, considering these last two the highest expression of human skill. Thus, technique can be described as proceeding or group of proceedings that aims a certain result being it in the Field of Science, Technology, Arts or other activity.

As a complement, Lemos (2002) mentions that from the XVII century on, the technical activity begins to relate to scientific knowledge, this process results in means of Research and Development Centers in the XX century, and thus determines the definitive junction between science and technique. Thus,

> We can say that the prehistoric technique is a product from empiric experience of the world, without needs for scientific explanations (the first tools, instruments and machines). The technique is the subject of a transforming human that prepares nature for the formation of the species and human culture. It is a provocation from nature that generates a process of ordinarization of technical objects in the construction of a second order that is inhabited by organic matter, inorganic matter and organized inorganic matter (technical objects). (Lemos, 2002, p. 40)

What we call today technology or modern technique is exactly the ordinarization of technical objects ants their fusion with science. At this point, nature and social life are required as objects of technical- scientific intervention.

According to Castells (2005), a technological revolution is centered in information technology and communication is remodeling the material basis of society in an accelerated rhythm. There is an intense and growing movement in interactive computer networks, which creates new ways and channels for communication, modeling life and being simultaneously being modeled by it. Thus, the fast evolution in technologies and telecommunication generates changes in all sectors of society, that contributes to the creation of the so called "Online Society". Lemos (2002, p. 147) says that "today net means a telematic structure linked to interactivity concepts, together with circulation and tactility[iii]".

> [...] technology does not determines a society. Neither does society directs the course of technologic transformation. [...] the final result depends upon a complex interactive pattern [...]. Technology is the society, and society cannot be understood or represented without its technological tools. (Castells, 2005, p. 25).

However, Castells (2005, p. 26) adds:

> without any doubt the ability or inability of societies to control technology and especially those technologies that are strategically decisive to each historical period, leads to a point in which we can say that although it does not determines the historic evolution and the social transformation, technology (or the lack of it) incorporates the ability of transformation of societies, as well as the usages that the societies always in a conflicting process, decide to dedicate to its technologic potential.

In this online developing society, the technologic transformation process exponencially expands according to its capacity of generating an interface between technological fields, through a common digital language, in

which the information is generated, stored, recovered, processed and transferred. According to Castells (2005, p. 50), "new information Technologies allow at the same time, decentralization of tasks and its coordination in an interactive network of real-time communication, be it across continents, or be it across storages of the same building.". (p. 286)

The planet is immersed in a global culture that is launched with the advent of the media attached to the ETs, called cyberculture.

For the sociologist André Lemos (2006, p. 10),

> [...] the development of cyberculture starts with micro-computers in the 70's, with technological convergence and the establishment of the personal computer (PC). In the 80-90's, we witnessed the popularization of the Internet and transformation of the PC into a collective computer (CC) connected to the cyberspace.

For Lemos (2002), cyberculture is the association of contemporary culture to ET's, combining technique with social life. These are our new ways of life permeated by instant communication, the speed of information, the possibility of intervention and creation of new information that primarily characterizes cyberculture.

Lemos (2002, p. 93) shows that,

> Cyberculture will be characterized by the creation of a established society through a generalized telematic connectivity, widening the potencial for communication, providing a broader possibility for ways of information exchange, fostering social aggregations

Lemos (2002, p. 281) also complements:

> the press, radio and television deliver daily news on this cybernetic front (internet, cell phones, pagers, PDA, CD-ROM, virtual reality, etc..) as a reflection of our society that becomes increasingly impacted and transformed by the simulation, the communication network and the micro-machines that colonize our daily lifes.

Another characteristic in Cyberculture is that the old ways of life are not canceled, but reconfigured. Thus, according to Lemos (2002), things that we once did in a certain way, have now its own logic, space and time changed due to the advent of ET's connected in network. For example, going to the bank no longer depends on a physical movement. With a few clicks you can: transfer, deposit, purchase and pay, i.e. perform several monetary transactions. You can also talk with several people simultaneously, at different places, without leaving home. There is a sense of omnipresence in cyberculture. The mass media lose their meaning in a culture where everyone can post their thoughts, ideas, poems, and even cause self promotion of oneself, furthermore manipulate images, sounds, post, send, copy and paste. The liberation of these upload centers is typical of ET's and the network, with the horizontalization of the power of emission and reception: the information is no longer to be transmitted but to be dialogued. Moreover, in cyberculture, the figure of the spectator is almost nonexistent because everyone can potentially generate and deliver information[iv].

Thus, cyberculture indicates a new model of living and relating one with each other. Respect to another is fundamental in network culture, in culture, because no one communicates alone and the network only exists in the intersection of several "us".

These modifications in social forms, practices of cyberculture, also bring up changes in relation to the daily life of the teacher, related in the process training and in the practice of these subjects.

DAILY LIFE OF THE TEACHER FACING ELECTRONIC TECHNOLOGIES

Papert (1994), scientist-professor and one of the founders of the MIT Artificial Intelligence Laboratory, was one of the responsible at the end of the 70's, by the great advancement for the use of computer science in Education. On his book Mindstorms: Children Computers and Powerful Ideas, Papert refers that we cannot forget the child that exists in each one of us, and that she has not been suffocated, but is kept alive across the professional career, and allows and we can not forget the child within us all, and that she had not been suppressed, keeping her alive in her career, letting her deeply human profile to be expressed. One of his ideas is to make the student the subject of the learning process and not object.

In corroboration with this, Freud (1976b) states something similar, saying: "The only ones that can be pedagogue are the ones able to penetrate the child's soul, because we adults do not understand our own childhood."

In the late 80's a new generation is born that has added several denomination, electronic generation, network generation, cyber-generation, electronic progeny, names that refer to specific characteristics of their environment or behavior.

When we think of *homo sapiens*, the wise man, an expression used by Henri Bergson, to indicate the man, the only intelligent animal compared to others, and the *homo zappiens*, here called the virtual citizen, who can zap, using multiple electronic technologies at the same time (Veen and Vrakking, 2009), we realize that a world of differences are configured between one being and another, between the educator and student today. We therefore need further study of these taken positions, because we know little of them, and they are part of our everyday life, whereas the educator from an analog era and students from the electronic era.

Within this context, Alonso (2007) discusses a life-long learning in education and teacher development as a priority theme of the late twentieth century and the beginning of the XXI century. Alonso (2007), when reflecting on the issues and the origins of the debate about the need for a continuing education, he highlights some illusions embedded in the educational tradition about the potentialities of teacher development:

> "a) the illusion of professionals as having all the necessary knowledge to the needs and problems of children and young;
> b) the illusion that the education sciences constitute a coherent field of rational and applicable knowledge, that can be transmitted in systematic courses to prospective teachers;
> c) the illusion that docent professionalism is resulting from the achivement of a magic academic training, usually more or less separated from problems and daily practices of the schools;
> d) the illusion that a professional as being able to educate students for life and work upon which he does not know enough;
> e) the illusion of the professional as being server of the State that is above social classes, without getting involved politically in their contradictions and antagonisms. (Alonso, 2007, p. 44)"

The concept of educating persists in this environment, and along with that more ambiguities, since the term in its origin may be ascribed to *educatio*, as well as to *eductio*. Campbell (2006) brings us this distinction by pointing out that the first refers to actions for growing, nursing, taking care, teaching a child. The second refers to the condition of bring out, force out, take out, finally, give birth, so that we may reflect the movement in which we belong, putting in and helping to put out, letting grow, revealing themselves.

The so called "technological revolution" affects even more these concepts, because, as we know that to educate process assumed by the scholarization and the social task of transmitting the historically accumulated knowledge to the Young generations, and the teacher played the mains source of this process, this one possessed the cultural accumulation and the professional knowledge's, which were transferred to the students. This place is being questioned; pointing out that there is no social sense in the function of the teacher that is based on transfer of knowledge. That is reflected in the field of authority, and putting in check our profession (Cunha, 2009).

The main job from authority is to authorize, authorize to be, to grow, to learn, to be recognized and respected on its human dignity, without exclusions. Authority as authorization, is according to the etymology of the word, (*auctoritas, auctor*), id est, to increase the power of life and of personal affirmation, to grow, to be the author (Guillot, 2008). This one also brings to us two manners of being author in education. One consists in wishing to be author of someone else, corresponding to the authority that prohibits one of becoming someone else, therefore an authority that destroys. The other is the one that authorizes the individual to become independent, therefore the authority that constructs.

We need in this way to recover the authority in education, because we know that same is in bad shape. We need to analyze three references ahead of that. The first one comes from a change of paradigms in our society, because the models identified are different ones. Today the teenagers are models. THe attitudes related to time, the "now" and "here" rules the game of desire. The second one is related to fear and authoritarianism facing the collective representatives, and the last one is about the role of the teacher currently (Guillot, 2008).

Sousa Santos (1998) also names this crisis of legitimacy and authority that we are facing, because the university tradition is no longer managing its own practices, therefore being systematically questioned. Access to information brought great changes and these have consequences to the pedagogic act.

Facing this access and so we can understand how the acceptance process that occurs for a new technology by the subject, we will make use of the Hospitality Metaphor from Ciborra[v](2002).

HOSPITALITY METAPHOR

In the theory of the Hospitality Metaphor, proposed by Ciborra (2002), technology is treated as a guest. This guest should be understood as a guest which we accept to live with us or as someone who may be hostile. In this context, hospitality refers to treating this technology with the look of a stranger and ambiguous, as by allowing and accepting this "guest", we may consider it a friend or an enemy.

According to Saccol and Reinhard (2005, p.2),

> hospitality is then behavior that reveals the human effort to cope with the uncertainty that is always involved by hosting a new technology: during the hosting process, one can discover the new technology as a very pleasent guest, or at contrary, one can be proven as an enemy, stealing the territory of the host and making him a hostage..

Ciborra (2002) says that dealing with this uncertainty, this ambiguity, in this way, to reflect about what the technology represents, can be considered the essence of the hospitality. By the opposite, this hosting process can be configured in an empty process, passive and insignificant. Thus, the true hospitality can be considered as the behavior that is revealed in the human effort in dealing with the uncertainty and the mystery of hosting an estranger.

Thus, by adopting a technology and hosting it in our routine it is often necessary for us to readjust our commitments related to the new technology (organization, autonomy, etc), work processes and routines. By redefining, we are reinterpreting our own identities.

Regaring this aspect, Ciborra (2002) puts that we should consider that hospitality can imply in a negotication between the novalty that hás been introduced by the host (external world) and the world in tis context, internal (its organization, its daily activity). It is precisely this confrontation between internal and external world in hosting technology (guest), that we can strengthen, enforce or even change our identities.

This process is full of tensions, as both the host and the guest may become hostages of each other. So, this is a kind of relationship should be based on trust

The theory of the Hospitability Metaphor visualizes this process of adoption of a new technology as a learing process that involves trial and error, improvisation and knowledge construction in an informal manner. It may occur in the "hosting" process, adaptations, new uses of technology which have not been foreseen when it was created, improvisation, among others. Ciborra (2002) puts that people will interact and seek to adapt the technology, making the familiar what is strang

Saccol and Reinhard (2005, p.2) mention that

> As a result from this process, technology by going on drift, that is, it may server for unpredictable objectives, it can be used in a distinct way that it hás been palnned for, or suffer an adjustment according to the real context in wichi is is being applied. It is only by means of continuous interaction between people and thechnology that we can veryfy the effective results of its implementation.

The hospitality metaphor calls attention to emotions, also known as moods[iiii], of subjects during the process of hospitality of a new technology.

Saccol (2005) also mentions that people that develop an emotional linkage to events and artifacts (in this case móbile devices), which cannot be ignored. Thus, the process of hospitality calls attention to the biographical, ethics and historic characteristics of the persons related to the implementation of a given new technology.

Saccol e Reinhard (2006) describe the main propositions related to the Hospitality Metaphor, a such:

- When hosting a new technology we reinterpret our identities.
- Host a new technology involves learning by doing and improvisation.
- During the process of hosting technology may drift away.
- Hospitality involves moods and emotions.
- Hospitality refers to the ownership and care.
- Hospitality involves cultivation.
- We can not forget the dubious nature of technology: technology can become an enemy.

Finally, the hospitality implies an appropriation and interest of people for the new technology, becoming thus a successful hosting, which consequently leads to the disappearance of this technology in daily life of the subject, integrating the routines and work contexts so that over time tends to become ordinary. Through the Theory of Hospitality we can interact with the new technology without following pre-established steps, thus dealing with the unknown and the unpredictable, just like the way in which the daily activities are configured. The space that this new technology will take should not be constantly reflected.

PSYCHOLOGICAL SUFFERING

According to Reszka (2005), there is an inversion in the role of authority, since there is no difference between the teacher's authority over what to do with the student and in relation with the authority that the student has been possessing at school over the teacher. From this perspective, teachers feel lost, frustrated and frightened facing the lost authority, and therefore the aggressiveness and violence that have appeared in the school environment.

All this context describes a teacher permeated by suffering, anguish, uncertainty and stalemate. Suffering is an interweaving of the subjective conditions and the objective historic-cultural conditions (Aguiar and Almeida, 2008). The same authors point out to teacher's malaise as a psychologycal symptom, which rises from the intertwining of the body with the social discourse and the fantasy of the subject.

A psychic symptom must be understood as a subjective phenomenon that is not a sign of disease, but the expression of an unconscious conflict (Chemama, 1995). The symptom is then a formation of the unconscious, structured like a language; it is the truth of the subject that emerges in the failure of knowing and that is manifested by the teacher in his suffering, yelling, causing symptoms, metaphorising his anguish, which often is not recognized.

In The Malaise in Civilization (Freud, 1976b) has already stated to be the work of the sources of the malaise in the culture, because it generates conflicts in the subject and a sense of estrangement and unhappiness, because the fact of commitment in relationships with others triggers one of the greatest sufferings.

In Inhibition, Symptom and Anxiety, Freud (1976a) called the subjectivity of helplessness, which refers to distress with interpersonal relationships, social relationships and any structure of the subject, and we know that this helplessness is what establishes the malaise in contemporary society.

Esteve (1999) describes the expression docent malaise for us to understand the permanent effects of a negative character, which affect the personality of the educator as a result of psychological and social conditions in which he performs the teaching due to the accelerated social change.

That signalizes that the teachers are becoming ill, and we are stopped in time, without rethinking our everyday life, without articulating the dimensions of teaching and research in places and sites of training, as pointed out by Cunha (2009).

By collaborating, Guillot (2008, p.118) tells us that training is at the heart of the problem: "[...] the necessary critical analysis should not restrict speeches as the formalism of good cultural quality: teaching practices that should be lit."

FINALLY WHAT HAS TO BE CONSTANTLY REFLECTED…

With the aim of bringing some questioning toward the teachers development, regarding electronic Technologies, we can share with you all pragmatic changes in which we are surrended, since half of the XX century, whit the advent of the nuclear bomb and the electronic technology, marking in this way the birth of the post-modernity as an era of change.

The condition of the teacher and subject today, hosting or not the technology, shows us that suffering may or may not occur. It is important to bring upon that hosting this technology involves a constant "coping with" access to the world, thereby constraining the privacy of the subject, marking fractures as to time, space and ethics of this teacher and subject. At the same time, not hosting the technology, is to feel excluded from that process, influencing the way of looking at school and those students who work daily with these electronic technologies, creating suffering and angst when he begins to consider his practice in the world, being often a hostage of technoscience.

In this context, we must review how the training institutions are making room for such discussions, particularly ahead of College Pedagogy, of current syllabus and the suffering that comes from this process as a comprehensive social symptom.

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355 - From Homo Sapiens to Homo Zappiens: Psychological Suffering of Teachers Before the Digital Technologies

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Abstract: The subject described as from homo sapiens to homo zappiens makes us think the social changes to which we are immersed, from the wise to the zapping man, with behaviors and feelings that are believed to be completely different, which generates psychological suffering of the teachers and making us think the teacher development facing digital technologies. Based on the need to reflect, discuss and plan interventions because we are immersed in changes, this way generating dilemmas and agony in teachers, who need to be better investigated. The contextual and cultural factors in which we are emerged will be identified, as well as the changes that we are undergoing and what the result is, considering the student and the teacher positions. Based on this finding, it is the responsibility of the formation agents to introduce practices which seek to review the College Pedagogy in order to face this problem that affects the Education. The present ongoing research, by identifying and analyzing theories that underlie the changes occurred in the last twenty years of the new technology, aims at bringing up the teacher's psychic suffering in face of these facts, trying to reflect and plan actions on the following questions: What student is this one we have in the classroom nowadays? – Has the teacher sought formation in order to deal with these new students and the digital technologies? – Is there psychic suffering from that? – How does it manifest? – Is there virtual violence in this process? School seems to be the venue for this whole problem of interpersonal relations, which is so intense and fragile; the place where this can becomes evident.

Keywords: Psychic Suffering. Electronic Technologies. Education.

Papert (1994), scientist-professor and one of the founders of the MIT Artificial Intelligence Laboratory, was one of the responsible at the end of the 70's, by the great advancement for the use of computer science in Education. On his book Mindstorms: Children Computers and Powerful Ideas, Papert refers that we cannot forget the child that exists in each one of us, and that she has not been suffocated, but is kept alive across the professional career, and allows and we can not forget the child within us all, and that she had not been suppressed, keeping her alive in her career, letting her deeply human profile to be expressed. One of his ideas is to make the student the subject of the learning process and not object.

In corroboration with this, Freud (1976b) states something similar, saying: "The only ones that can be pedagogue are the ones able to penetrate the child's soul, because we adults do not understand our own childhood."

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Within this context, Alonso (2007) discusses a life-long learning in education and teacher development as a priority theme of the late twentieth century and the beginning of the XXI century. Alonso (2007), when reflecting on the issues and the origins of the debate about the need for a continuing education, he highlights some illusions embedded in the educational tradition about the potentialities of teacher development:

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The concept of educating persists in this environment, and along with that more ambiguities, since the term in its origin may be ascribed to *educatio*, as well as to *eductio*. Campbell (2006) brings us this distinction by pointing out that the first refers to actions for growing, nursing, taking care, teaching a child. The second refers to the condition of bring out, force out, take out, finally, give birth, so that we may reflect the movement in which we belong, putting in and helping to put out, letting grow, revealing themselves.

The so called "technological revolution" affects even more these concepts, because, as we know that to educate process assumed by the scholarization and the social task of transmitting the historically accumulated knowledge to the Young generations, and the teacher played the mains source of this process, this one possessed the cultural accumulation and the professional knowledge's, which were transferred to the students. This place is being questioned; pointing out that there is no social sense in the function of the teacher that is based on transfer of knowledge. That is reflected in the field of authority, and putting in check our profession (Cunha, 2009).

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Facing this access and so we can understand how the acceptance process that occurs for a new technology by the subject, we will make use of the Hospitality Metaphor from Ciborra (2002).

The challenge of thinking over this theme relates to the knowledge of this new subjects that inhabit the school, this developing teacher and this zapping student will depend not only in understanding this suffering that comes from his own the other's experience per se, but also from the understanding of the suffering that come from experience of himself and the others' but the relation of all changes in this context.

We know the extent of the benefits that these technologies bring into education, but we know how frightening it is. Today we have students breaking into the privacy of teachers and classmates, generating phenomena such as cyberbulling, generating angst among the parties involved. Such technological devices, that should be primarily to support and make people's life easier, are unfortunately being used in an inconsequent and mean manner, sub-judging and insulting other people, which cases severe consequences and damage to the victims. This new reality that is being revealed to us is worrying and we believe that it is urgent to work with it in terms of teacher development.

Working in two Universities, I have been noticing a great shift in term of learings, we often perceive constant challenges in this field, where teachers express fear in dealing with technology, while others smoothly became skilled to develop works that are directly linked to technology, making use of existing databases, bring criticism and allowing the student to experience his creativity and explore his knowledge in the field of learning. We can think several things from that. Would these teachers be on one side phobic in relation to technology and on the other side, stewards of change in the current universe?

Therefore, face to an academic and professional path, in which in ten years; I have already been preoccupied in listening to the teachers to understand the social symptom named as violence in the school, today the urgency for the continuation of research in this field is justifiable, because of changes in which we are immersed, from wise man to zapping man, the violence that we are facing, because there has been noticed several cases of teachers being humiliated, disparaged and insulted in sites and blogs, and being psychologically affected.

In Brazil, Wanderlei Codo (1999) studied about the educator desistance syndrome, the burnout that takes to the physical and mental illness, bring very serious questions to the field of education. He indicates us that the burnout appears when there is a combination of institutional demands, the role of the teacher and personal issues related to perfection. Our reality shows us overloaded classrooms, too many administrative and bureaucratic processes, children with learning difficulties that have to be addressed individually and the teacher in front of this reality self-expecting not to fail.

By reflecting what Faber (2001) and Codo (1999) name, we know that the common symptoms are insomnia, headache, ulcer and hypertension, because the teachers somatize these symptoms when their defenses fail, theis demands are big and the results are small thus generating a great suffering, that exposes the teacher to several "stressing agents" that become harmful to the teacher's health.

In some pieces of records we find the teachers in panic and ahead of a great pedagogic action: "I know the machine, I am fluent in the technology, but I don't know what to do. A student comes to me and say: 'I will do that'! I cannot create anymore, innovate. I think that my time is gone. I have been taking until I got ill, I had a hart attack in front of the computer."

According to Reszka (2005), there is an inversion in the role of authority, since there is no difference between the teacher's authority over what to do with the student and in relation with the authority that the student has been possessing at school over the teacher. From this perspective, teachers feel lost, frustrated and frightened facing the lost authority, and therefore the aggressiveness and violence that have appeared in the school environment.

This entire context describes a teacher permeated by suffering, anguish, uncertainty and stalemate. Suffering is an interweaving of the subjective conditions and the objective historic-cultural conditions (Aguiar and Almeida, 2008). The same authors point out to teacher's malaise as a psychologycal symptom, which rises from the intertwining of the body with the social discourse and the fantasy of the subject.

A psychic symptom must be understood as a subjective phenomenon that is not a sign of disease, but the expression of an unconscious conflict (Chemama, 1995). The symptom is then a formation of the unconscious, structured like a language; it is the truth of the subject that emerges in the failure of knowing and that is manifested by the teacher in his suffering, yelling, causing symptoms, metaphorising his anguish, which often is not recognized.

In The Malaise in Civilization (Freud, 1976b) has already stated to be the work of the sources of the malaise in the culture, because it generates conflicts in the subject and a sense of estrangement and unhappiness, because the fact of commitment in relationships with others triggers one of the greatest sufferings.

In Inhibition, Symptom and Anxiety, Freud (1976a) called the subjectivity of helplessness, which refers to distress with interpersonal relationships, social relationships and any structure of the subject, and we know that this helplessness is what establishes the malaise in contemporary society.

Esteve (1999) describes the expression docent malaise for us to understand the permanent effects of a negative character, which affect the personality of the educator as a result of psychological and social conditions in which he performs the teaching due to the accelerated social change.

That signalizes that the teachers are becoming ill, and we are stopped in time, without rethinking our everyday life, without articulating the dimensions of teaching and research in places and sites of training, as pointed out by Cunha (2009).

By collaborating, Guillot (2008, p.118) tells us that training is at the heart of the problem: "[...] the necessary critical analysis should not restrict speeches as the formalism of good cultural quality: teaching practices that should be lit."

As my formation has been constructed from Pedagogy to Psychology, I believe that I can bring contributions to work in the theme, bring light from psychoanalysis to support seeing the subjects involved in this scheme, and the suffering that transpose this field of Education so we can foresee the use of new electronic technologies with ethics and commitment in the process of knowledge construction that prioritize the interdisciplinarity.

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355 - M-learning in the Process of Teaching and Learning: Reflections and Opportunities*

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Abstract: The present paper is part of the symposium entitled "The docent development and teaching practice in the digital culture". Concerning Education, traditional teaching and learning theories are insufficient to help us understand how subjects are developed in a highly technological world, and it favors the appearing of new theories and methodologies that provide teaching and learning with the use of different digital technological means to promote human development. With this, there is an increasing need of people's mobility, of access and information exchange in any time and space, of ideas, experiences and knowledge sharing besides the necessity to amplify the traditional spaces of formal education, favor the use of the emergent mobile learning (m-learning), supported by the use of wireless mobile technologies (WMTs), such as Personal Digital Assistant (PDAs), palmtops, smart phones, cell phones, among others. It is in this context that a appears the problem that was the starting point to this research, in which I was willing to "investigate how the WMTs can contribute to the teaching practices in a dialogical, collaborative and cooperative perspective". The methodology that was used to the development of the research was the study case – understanding the teaching practices with the use of the WMTs in the mobile-learning context. So, from the analysis of two teaching practice situations with WMTs, the first with the Information Systems Group of the University of the Rio dos Sinos Valley, using direct observation and the second one with a group of secretariat of Human Sciences Department, of the same university, using the teaching practice application, it was possible to reach the following results: ergonomic and technological challenges, besides time and space factor, can affect or restrict the use of the WMTs in teaching practices; WMTs possibilities can offer spaces that allow a possible hospitality (adaptation) of these technologies by the subjects; the importance of a teaching mediation, in a dialogical perspective between teacher and student, in which the teacher has the orientation role, taking the interactions' mediations between student-information-device-student; the need for a flexible and open planning that adjusts itself and respects the context of the subjects involved with this process; the influence of these WMTs on the subjects' daily practices, as possibilities to revision and reconfiguration of their practices; the importance of the teaching and learning issues relating to the technological ones, giving the subjects' sensations, impressions, desires, affections and subjectivities a special value. This way, the investigation is an invitation to reflection on the WMTs and their educational potential, without presenting passing measurements, immediate working solutions that show the machine as the learning process center. The proposal is based on the subject-technology-subject interaction, that makes the democratic process of knowledge production in different areas possible.

Keywords: mobile learning. wireless mobile technologies. pedagogical practices. teaching. learning.

INTRODUCTION

The changes in social and educational context, caused by constant technological and scientific advances and the demands of the labor market by people more qualified and able to learn and solve problems cooperatively are increasing. Furthermore, the exponential growth of information and great proliferation of these have resulted in the rapid outdated parameters of knowledge, which requires constant updating. Thus, as Silverman (1995), learning becomes an activity for life, and the subject needs to develop skills of "learning to learn" and "learn cooperatively", so that the learning process is effective.

Few educational institutions have been able to experience innovative practices. These practices may expand the space beyond the formal classroom, to minimize the barriers imposed by time and space, helping in the expansion of teaching and learning and creating learning communities. But how to create conditions for this to occur? What Digital Technologies (DTs) can help you better enjoy the time we have? How to provide pedagogical practices beyond the formal context? Wireless Mobile Technologies (WMTs), combined with methodologies appropriate to the nature of that environment may represent an opportunity to answer these questions?

The potential of WMTs must be understood and evaluated to enhance and improve teaching practices and, consequently, the processes of teaching and learning.

By analyzing the interactions of the subjects who participated in the study sought to understand how they relate and what the specifics of the processes developed. Also, the ways in which the subjects achieved the results, and the manner in which they expressed different types of interactions between the interlocutors of the learning process via m-learning.

New technological means, in this case, the WMTs, alone do not constitute innovations in the teaching and learning, to the extent that innovation involves overcoming paradigms. This understanding has inhabited the minds of teachers / researchers who appropriate technologies, using them critically, reflecting on what they represent in the context of human development, organizations and societies, shifting the misconception that technology is the innovation, understanding it as driving the emergence of innovations, which arise in knowledge, so in live and live.

In this article, it becomes an object the teaching practice using WMTs in the context of mobile learning and the implications in the teaching and learning, a unit of research analysis.

First, it held a contextualization of mobile learning (m-learning), after, describes the methodology used, the characteristics of the cases, followed by data analysis and findings and, finally, the final considerations and future work.

MOBILE LEARNING (M-LEARNING)

The growing need for mobility of people, access and exchange information at any time and place, sharing ideas, experiences and knowledge, and the need to enlarge the area of formal education, nurture the use of emerging mobile learning (m-learning).

The mobile learning (m-learning) is made possible through the development and implementation of WMTs, which are portable computing devices such as PDAs (Personal Digital Assistants), palmtops, laptops, smartphones, among others, that use wireless networks. The use of WMTs, allied to interact with human actors geographically distant and physically, can provide occurring processes of teaching and learning.

From the technological point of view, according to Meirelles et al. (2004, p. 4):

> [...] two categories of end systems are beginning to gain popularity worldwide. The oldest is represented by the PDAs, with an estimate in Brazil of approximately two million users. The second category is represented by so-called smartphones, that besides the good features of PDAs, they allow voice communication, web browsing, available on some models Bluetooth and WiFi connections.

Meirelles et al. (2004, p.5) complements,

> since the resources for transmission infrastructure, the existing mobile communication networks become available, new challenges and needs arise, considering the study of computational resources of portable devices such as, for example, applications for PDAs enshrined in environments dominated computing so-called desktop computers offer users the possibility of conversion and handling of information in multimedia format.

Learning management systems open source may have expanded their functionality, supporting new applications to migrate to PDAs communication tools (Email, Forum, Diary), plus routines for data synchronization with the server. Thus, both the work offline as online work may be made without restriction of time and geographical space.

To Reinhard et al. (2007, p. 1),

> mobile learning is not a new idea - the chance to learn anywhere and anytime was always sought and empowered with tools such as books, notebooks and other mobile systems (laptops) that have existed for a long time. What happens today is that the WMTs can contribute to mobility by learning to

make available to the citizens quick access to a large and diverse amount of information, allowing your sending and receiving (when connected to Internet) and, furthermore, these technologies promote communication and interaction among people far removed geographically and temporally, in an unprecedented way.

Marçal et al. (2005, p. 3) state that,

> [...] the m-learning emerges as an important alternative education and distance training, which can be highlighted the following objectives:
> - the resources to improve student learning, which may have a computing device for performing tasks, annotation of ideas, information consultation via the Internet, record of events through digital camera, sound recording and other features exist;
> - provide access to educational content anywhere, anytime, according to the connectivity of the device;
> - increase the opportunities for access to content, enhancing and encouraging the use of the services provided by the institution, educational or business;
> - expand the number of teachers and learning strategies available through new technologies that support both the formal and the informal learning;
> - expanding the boundaries within and outside the classroom or the company, so ubiquitous;
> - provide a means for developing innovative methods of teaching and training using the new computing capabilities and mobility.

Already Saccol and Reinhard (2005) comment that the use of WMTs can bring many advantages, but every advantage possible counterpoints analyzed must consider, for example: is it possible for users of the technology spend more time on the field and less time on task "backstage "at the office or work in certain" dead time ", although the technical and ergonomic WMTs and proper context of mobile working can sometimes impose restrictions on it, you can find people and be located more quickly and frequently, so how to exchange data more quickly and easily, in different places and times, which contributes to the processes of decision making - an overload on the other hand, often generated by the easy replication of data, increases considerably.
The following is a description of the methodology.

METHODOLOGY

The nature of the research was based on a qualitative and exploratory approach. We chose to use the method of "case study" for the best fit to the research. The case study is a research strategy that contributes to the research object in relation to its context. Thus, the case study served as a methodological approach and research participant served as a mode of interaction between subjects, specifically in the second case. Streck and Brandão (2006, p. 52) state that "research participant delivery of a dual recognition of trust in my 'other', that I seek to transform the 'object of my research' in 'co-subject' of our research".
The first case study refers to the training process consists of a workshop called "Wireless and Mobile Technologies: The new paradigm of ubiquity and their application possibilities, " developed with a team of employees of GSI (Management Information Systems) of UNISINOS. In all, thirteen employees of GSI.
The second case study corresponds to a thematic workshop developed with a team of SCH (Secretariat of Social Sciences) of UNISINOS. This second case study as a research participant, as quoted above and refers to the development and analysis of teaching practice with the use of perspective WMTs dialogical, collaborative and cooperative (JUNIOR Grazioli, 2009). In all, twelve employees of SCH.
The relevance of the selected cases is the fact that the pedagogical practices developed with different groups of individuals who act not fixed:, mobile workers, whose interaction is strained by the introduction of a new element in the case linked to WMTs.
For empirical research, we used a prototype, the Virtual Learning Environment with Mobility (AVAM) called COMTEXT, modeled and built in the context of interdisciplinary research "Mobile learning in the organizational context"125. In both trainings were used the following materials / tools: observation, diary, email, chat, forum, skype, questionnaires.

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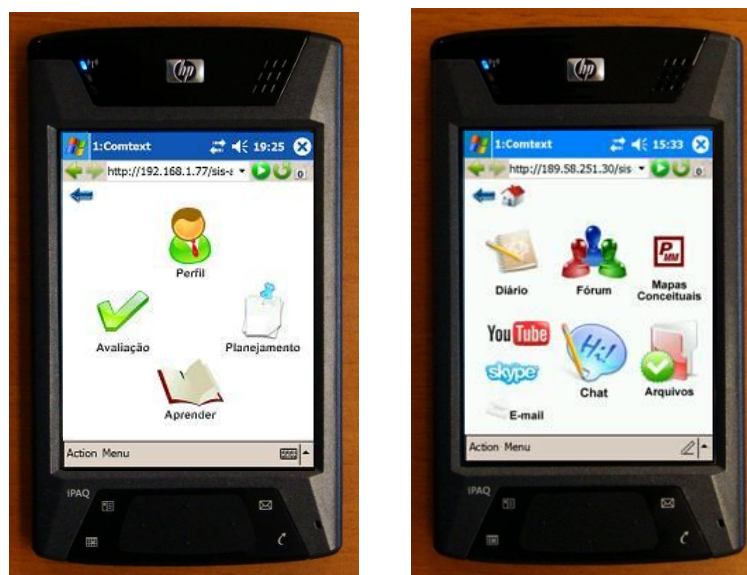
Figure 1: Prototype COMTEXT (Environment Competence in Context) - Main Module and Learning Module, respectively

From the viewpoint of the development team of the project, so that the m-learning can offer new opportunities for learning in a context of mobility, is necessary to fundamentally rethink the educational paradigms, conceptions of learning and teaching practices developed. Currently, a significant number of individuals-workers pass by many educational experiences and find that they often are incipient and do not meet their learning needs. It is believed that a model that is based on an epistemological interactionist-constructivist-systemic can account to help subject workers develop skills to act in a context of mobility (Graziola Junior, 2009).

Thus, the development of COMTEXT is based on epistemological interactionist-constructivist-systemic, in which the subject in a process of interaction with the physical and social environment, build knowledge, understanding the process of knowledge is understood as an integrated whole whose properties have their origin in the fundamental relations between its parts. Composed of subsystems that are interrelated forming a network in which these are interrelated and interdependent, so that the whole is greater than the sum of its parts, because the parties involved and ultimately the relationships between them.

The following are the characteristics of the two cases that were part of this research.

Features of the Workshop and Thematic Workshop

Both sklls were developed in the context of mobile learning through the use of HP iPAQs Pocket PC 4700 and the environment COMTEXT.

The Workshop "Wireless and Mobile Technologies: The new paradigm of ubiquity and its possible applications" aimed to promote understanding and discussion of the ubiquity of the new paradigm and its applications to UNISINOS. The choice was, due to be mobile workers, ie, exercising their professional activities in different physical points of UNISINOS and use technology every day, since acting managing the entire information system of the University. Thus, besides acquiring knowledge on the theme of the workshop could help in testing the prototype COMTEXT, thereby assisting in improvements and adjustments for subsequent practices.

The workshop lasted two weeks, totaling 15 hours, two physicists face meetings of 1 hour and 30 minutes (a date of opening and closing the other) and others, totaling 12 hours, conducted in person digital virtual (online). In the digital virtual face meetings, which occurred in a total of eight days, activities were guided by questions-axis (topics of study / discussion), one topic per day worked.

As a final practical activity, which would be part of the evaluation of the workshop was the drafting of a proposed project (hypothetical) groups in considering possible applications of these technologies for wireless and mobile activities of UNISINOS.

From the first case (Workshop), some questions have served as evidence to support the development of the Thematic Workshop.

The thematic workshop entitled "Dialogue, Cooperation and Collaboration in the context of collective work" aimed to promote understanding of the concepts of dialogue, collaboration and cooperation and its importance for the development of joint activities that require teamwork, through practical experiences Collaborative teaching with learning in the context of mobility.

The activities were conducted in b-learning mode, a total of 30 hours when we had some physical face meetings (1:30 in length - two per week) and other digital virtual classroom (the rest of the hours worked) using the Environment COMTEXT.

During teaching practice, it was proposed the development of a learning project (FAGUNDES et al., 1999) whose theme emerged a consensus as individual and group needs, and that was part of their professional contexts, culminating in a subsequent application in practice day-to-day. To develop the design of learning should find partners (among colleagues), as shared interests and curiosities about the problem to be solved. Thus, participants first made a survey of their doubts and their temporary provisional certainties about the problem that generated the project.

DATA ANALYSIS AND FINDINGS

The use of mobility in the teaching and learning necessarily imply an effective pedagogical mediation, in which the teacher has the role of advisor, problem-solving. To him it is provoking discussion of the subject's participation, it should monitor and analyze the construction of knowledge through interaction held in the spaces provided the environment in case the environment COMTEXT.

We observed a similarity in relation to how the mediation was developed for teachers, counselors, because in both cases, the subjects of GSI, which we used in virtually every encounter chat tool, and the subject of SCH, which we used in the tool forum meetings, which was revealed as a pedagogical mediation to three different aspects (regarding the contents in relation to subjects' participation and organization in relation to the process), but linked, they approach that (Rios, 2002) puts it, by stating that the goal of the teacher today is precisely to overcome the fragmentation of knowledge, communication and relationships through a dialogue or a partnership. Thus, within this perspective, the role of the teacher-coach should not be limited to providing information to students, but take the mediation of interactions between student-student-info-device, so that dialogue between teacher and students, enabling the construction knowledge in a challenging environment.

In the process of pedagogical mediation was evidenced also by the subjects of SCH, the availability and dynamics used by the teacher-adviser, to establish a relationship between the didactic teacher-adviser and its commitment towards the Thematic Workshop and the importance of pedagogical mediation, to create a pleasant and healthy climate that would enable the learning process. The evidence they approach (Freire, 1987) posits that when the teacher is no longer the only educates, but that while education is taught in dialogue with the learner, to be polite, well educated. Both thus become subjects of the process in which they grow together and that "arguments from authority" has no value. Freire and Shor (2006) further complement the dialogue that seals the act of learning, which is never individual, although an individual dimension.

Regarding the subject of reflection on their learning process in the context of the use of WMTs, the subjects of SCH when asked whether the way the training was developed using the COMTEXT contributed to a more meaningful learning, linked to learning practices and pedagogical mediation processes adopted by the teacher-adviser, so once again assuming the teacher-student relationship of dialogue and reflection in relation to daily work. The answers are approaching the far Estable et al. (2003), noted that for learning to occur, you need an exchange process with the other. Cooperative learning based on computer should be an educational strategy in which two or more individuals construct their knowledge through discussions, dialogue, reflection and decision making. For this process to occur, teachers and students should also be willing to collaborate, construct knowledge together, have common objectives.

These records also emphasize the importance of teacher-student relationship in teaching practice, approaching a pedagogical dialogue, which, according to Fernandes (2006, p. 376) puts it, refers to a "practice characterized by learning with their teacher students. These, through dialogue, they also learn that the commitment of the partnership is a fundamental human relationship in horizontal, the teacher does not exclude the responsibility of directing the process of teaching and learning, nor exempt the student's responsibility to push the boundaries of their practice, recreating the space-time of reflection and democratic relations in culture and ethics. "So when there is a commitment of partnership in teacher-student relationship, permeated by a constant dialogue in a democratic relationship and ethics, at the time of teaching practice, allows the creation of spaces where the subject can reflect on their thinking and about their learning process.

Regarding perceptions of the subjects of GSI and the SCH on the implications of the use of mobility in the teaching and learning. The subjects of GSI showed that implies: the need to learn to use the equipment

(hardware and software) to think about the provision of services for students, and some implications also indicate that the motivation for research and collaboration. Marcal et al. (2007) as a place of learning objectives with mobility, increasing the possibility of access to content, enhancing and encouraging the use of the services provided by the institution, educational or business. In addition, the cooperative environment should be focused on learning the subject and allow it to become an active agent that (re) construct their knowledge through interaction with the object of knowledge, be it social or physical environment. Thus, the WMTs (the environment COMTEXT in particular) become tools that can chance the interaction between subject and technology.

For subjects of SCH, implies: many new learning, the possibility of effective interaction, dialogue and exchanges, learning to organize and manage your time and involves commitment and reflection. It is evident that the perceptions of (GSI and SCH) will meet the proposals of its capabilities, making relations with its implications on the one hand that the workshop was aimed at, understanding and discussion of WMT and their possible applications for UNISINOS Furthermore the Thematic Workshop which aimed to promote understanding of the concepts of dialogue, collaboration and cooperation and its importance for the development of joint activities that require teamwork, through the experiences of collaborative pedagogical practices in the context of the learning disabled.

CONSIDERATIONS AND FUTURE WORK

From the analysis of data and findings, here are some thoughts and possibilities of using WMTs in the teaching and learning, a unit of research analysis.

Enable the creation of environments that enable the learner to continue learning, even outside the institution / place of formal education and / or in the context of mobility.

Be an open planning, flexible, ie, a dynamic that fundamentally respects and fits the context of the subjects involved in this process, because when used the WMTs, within their daily practice, these are limited to the area of daily work (physical) and the question "time."

Provide opportunities for reflection, through the knowledge built (the learning) of the subject, individually and through interaction and dialogue with peers and the teacher-adviser, the collective, beyond the reflection of the influence of these subjects WMTs in their daily practices, to thereby reconfigure and revise their practices.

Provide activities giving special value to the sensations, subjective impressions, desires and emotions of the subjects, intertwined in the educational process, not forgetting the goals of their use, particularly in the context of mobility, due to technical restrictions and ergonomic mobile devices, not forgetting to prevail didactic pedagogical issues regarding technology issues.

Devise ways to better adapt its use to the context of the subject, not to end up limiting the participation by individuals and their own adaptation of these technologies.

Encourage meetings (either face-physical or online) as areas of support and "meeting", mainly to solve doubts, questions and exchanges.

Thinking about the pedagogical mediation, a dialogical perspective between student and teacher, in which the teacher has the role of advisor, problem-solving, not merely the teacher's role to only provide information, but assuming the mediation of interactions between student-student-info-device .

Consider the use of learning projects that can set up as a possibility of teaching practice that instigates the action, the individual interaction, mediated by the teacher-adviser, contributing to the formation of autonomous subjects, reflective, and high level of ownership and still provide cooperation processes.

Understand how technological and ergonomic challenges, time and space, can affect or restrict its use in teaching practices in the context of mobility.

Have the "time" factor as a marker because it is not enough to provide access to content anywhere and anytime, but to provide a space and time for the subjects to read, study, act, interact and ultimately build knowledge.

Being attentive to the context of each subject, not forgetting the constraints of "dead time" (leisure) and its duality, because on one hand it is interesting to use these "dead time" on the other, can bring a number of risks, as an example, an overload of information and informational control.

Do not forget the factor of "physical space (context)" that can somehow "limited" mobility, the effective use of it, mainly due to technological restrictions to access the network at several points.

Enable the "effective" use of mobility, which can expand beyond the limits of the practices can also provide other possibilities, such as location and formation of affinity groups as subjects, notes of observations on field trips, among others.

Thus, this research consisted of an area of experience and call for reflection on the use of WMTs education without showing off and temporary measures, immediate solutions to work indicate that the machine as the center of the learning process. The proposal was focused on the interaction subject-subject-technology, which enables the production of knowledge democratically in different areas of knowledge. In this article we attempted to observe the potential motivated by the interaction of individuals with this technology.

As further possibilities, it was pointed out some questions that can guide future research: What are the possibilities to work in a mobile unlimited network access and mobility, for example, with access to the 3G network? As the subjects could perform field trips with mobile devices? How does this contribute to the teaching and learning of the subject? What are the possibilities for finding work in groups of interest, according to their previously saved profile settings? What are the possibilities of using other devices, such as the iPhone, which allows more features than offered by PDAs?

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355 - Immersive Learning: a Current Future for Graduate and Postgraduate Programmes

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Abstract: The present paper is part of the symposium entitled 'The docent development and teaching practice in the digital culture' and in this context it provides and discusses some research results the Digital Education Research Group (Gpe-dU UNISINOS/CNPq) has made. This group follows the research line called 'Educação, Desenvolvimento e Tecnologias' (Education, Development and Technologies) in the Postgraduate Programme in Education. Research pieces to be presented are in tune with 3D Web use, particularly metaverse entitled Second Life, as a technology enabling development of the Immersive Learning in the first years of formation of pedagogy teachers and teachers-as-researchers associated to the Postgraduate Programme in Education at UNISINOS.

Keywords: digital technology, Immersive Learning, formation, pedagogic practices, digital culture

3D WEB: USING METAVERSE FOR IMMERSIVE LEARNING… 'A CURRENT FUTURE'

3D Web technologies emerge with multiple possibilities enabling subject to act and interact in networked 3D graphics environments such as: (1) metaverses (Active World, Second Life, OpenSimulator, Wonderland), which allow creation and co-creation of 3D Digital-Virtual Worlds (MDV3Ds) where the avatar-represented subject may live and live with other subjects (avatars) e-living in these worlds; (2) Massive Multiplayer Online Role-Play-Games (MMORPGs), which enable the subjects as characters to make strategies to solve problems in 3D graphics environments; (3) enhanced reality; (4) mixed reality, and (5) Digital-Virtual Living Spaces (ECODIs)[126], which are a kind of digital hybridism where interaction, an aspect that stirs the living with, is not only textual (as we traditionally observe with other technologies), but rather in oral, gestural and graphical ways. These 3D Web technologies have contributed to the emergence of what has been called Immersive Learning (i-Learning).

In addition to co-creating networked 3D dynamic environments (MDV3D), avatar subjects may live their immersive experiences in their 'digital-virtual bodies' that are 'materialised' in the 'digital-virtual presence' in Metaverse technologies. But which immersion are we talking about? This avatar can 'see', 'feel' the environment and other avatars, and act and interact in different kinds of (textual, oral, gestural and graphic) communication that significantly enhances the social presence, allowing more involvement, vividness and immersion, and a feeling of belonging and (digital-virtual) presence, of 'reality', which is more intense than current technologies providing distance education, which grows the process richer and more significant from the viewpoint of living in learning (learning experiences).

Thus, these novel possibilities emerging with 3D Web technologies have aroused deep discussion and reflection about presence and distance concepts, making researchers rethink the use of the term 'Distance Education' to name learning experience with these technologies just because they understand that this traditional naming does not represent what learning subjects truly perceive in these spaces.

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[126] The term ECODI was first used by Schlemmer in 2006 in the context of GPe-dU UNISINOS/CNPq, but it has been shaped during its theoretical ripening, emerging from research since 1998 about the use of different TDVs in teaching and learning process, from an interactionist/constructivist/systemic perspective taking technologies as empowering social cognitive and affective development. Thus the term ECODI represents a synthesis of theoretical constructions and establishment of relations and articulations from result for different researches the last 10 years. For SCHLEMMER et al. (2006, p. 8); SCHLEMMER (2008, p. 24); SCHLEMMER (2009, p. 143), an ECODI includes: * different integrated Digital Technologies (TDs) such as: Virtual Learning Environments (VLEs), 3D Digital Virtual Worlds (3D-DVW where interaction occurs among avatar-represented subjects, 'virtual humans' or bots), Web 2.0 technologies, communicative agents (interaction-created and programmed ACs), among others, which together favour different ways of communication (textual, oral, graphics and gestural), gathering every language in only one interactive space; * communication and interaction flow among subjects present in this space and; * interaction flow between subjects and the environment, that is, the very technological space. An ECODI fundamentally presupposes a kind of interaction allowing subjects (according to their ontogeny) 'living' in this space to shape it in a particular collaborative cooperative way, that is through his/her living and living together.

'Entering', acting, interacting, that is, living and living with in 3D dynamic environment as an avatar, is a significantly different way to go to a Webpage, website, AVA, Web 2.0 technologies, or even a 2D graphics environment. But what can this represent in terms of cognition and subjects' social cognition? How do they live, live with and learn in these spaces?

These are some of the issues the research group called Digital Education (GP e-du UNISINOS/CNPq) is recently concerned about, making distinct research pieces and producing some theorisations emerging in the context of teacher formation and training courses (Maturana & Rezepka, 2000) in i-Learning in graduate and (Stricto sensu) postgraduate courses.

Thus we can say that the phrase 'a current future' in this paper title is associated to the ongoing innovations linked to the presence concept in the sense of 'being current', providing a social presence when we use different digital technologies (TDs). In this sense, it represents some of the movements introduced in Digital Education, which will make up the process of construction of novel educational realities together with other initiatives.

FORMATION AND PEDAGOGIC PRACTICE IN DIGITAL CULTURE

How are different Digital Technologies (TDs) present in teacher formation? How are they understood in the pedagogic practice? Are they understood as a tool, instrument or support for which they are necessary to be adapted, incorporating them to pedagogic practices, or as an object to think with/about teaching and learning processes, as technologies to introduce space for communication, interaction, collective construction, learning, becoming real living spaces to bring about human (cognitive, affective, or social) development?

Many of the current TDs are not part of teacher training processes, are not in graduate and postgraduate programme curriculums, and when they are current, they usually are understood as another recourse, another way to grow education more attractive for younger students, they are a tool, a support that allows changing old pedagogic practices. In this case, the novelty representing the use of different TDs in education, which in turn enables innovation, ends up leading to no significant change in education.

But why does this mistake linger? One of its hypotheses is that it is difficult to use particular TDs, linking the lack of usage of these technologies with the lack of particular technical and pedagogical skills for education use, which points to the need to empower digital citizens.

> We understand 'Empowering, Citizen Digital Education' as such a level of appropriation, digital technological fluency, to enable the subject to be a contemporary citizen, empowering him/her to have social autonomy and creative authorship in a dialogic and cooperative space cut through by mutual respect and internal solidarity. This means to create spaces in which the other is recognised as a genuine other in interaction and so someone with whom one can have a relationship in which both are co-teachers and co-learners in different moments in a process of multiple relational pedagogical mediation and intermediation. This would unleash subjects from oppressive relationships in a space where everyone mutually change in interactions leading to the authentic dialog in the digital-virtual living and living with (Schlemmer, 2010, p. 10).

We need not only to perform digital inclusion, but rather create systems of formation, processes of participative training courses that effectively may help to develop citizen autonomy in digital environment. It is in this context that we have used the term digital citizen empowerment, going further than the concept of digital inclusion. Gilson Scwartz[127], founder of the project 'Cidade do Conhecimento' at USP, has maintained that 'the question is not to include in the digital [environment], but rather in knowledge, that is, in the digital social and cognitive networks'.

Thus, understanding the teacher's reality and helping him/her with technical pedagogies so that s/he may be digitally empowered and may suggest practices with different TDs to be innovation in the educational context, is what circulates in GPe-dU UNISINOS/CNPq works to be introduced below.

RESULTS FROM WORKS THE DIGITAL EDUCATION RESEARCH GROUP (GPE-DU UNISINOS/CNPQ) HAS DEVELOPED

In the scope of novel technological possibilities linked to the 3D Web, such as Metaverses, new challenges emerge for the teacher's formation and practices, which led to the early research works in 1998 with the metaverse Active Worlds. In 2005 GPe-du UNISINOS/CNPq, research group associated to the research line

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[127] (*Interview with Gilson Schwartz for the magazine TIC Educação - May 2007 – in http://cathy.spaceblog.com.br/19415/Emancipacao-digital-nosso-maior-desafio/*).

called 'Educação, Desenvolvimento e Tecnologias' in the Postgraduate Programme in Education, started also to investigate strengths and limits in using the metaverse technology Second Life in education, and in 2006 it created the island UNISINOS (figure 1).

Figure 1: Island UNISINOS in metaverse Second Life
(Community Centre and GPe-dU)

Thus since 2006 UNISINOS University maintains the UNISINOS, an island that was founded in education research aiming at providing space for developing research that allow understanding limits and strengths in using this technology (individually and in the context of digital technological hybridism) in the processes of online teaching and learning, as a way to boost subjects' social cognitive development, and novel ways of social organisation and growth possible to emerge in these spaces.

Every space built in Island UNISINOS are developed by graduate students (scholarship holders for scientific skills, master and doctoral students in education, who are members of GPe-dU, which has been designed for promoting interdisciplinarity involving disciplines such as pedagogy, psychology, digital games, computer science, philosophy, right, physics, etc.).

It was thus, by the students' initiative, that GPe-dU has won a representation on the island UNISINOS, becoming the earlier research group in education in Brazil to 'enter' Second Life. It is in this represented space that members meet to make collaborative research, discussions and works in group, develop training processes, organise events, do workshops, presentation of final papers, master's dissertations, doctoral theses, and meetings. Thus, graduate and postgraduate students in education appropriate that space.

On the island UNISINOS many graduate (ECODI UNISINOS VIRTUAL) and postgraduate (ECODI PPGs) projects of research and development are conducted.

PRE-SERVICE TEACHER EDUCATION IN THE COURSE OF PEDAGOGY: THE PROJECT ECODI UNISINOS VIRTUAL

The project ECODI UNISINOS VIRTUAL is a partnership between GPe-dU and the Graduate Unity at UNISINOS, particularly EaD UNISINOS. It aims at developing a Digital-Virtual Living Space to offer online graduate education. This 3D-represented space, that is, a space represented by its illustrations and possibilities involving the construction of 3D learning objects, simulations, games, etc., seeks to stir development of methodological propositions to promote teaching and learning processes based on a systemic interactionist/constructivist epistemological conception to provide innovation in pedagogical practices. The objective is that it becomes a living space that may favour knowledge construction in a collaborative and cooperative way and stir learning (that may involve curiosity, problematisation, exploration, experimentation, and research) for subjects participating in it.

One of the main objectives for GPe-dU UNISINOS/CNPq with this partnership is constructing a participative formative research and development practice in 'Digital Education', chiefly in relation to i-Learning. This partnership involves teachers-as-researchers from different branches of knowledge at the university, master's and doctoral supervisors, scholarship holders for scientific skills, EaD UNISINOS staff, and students. It is an extra space for learning to help in the process of subjects' Digital Citizen Empowerment participating in it. We understand that this partnership may effectively help the development of a set of necessary skills for the contemporary teacher, who is in a society that is highly connected in networks, in which this generation moves easily and quickly with access to a huge variety of information and interaction possibilities. This generation, which has particular familiarity with all kinds of TDs and easily creates his/her own networks, 'thinks with' and 'through' these technologies, and today is part of our student public. This set of skills involves more than skills of the specific field of different branches of knowledge, but rather teacher training in their respective domains, digital skills linked to processes of teaching and learning.

Thus the project ECODI UNISINOS VIRTUAL was designed from three chief domains: the creation of the UNISINOS VIRTUAL space with general information; the initial formation (pedagogy and physics teacher course); creation of 3D spaces; and higher education teacher formation. Among the results found thus far we can mention the creation of the space UNISINOS VIRTUAL with general information, including the development of a Digital-Virtual Living Space for online graduate education (figure 2); the setting of two graduate Learning Programmes, one linked to the pedagogy course, and one linked to a degree in Physics. In this paper we will address only the pedagogy course.

Figure 2: ECODI UNISINOS VIRTUAL

PA, 'Teaching and Learning in the Digital World'

The pedagogy at UNISINOS is based on Learning Programmes (PAs). PAs are made of fields of problematisation of reality or skills necessary for the future teacher.

The PA 'Teaching and Learning in the Digital World', which is in this curriculum, is offered as a b-learning, in a context of digital technological hybridism, involving the virtual learning environment Moodle, Web 2.0 tools, and 3D Web technologies such as metaverse Second Life. This PA aims at creating spaces for digital learning and empowerment that may develop theoretical and methodological stance and technological knowledge to deal with different Digital-Virtual Technologies (TDVs) in knowledge construction. It seeks to reflect upon the use of these technologies for human and social development in pre-service, children's, and young and adult education.

The pedagogical practice used in this PA is based on the methodology of learning projects (Fagundes, Sato and Maçada, 1999), which Schlemmer (1999, 2001, 2002) adapted to higher education under the name 'Problem-Based Learning Project'.

One of the aspects distinguishing the 'Problem-Based Learning Project' from traditional methodologies is the focus on the subject learning in interaction with other subjects in the use of different integrated TDs. A problem-based learning project comes out of curiosity, doubts, individual and collective problematisations that give rise to themes to be researched, so that one can find elements that help solve the original problem. The project is constructed and developed in a collaborative and cooperative way based on mutual respect beginning with autonomy and authorship of subjects involved in the process.

> A project for learning will be created by conflicts and disturbances in this meaning system making up the learner's particular knowledge. How can we touch this system? The very student is not aware of it! Therefore, choosing the variables to be tested when seeking for the solution of any problem, must be held by the student's questions (Fagundes, Sato, & Maçada, 1999, p. 16).

Problem-based learning projects in the context of PA 'Teaching and Learning in the Digital World', begin with the creation of a Virtual Learning Community in the AVA Moodle, beginning with the thematic platform 'Digital Education'. Students list their provisional certainties and temporal doubts in discussions that may be in a presential physical context or in a digital-virtual context (using the forum or chat of the community created in the Moodle, instant messaging (MSN, SKype, GTalk), metaverse Second Life, etc., or

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even in both. Then, sharing doubts, groups are formed, which gives rise to microcommunities. With the groups formed, one starts to plan the learning project and subjects list what they know about the problem and what they do not know and, therefore, they need to research, they describe the project objectives, how they will develop it, how they will collect data, what recourses and materials they will use, and how they will introduced it. The forum, blog, wiki, etc. may contribute for this organisation. There is no formal order or rule to be followed nor mainstream technology for structuring problem-based learning projects.

After this early phase of forming groups and planning the project, one needs to begin to search data to find elements that may help to solve temporary doubts and confirm or not provisional certainties concerning the problem to be investigated. In this context students make research and interviews using TDs such as Google Scholar, CAPES Dissertations and Theses, instant communication (MSN, Skype and GTalk), social networks, etc.

With data found and the use of different TDs allowing subjects' authorship, such as Web 2.0 tools (Wiki, PBWorks, blogs, eBlogger, etc.) and 3D Web technology (metaverse Second Life), the project starts to be built and the work runs the whole term in a collaborative and cooperative way between teacher and students. While the project is developed, the whole process of construction is available for all students in the class and the teacher to follow and contribute. Thus a truly collaborative and cooperative work is structured around different problems making up the subject 'Digital Education'.

In the term there are two specific moments for project presentation: first when subjects finalise the planning phase and second when they finish the project. Then a group examines de development of another group following some criteria the whole group defines and upon which projects were accompanied through all the term. Later every evaluated group restarts their project upon its evaluation to fix paths and do what was suggested at the evaluation.

In addition to the problem-based learning projects, other important activities make up the PA in the virtual learning community including all students such as forums, and weekly chats for discussing the theory that grounds the PA; learning diaries to register learning works, perceptions, doubts, difficulties and feelings towards them; weekly chats to solve doubts; the creation of a digital-virtual identity in Second Life and interaction on the island UNISINOS.

Thus PA 'Teaching and Learning in the Digital World' is based on a systemic interactionist/constructivist epistemological conception coming true by problematising methodologies such as problem-based learning challenges and projects. In this context, different digital technologies are used in an integrated way to open possibilities of understanding, making meanings towards how they can be used in teaching and learning.

The pilot project: PA Teaching and Learning in the Digital World in the project ECODI UNISINOS VIRTUAL

In the first term of 2010, in addition to the activities mentioned above, it was proposed a novel challenge: building a 3D digital-virtual space on the island UNISINOS to illustrate the understanding of some concepts. This challenge gave rise to the building of two 3D digital-virtual spaces representing different conceptions of school. One was represented by the 'Analogical Museum' and another one by the 'Pedagogical Cooperative' (names students gave). In the beginning, there was necessary a planning of spaces to be represented, involving making a list of concepts and research to find elements to build metaphors that would make up these spaces. The creation of these spaces was based on objects students built in the *Sandbox*, and objects from places giving freebie libraries.

The Analogical Museum was designed to represent the formal school with dark colours, students in cages, representing the locking of knowledge, the teacher as the only knowledge holder, lined up classes and old furniture.

The Pedagogical Cooperative was designed to represent the systemic interactionist/constructivist school, a colourful and joyful space with interactive panels for the visitor to create, browse through, contribute, solve doubts and giver suggestions. It is a type of school towards learning and knowledge building.

This space was developed weekly step by step in formal and informal meetings. The formal meetings were on every Friday in the morning (when data were collected) and then discussions and shared ideas occurred until the group agreed upon something to represent the imagery built by everyone (figure 3).
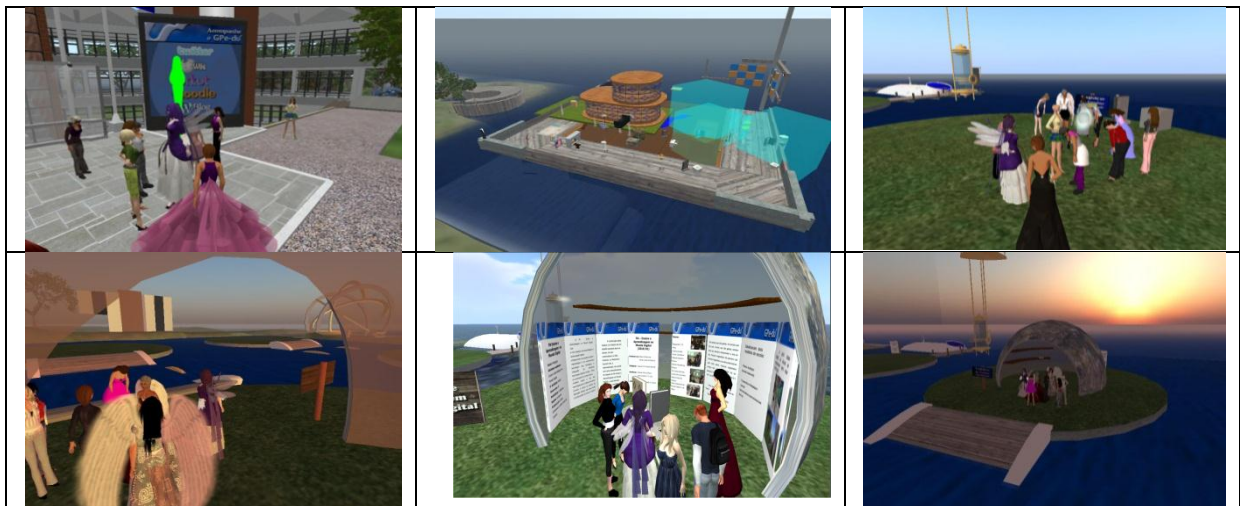
Figure 3: PA "Teaching and Learning in the Digital World" -ECODI UNISINOS VIRTUAL

This is an open student-built space that is not fully worked out, but rather represents so far built knowledge systematisations, small summaries, the conception in which this space is embedded. This space is also a challenge for future groups, who may continue the project, improving it, implementing it, giving it elements for knowledge building.

The project ECODI-PPGs UNISINOS: a proposal for training teachers-as-researchers
The project ECODI-PPGs UNISINOS concerns teaching and learning in Web computer environments in a context of digital technological hybridism. It focuses the creation of a Digital-Virtual Living Space – ECODI (SCHLEMMER (2006, 2008, 2009), SCHLEMMER et al. (2006, 2007)) to develop teaching practices and training processes for postgraduate teachers-as-researchers at UNISINOS. Research is based on the following problem: How the technology ECODI may maximise postgraduate teaching and learning processes? The chief objective is creating a space for information, interaction and research to develop teaching practices and teacher-as-researcher training processes in the postgraduate programme by using the ECODI.

The project ECODI-PPGs UNISINOS involves four domains: welcoming the project; PPG spaces; teacher-as-researcher training (including teachers, master and doctoral students); and continuing education (extension involving the community and master's and doctoral students and scholarship holders for scientific skills). The project is under work and thus far the following is occurring:

In the 'Welcoming the Project' a space for project presentation was created including information about the research project and spaces for general use for different PPGs such as Arena (figure 4)

Figure 4: space for welcoming the project ECODI PPGs UNISINOS

In 'PPG spaces' there are PPG representations in Education, Administration and Philosophy, and Communication and Applied Linguistics PPGs (figure 5) are under planning. In each representation general information is offered: PPG introduction, research lines, research summaries, selective process, publications, events, blogs, and other information every PPG may find important.

Figure 5: Representation of PPG spaces in Education, Philosophy and Administration

In teacher-as-researcher training, different activities have been developed: research group meetings, orientations, workshops, domestic and international events, PPG curricular offering in Education (seminars and directed reading), qualification and presentation of dissertations and theses, etc. (figure 6)

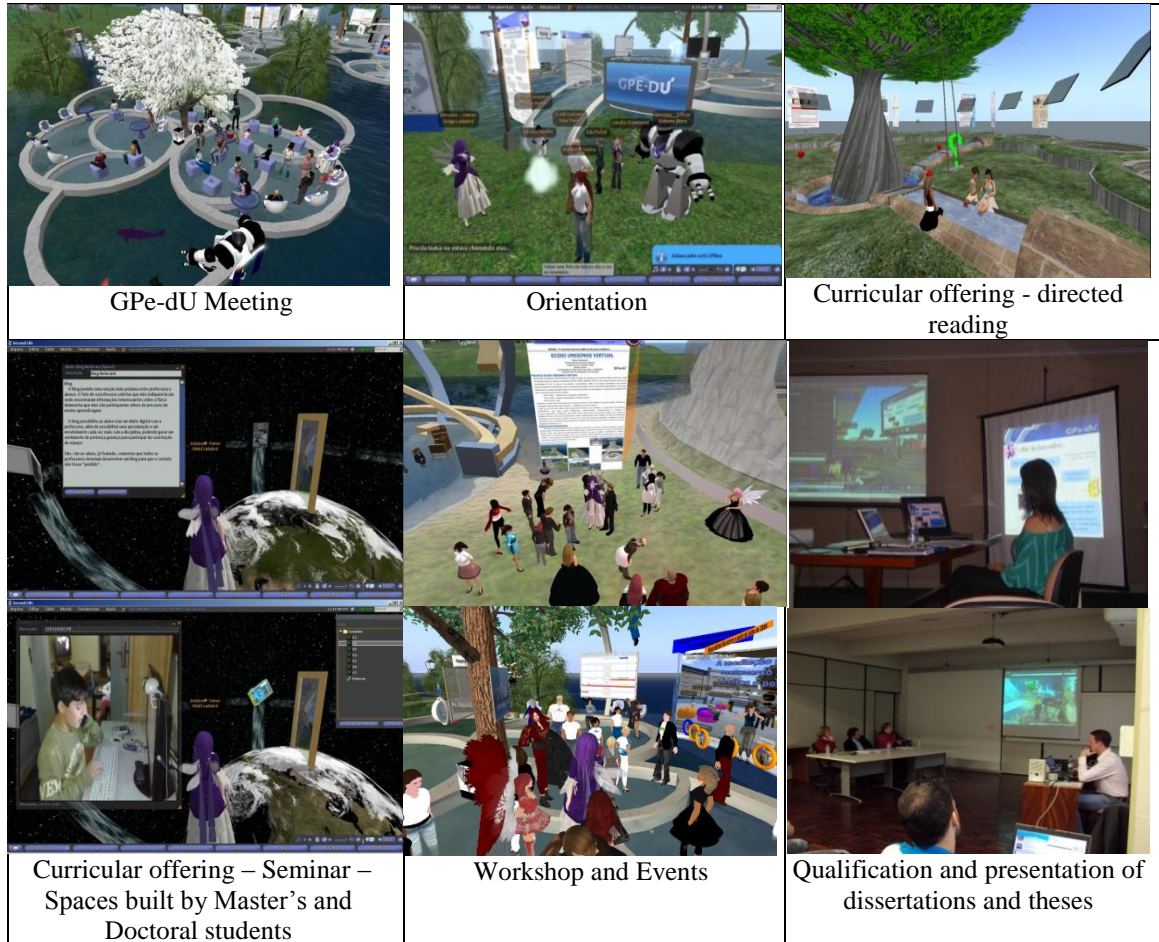| GPe-dU Meeting | Orientation | Curricular offering - directed reading |
| Curricular offering – Seminar – Spaces built by Master's and Doctoral students | Workshop and Events | Qualification and presentation of dissertations and theses |

Figure 6. Education of teachers-as-researchers

In continuing education, many extension courses are developed. GPe-dU Master's and doctoral students and scholarship holders for scientific skills organised and developed them to show the research results and form teachers to make up the ECODI (figure 7).

Figure 7: Continuing education

In this context, some results have been achieved: creation of a space for information, interaction, and research, to develop teaching practices and Stricto Sensu postgraduate teacher-as-researcher training; the articulation between research, teaching (degree in Pedagogy by activities in the Learning Programme 'Teaching and Learning in the Digital World', as well as assisting graduation works, and scholarships for scientific skills; postgraduate programmes — course seminars and assistance for presenting doctoral theses and master's dissertations) and extension (extension courses for the educational community), production of pedagogical material to help teacher-as-researcher education, and scientific publishing in periodicals, events and books.

RESEARCH RESULTS: I-LEARNING MAXIMISATIONS AND LIMITS

When we have analysed data from these experiences, we have found some aspects that can be considered as empowering learning in these new contexts, which has led to deep discussions and reflections concerning technical pedagogical appropriation for online teaching.

The sense of being immerse in a third-dimensional space, with the avatar, makes subjects (teachers and students) have a more intense wish to learn, resulting in the extension of the time subjects devote to learning.

The pleasure of finding things out, the emotion of noting that learning is occurring, amplifies subjects' self-esteem.

The need to build something together in a space everyone was appropriating that stirred intense (textual, oral, gestural, and graphic) interaction, resulted in enhanced autonomy and authorship of subjects.

The pleasure of being the author/co-author of a world ('construction of our small PA island') nourishes and is nourished by enhanced autonomy, which grows wider at every new conquest.

The avatar-represented social presence empowers the socialisation of the achieved learning.

Awareness of the skill of built (or not built) concepts is favoured when subjects have to represent metaphorically these concepts.

The softening of the fear to make mistakes, touch something, and the perception that making mistakes, touching, is part of learning ('I learned a lot and I learned particularly not to be afraid of making mistakes, touching, that is, learning').

The avatar's social presence in a 3D immersive environment allows the enhancement of the sense of being safe in a context of online education.

It is important to be connected with other people and have a social presence in the interaction (enhancement of the sense of presence).

The reflection about learning enabled by the avatar's action causes the rupture with paradigms crystallised in the everyday living as a learner and enables the perception of the autonomy as empowering interaction and authorship, allowing the pleasure of finding things out, the freedom of learning by making new connections. ('Since the first class I allowed me to find new ways to interact and integrate the proposed activities (autonomy), and with satisfaction I have noted that my avatar has talents that were dormant in my 'analogical physical self': curiosity, courage to permit myself to click where I wanted to and so make connections I didn't imagine I could… I can say that Nynah (the avatar's name) helped me to admit I don't manage everything, but I can learn, I can dare, I can wonder trying to understand the universe around me and which I have learned to wish to belong to: the technological!')

In many experiences in the Immersive Learning, it was possible to check out the increasing student enthusiasm, in so far as findings and appropriation of new knowledge were occurring, which contributed to meaning making to learning practices. In this sense, we highlight the significance of methodologies and practices promoting interaction, growth of subjects' autonomy and authorship in a collaborative and cooperative context.

Immersion by The avatar's telepresence and digital-virtual presence in 3d environment enables the sense of presence, belonging and community life. The interaction in the i-learning context is much more significant, interesting and compelling, and the sense of belonging grows more and more intense. This showed to be critic for the online learning process. AVA users' saying such as 'I feel alone', 'I miss people', etc., evinces the significance of social presence for subjects interacting in these environments. Researchers have pointed up this issue as a successful factor for the student and a challenge for the current EaD.

In this process, we also identify some aspects that can be considered as limiting for learning in metaverse: some students' lack of digital technological skills; technological difficulties, particularly due to the graphic adapter low performance and internet speed, the latter at some moments causing initial difficulties in oral communication; the avatar's initial difficulties to move in this novel space, chiefly associated to the notion of space, direction; initial sense of 'being lost' in this space and having to count for too many novel simultaneous data.

It is worth noting that we are not defending the avatar interaction in 3D immersive environments, at the expense of subjects' interaction, with their physical bodies in natural environment, but rather we evince how the further can complement and empower the latter, that is, we understand that a context of hybridising the worlds may empower the subjects' learning.

DISCUSSIONS AND CONCLUSIONS

Now let's return to this paper title: 'Immersive Learning: a Current Future for Graduate and Postgraduate Programmes' and reflect upon the phrase 'a current future'.

Researchers in different continents have pointed 3D Web with its metaverses, MDV3Ds, MMORPGs, associated to mixed and enhanced reality, as a future internet, but we can notice that it is a current future because kids and teens are growing, living and living with in these new worlds, trying the simultaneity, the hybridism between worlds. So how should we think about education for this generation? How should be this teacher's training?

We know that different media enable the development of different skills (which encourages us further to think in the significance of coexistence of these media). So is it possible that 3D Web with the Immersive Learning is opening space for a novel world in Education, but what world is it? Where do we go to? Platforms like Active World, Second Life, OpenSimulator, OpenWonderland, and many others, are temporary, but 3D Web's concept, metaverse, MDV3D, Immersive Learning certainly are not, as they provide something very interesting, particularly for the education field: richer immersive and interactive experiences that may empower human education and training.

However, we have to understand the Immersive Learning not as a substitute for other possibilities in online educational environment, or physical presential education, but rather as a different, complementing possibility to coexist in relationships and interrelations in the educational context in contemporary society, in networks.

We need to consider that novelties emerging together with the different digital technologies such as Immersive Learning, Mobile Learning, Pervasive Learning, Ubiquitous Learning (or u-learning or ULearning) do not mean necessarily innovation in Education. However, they represent an effective possibility for fresh understanding of concepts like time, space, presence, distance, interaction, information, knowledge, leading to unbalance in the system of subject meaning, encouraging paradigm rupture and changing the way to develop particular processes.

We suggest teachers-as-researchers to appropriate these digital technological novelties to understand them in the context of their specific nature, and develop the digital technological and pedagogical skills necessary for their usage. Exactly this movement may cause digital empowerment for a better enhanced understanding of limits and strengths of each one in the educational context, which may help to provide innovation for methodologies, practices and pedagogical mediation. Otherwise, we can speak of a mere novelty, rather than innovation in education.

Therefore, observing trends like mixed and enhanced/augmented reality, creating avatars, playing MMORPGs, trying 3D Web in fixed and mobile networks, **attending meetings and events in different MDV3D**, integrating online research groups and communities, are useful initiatives when one wishes to know better this 'world' to identify its strengths and limits and, above all, approaching the digital culture, to which many students are members.

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357 - The Potential of E-learning in ICT Training Teachers

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Abstract: This paper presents a case-study in both the areas of LLL and ongoing teacher training through e-learning in ICT. The training session "Introduction to Questionnaire and Treatment in Excel", which is the basis of this study, is aimed at primary and secondary school teachers and was organised by the Universidade Aberta (UAb) Science and Technology Department (DCeT). Excel is an integrated tool in the Office package, so it is accessible to everyone and can be used according to the needs of each one. The use of this package can serve multiple domains, is versatile and easy to use.

Both LLL and ongoing teacher training are strongly recommended in the European Union Memo (2000) and vastly used in classroom teaching in Portugal.

However, its usage in the e-learning process is rare. The UAb had a pioneer role in the diversified offer of LLL's in teachers' ongoing e-learning training by introducing in its 2006-2010 and 2010-2014 strategic plans lifelong training sessions as one of its main priorities. Nowadays, in Portugal, 90% of long-distance learning is promoted by the UAb.

The offer of distance training sessions by a state University is undoubtedly a guaranty of sustainability for the development of ongoing learning "for all". The distance learning, in particular UAb's Pedagogical Model offers: student´s centered learning, flexibility, interaction and digital inclusion.

This session was based on the UAb's Pedagogical Model using the MOODLE platform which is based on a type of distance learning through online mobility, in a virtual classroom environment. The virtual classroom is an organized space where both the contents and the didactic materials are made available, and where the following interactions (trainees-trainees; trainees-trainer; trainer-trainees) take place, with the aim to promote learning.

Asynchronous communication was privileged with an emphasis for discussion forums, whilst having in mind, readings, platform access, files download, possible research, individual thoughts, and participation in both group and final assessment assignment.

This training session was set up in its totality as e-learning and organised over four weeks, combining a total number of 26 hours of individual and group work. It was divided in five modules, numbered from 0 to 4. In the first week the first two modules took place: the first module named module 0 consisted in the adjustment to both the Moodle platform and the virtual classroom model; the second module named module 1 focused on the characteristics of asynchronous collaborative work, allowing the trainee to better understand what it means to be an online student.

The trainees that took part in this training session, the majority were female. The ages of all trainees ranged from 26 to 61 years old and more than half of the enrolled trainees had age upper 46 years old, showing evidence that older teachers seek further training in ICT.

The trainees were distributed in eight of the eighteen districts of mainland Portugal and the most often mentioned reason for participating in this training was the subject, flexibility and the acquisition of credits.

Keywords: ICT, e-learning, LLL.

INTRODUCTION

This paper presents a case-study in both the areas of LLL and ongoing teacher training through e-learning in ICT. The training session "Introduction to Questionnaire and Treatment in Excel", which is the basis of this study, is aimed at primary and secondary school teachers and was organised by the Universidade Aberta (UAb) Science and Technology Department (DCeT). Excel is an integrated tool in the Office package, so it is accessible to everyone and can be used according to the needs of each one. The use of this package can serve multiple domains, is versatile and easy to use.

Both LLL and ongoing teacher training are strongly recommended in the European Union Memo (2000) and vastly used in classroom teaching in Portugal. This memo emphasizes "The effective use of ICT will make a significant contribution to implementing lifelong learning by widening access and introducing more varied ways to learn, including through ICT-networked local learning centres open to a wide range of people of all ages.

However, its usage in the e-learning process is rare. The UAb had a pioneer role in the diversified offer of LLL's in teachers' ongoing e-learning training by introducing in its 2006-2010 and 2010-2014 strategic plans lifelong training sessions as one of its main priorities. Nowadays, in Portugal, 90% of long-distance learning is promoted by the UAb (Hassan and Laaser, 2010).

The offer of distance training sessions by a state University is undoubtedly a guaranty of sustainability for the development of ongoing learning "for all". The distance learning, in particular UAb's Pedagogical Model (Pereira *et al.*, 2007) offers: student´s centered learning, flexibility, interaction and digital inclusion (Pereira *et al.*, 2009).

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COURSE'S GENERAL ORGANISATION AND ITS INSTITUTIONAL SETTING

The training session "Introduction to Questionnaire and Treatment in Excel", was an initiative of the ongoing training programme for teachers of Mathematics in the DCeT, directed at primary and secondary teachers of the Portuguese school system. This session, just like all the other sessions offered by the UAb in this area, is accredited by the Scientific-Pedagogical Council of Ongoing Training / Ministry of Education and allows teachers who complete them successfully to obtain credits in order to progress in their careers.

This training session was set up in its totality as e-learning and organised over four weeks, combining a total number of 26 hours of individual and group work. It was divided in five modules, numbered from 0 to 4. In the first week the first two modules took place: the first module named module 0 consisted in the adjustment to both the Moodle platform and the virtual classroom model; the second module named module 1 focused on the characteristics of asynchronous collaborative work, allowing the trainee to better understand what it means to be an online student. The remaining modules addressed technical questions related to the training. The various modules were devised according to a chronological sequence. For each module the trainer defined a number of activities to be developed, partially or totally by the trainees, as stated in the learning contract. This document is presented at the beginning of the course and contains all the relevant information, namely, training objectives, competences, methodology, resources, environment, sequence, assessment, calendar: week 1, week 2, week 3, week 4.

Chronological Sequence of the Session and Competences to Attain

The chronological sequence of the modules, its identification and each of the competences to attain, are summed up below in Table 1.

Table1: Chronology, identification and competences of the session "Introduction to Questionnaire and Treatment in Excel"

Week	Module Identification	Skills
1st	**Module 0 -**Familiarity with the online environment **Module 1** - Work online as a team	Know and use Moodle as a resource for teaching and learning; Enable the interaction with the class, participating and setting out ideas and arguments in a clear and succinct way; Acquisition of knowledge about being a student online.
2nd	**Module 2 -** Introduction to the Questionnaire	Know and characterise a questionnaire; Enable to elaborate a questionnaire: distinguishing types of questions and response scales; Knowing the sampling techniques commonly used in research by questionnaire.
3rd	**Module 3 -** Introduction to Analysis in Excel	To Know enter data from a questionnaire in an excel file; Organize and show results using Excel; Statistical functions.
4th	**Module 4 –** Dynamics tables and charts using Excel	Learn how to build different types of graphs that helps interpreting the results; Enable to use cross-references allowed by the use of Dynamics Tables.

TYPE OF ACTIVITIES AND SUPPORT MATERIALS

Different types of activities were proposed for each of the modules. In reality, during online classes, the trainees were encouraged to take on the role of learners and to develop the activities in which they were active subjects in the process, instead of being isolated and without interacting with the remaining group.

Activity 1, presentation in the virtual classroom / being an online student equipped trainees with the basic and essential elements for the development of the work in the virtual class. To that effect, queries forums on the working of the platform as well as the texts – "Online Student Guide", "How to participate in a discussion online" and "How to manage time" were made available. Furthermore, instructions were given on how to participate in an online discussion after a reflection on the above mentioned texts. In this first collaborative forum all 30 enrolled students participated at least once with a total of 62 contributions. The group of activities in this first week was not assessed as they were part of the introductory module.

Activity 2 consisted in group work and started with the individual reading of texts available in the virtual classroom on the topic "Introduction to the questionnaire". A team forum, to which only one member of each team had access, was organised in order to write up a report based on the available information on the following topics:

1. listing of the more important and accomplishable procedures in the making of a questionnaire by a beginner.
2. analysis and solution proposal of a group of questions which not always verified validity or reliability. This activity took place during the 2nd week of the course and had a total number of 486 contributions.

Activity 3 included in module 3. Adding data to an Excel questionnaire, had as tutoring supports and explanatory video prepared by the trainer whose aim was to have trainees experimenting with adding data to a spreadsheet. To that effect, a forum was created and named "Adding data" and counted with 25 contributions.

Activity 4, Creating dynamic tables was similar to activity 3 and supported by a database supplied by the trainer in an explanatory tutorial on dynamic tables, the 103 contributions shower a greater commitment of the trainees as a way to overcome the complexity of this area. Included in this number of contributions was the challenge set by the trainer which consisted in sharing the work produced individually in a specific forum, thus allowing each trainee to better improve his / her performance through the direct observation of other colleagues' work.

The last activity, final assignment, based on a questionnaire suggested by the trainer, allowed the creation of a specific database shared by the class. This database was the starting point to the analysis of the results when you create a questionnaire. The results of this analysis were presented in an individual report which had to include charts, tables and statistical measurements which would allow us to draw conclusions related to the starting questions and, as a result, had to be followed by their specific interpretations.

ASSESSMENT AND CLASSIFICATION

The assessment is based on two criteria – virtual classroom and discussion contributions, as well as, the final assignment.

The assessment of the discussion contributions is based on the following criteria: meaning/quality of the contributions; time/opportunity; frequency of the contributions; cooperation with colleagues.

The final assignment consisted in the creation of a small database in Excel and its statistical/graphic treatment using the functions mentioned during the training. The report was assessed having in mind the following factors: scientific correction; knowledge of the fundamental concepts applied in the assignment; knowledge of data handling in Excel: ability to critically analyse results, presentation of results and conclusions.

Classification was decided taking into account the following: contribution in the discussions, including collaborative activities: 30% and Individual final assignment: 70%.

Assessment was conducted according to the UAb pedagogical model which envisaged the completion of an individual final assignment. A qualitative and quantitative rating scheme was used according to the revised nº 3 of article 13 of the RJFCP, obtained by the trainee, according to the following marking scale which ranges between 1 and 10 marks: EXCELLENT: 9 to 10 marks; VERY GOOD: 8 to 8,9 marks; GOOD: 6,5 to 7,9 marks; SATISFACTORY: 5 to 6,4 marks; FAIL: 1 to 4,9 marks.

TRAINEE CHARACTERISATION

Out of the 30 trainees who took part in this training session, 90% were female and 10% male with ages ranging from 26 to 61 years old (chart 1), 50% of the enrolled trainees had ages ranging between 46 and 56 years old.
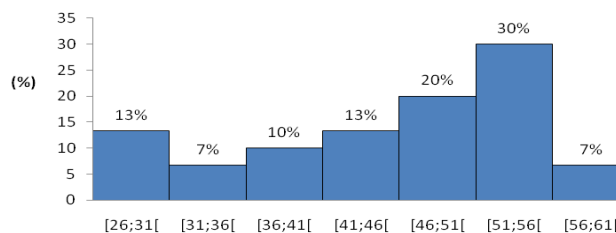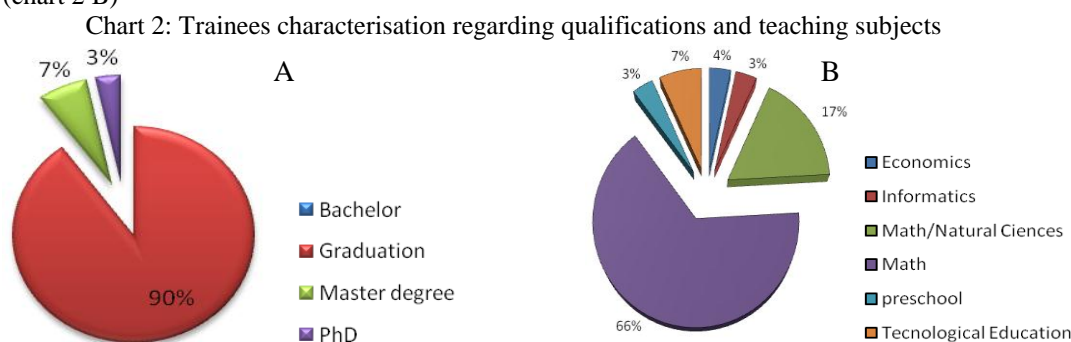

Chart 1: Age characterisation of the trainees

With regard to academic qualifications in this group of teachers, trainees, 90% had a degree, 7% a Master's degree and 3% a PHD (chart 2 A). Their training areas were very diverse, but the greatest number was of Maths teachers (chart 2 B)

Chart 2: Trainees characterisation regarding qualifications and teaching subjects

With regard to the levels at which these trainees were teaching was also very heterogeneous and there is a greater representation of teachers from secondary schools, 47%, followed by teachers teaching 2nd cycle, 23%, 3rd cycle, 20% and pre-school 10% . The absence of teachers attending the action of the 1st cycle was noted in this analysis.

Our trainees were distributed in eight of the eighteen districts of mainland Portugal, and its representation by districts as follows:

- Aveiro   4%
- Beja   23%
- C. Branco   9%
- Coimbra   23%
- Faro   3%
- Lisboa   13%
- Porto   20%
- Setúbal   10%
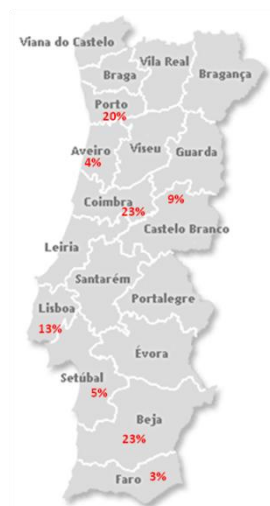
As shown in Figure 1.

Figure 1: Geographic distribution of trainees

Summary of the main evidence

The trainees were from various regions of Portugal. Mostly the group consisted of women, which is expected, since this is a training for teachers (in Portugal the majority of teachers are female). Most trainees were older than 46 years, showing evidence of being older teachers to seek further training in ICT.

The main motivation for attending this training is summarized in the data presented in the graphs belo

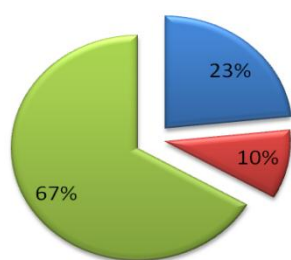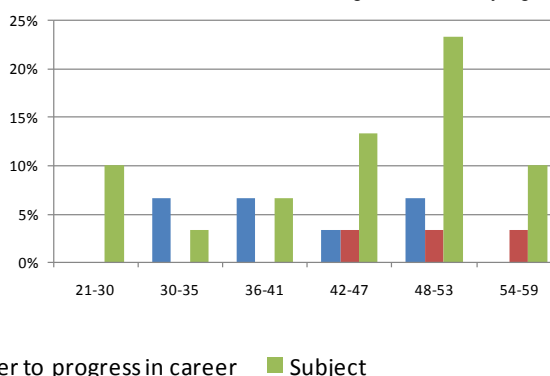Chart 3 A: Motivation for attending the course

Chart 3 B: Motivation for attending the course by age

■ Flexibility ■ to obtain credits in order to progress in career ■ Subject

The motivation most often mentioned was the subject, 67%. Flexibility was the second choice, 23%, and only 10% indicated the acquisition of credits as the main choice.

The engagement of trainees in all activities was very expressive of the interest and enthusiasm of its holdings. It was more dynamic and participative when was conducted the group activity. One possible reason for this adhesion is to be a short course and where the subject was the main motivation of participants.

Most trainees had never participated in a training online and were very pleased with the results of learning.

In our opinion a key aspect of this type of training course is the introduction of structured model, with specific timings regarding activities, in order to motivate learners and decrease a physic distance thus maximizing both individual and work group contributions.

Undoubtedly work group activities showed more dynamism, enthusiasm and collaboration. It must be noted that learning and teaching of any software exclusively through online distance learning and directed learners with different levels of knowledge is not easy. As a result this can lead to practically no interaction amongst them.

Nevertheless in LLL ongoing teacher training although students had different levels of knowledge about Excel and some of them never experienced online distance learning or knew the Moodle plataform, an excellent level of interaction and dynamism was achieved, namely if we compared this course with other lengthier courses.

Furthermore, as a trainer I noticed that the final assignment had the same level of quality of a final assignment produced in a face-to-face classroom course.

This shows once again that online distance learning namely in LLL ongoing teacher training allows sustainability in learning.

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388 - Continuous Teacher Formation in Virtual Learning Environments: Risks of Depersonalized Pedagogical Relations

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Abstract: Bringing the best possibilities of digital technologies to the benefit of education is a positive trend we observe nowadays. Many continuous formation courses for teachers are offered by numerous schools and educational groups all over the world. In Brazil, we had the opportunity to research the establishment of interpersonal pedagogical relations in one of the most innovative initiatives in this area, and the conclusions we came to were disappointing from the standpoint of those who firmly believe that, digitally-enhanced or not, educational processes are, above everything else, personal, and taking this characteristic away from them leaves little or no significant progresses in building new or remodeling meaningful knowledge.

Keywords: Continuous teacher formation. Virtual learning environments. Interpersonal pedagogical relations.

INTRODUCTION

Continuous formation is a major challenge in times of scientific and technological improvements that demand teachers to develop competences for working with the wide array of possibilities brought into their schools – as well as into their own lives, for that matter – by digital technologies. Students are ever more rarely resourcing to traditional libraries for research, preferring to use online search engines to access and select contents; multimedia, pictorial and textual materials related to any conceivable school subject are freely accessible in numerous websites, blogs and online broadcasting services, usually being a lot more attractive than our presence and voice alone could ever be – potentially valuable additions to our traditional classroom dialogical competence; new or revised scientific knowledge is immediately made available through the Internet, creating an amount of relevant (and not seldom controversial) information that can be nearly impossible to keep up with in its extent and implications. Nevertheless, the advent of such possibilities has been constantly – and misguidedly, as we see it – sensed by teachers rather as an invasion of their space and a threat to their established knowledge and professionalism, to the extent of being pointed out as being the inescapable formula of a disguised proletariat (Antunes & Braga, 2009).

Given that younger students have been pervading schools with their digital lifestyle and revigorated way of working and collaborating (Veen & Vrakking, 2006), a more defensive attitude from their teachers has been a common and reasonable way of responding to the aforementioned "invasion". Reasonable as far as it is expectable from anyone who perceives himself surrounded by innovations too many to take in at once; it is unreasonable, though, when it seals schools from what is trending in science, technology and, consequently, in life. The use of digital networks for communicating, researching, exchanging and expanding knowledge can no longer be a stranger to any actor of the pedagogical processes.

Research has proven that creating and supplying rich multimedia laboratories in schools is far from sufficient to guarantee that they will be properly used to educational profit. Teachers need to know how to bring technological advantages into their professional practice without underrating and, thus, underusing them to their own (and their connected students') disappointment. Negative experiences with technology frequently result in negative views of its adequacy for formal learning.

If we agree about the existence of a significant gap between students' and teachers' grasp of digital technologies with advantage for the firsts, then a solution for it is promoting digital literacy among the latter. Currently, a widespread way to do so, considering most teachers' hectic work schedules, has been encouraging them to take part in continuous formation courses with the prevalent use of such technologies. We are not referring to courses on how to incorporate digital technologies to their classes or methodologies, but to those which invite them to review, discuss and improve their existing competences in their own fields of knowledge with ubiquitous use of digital technologies to achieve it.

Between 2009 and 2010, a relevant public-private partnership between the government of an economically prosperous city from the state of São Paulo (Brazil) and one of Brazil's largest educational content and technology developers resulted in an experimental project that tended to 405 (four hundred and five) public elementary school teachers in free, internet-based and multimedia-enriched courses on current issues of Language and Mathematics teaching strategies, the successful completion of which would be a key element considered for career advance. As they participated in the courses, they would be exposed to and need to make use of numerous intuitive multimedia learning objects, thematic blogging, online search engines, libraries and dictionaries, discussion forums and collaborative activities. The project was closely accompanied by researchers from the Pontifical Catholic University of Paraná (Brazil), resulting, among other research documents, in a doctoral dissertation which explored the striking discrepancies between the proposal's outstanding pedagogical theoretical framework, its actual management and poor results, centering its analysis on major failures caused by the depersonalization of the process, a contradictory educational procedure to that of the project's original foundations (Kucharski & Torres, 2010).

PRESENTING THE COURSES' PROPOSAL

The terms of the aforementioned public-private partnership left the private educational multimedia group with the responsibility of creating an innovative, intuitive, easy to understand virtual learning environment (VLE) through which the proposed courses would be available and where all interpersonal contacts should happen (participant-participant / participant-tutor / tutor-participant / tutor-tutor). The pedagogical logic underlying the methodology of choice for each one of the courses' classes (or units, as they were called in the VLE) should mirror updated pedagogical research on each theme and on the use of digital technologies to enhance learning.

The VLE created to contain the courses featured all major modern possibilities of information and communication technologies (ICT): the capability of lodging and streaming audiovisual files, tools for synchronous and asynchronous written communication among all actors, immediate feeding of selected news relevant to the courses' areas, pages for presenting, illustrating and discussing pedagogical theories, links to interesting additional web pages, online educational databanks and libraries and more. But the most admirable features of all this package were the pedagogical principles that underscored the proposal as a whole.

General guidelines of the project proposed that each topic presented would stem from teachers' most frequent classroom difficulties while working with the contents listed in the National Curricular Parameters (Brasil, 1997 & 1997b), which are official documents from the Ministry of Education that list and discuss selected contents and the methodological approaches to work them in the disciplines of Portuguese and Mathematics in the first four years of Elementary School. Thirty-six multimedia study units were then developed to build the courses: 17 (seventeen) for specific Portuguese teaching topics and 19 (nineteen) for Mathematics.

Each study unit obeyed a sequence of activities meant to reflect the best practices and state of the art pedagogical thought on the specific subjects, on continuous, lifelong teacher formation and on distance education principles, especially those about collaborative, constructive working attitudes based on codependence and shared experiences and responsibilities for building new or deeply modified pedagogical knowledge.

Philippe Perrenoud's (2000) principles were central to define the didactical and pedagogical sequence of facts for the units. Each one would start with a multimedia presentation of a common classroom problem-situation related to the teaching of the topic discussed in that unit; the second step would include sections in which empirical and theoretical perspectives on the topic would be exposed and contrasted so that participants would be naturally encouraged to move to the third – and perhaps most meaningful – methodological step: online collaborative research and discussion that would promote renewed, negotiated views on the problem by establishing direct (though not necessarily synchronous) contact among participants and of those with experienced tutors. Next would be going back to classrooms and working or reworking the topic under new, more informed and intensely discussed perspectives. The fifth step involved returning to the VLE and sharing viewpoints on the recent experiences, either positive or not, providing reflexive feedback, confirming results or restarting the discussion cycle as needed. Such steps confirmed the logic of moving from practice to theory and back to practice, recommended by many celebrated authors and adequately presented by Marguerite Altet (in Perrenoud, Paquay, Altet & Charlier, 2001).

The aforementioned participants, then, voluntarily enrolled at no cost for the courses and were given two months to work on the thirty-six study units, fulfilling individual and collaborative activities, at the end of

which period they would undergo an electronic evaluation covering the topics of all units, as well as fill out a self-evaluation form discussing their impressions of the experience as a whole.

FOLLOWING THE EXPERIMENT: METHODOLOGICAL APPROACH

Following the courses in real-time, as they happened and participants interacted, came up as a rich possibility for research on interpersonal pedagogical relations in a virtual continuous formation environment, a possibility that was quickly overturned by the private educational multimedia developer, which suspected that the virtual presence of the researchers could be perceived as lurking, shying participants from more natural involvement. Given that their position would not change even before the possibility of having the researchers totally unidentified, the option offered was the elaboration of a research questionnaire that would be made available to participants and, later, total access to their answers to the survey plus all written materials produced by the participants during the course: comments, forum and blog interventions, questions and answers *to* and *from* tutors and students. Once these materials amounted to all interactive production on the VLE, the researchers acquiesced to the possibility.

The approach to the data whose access was granted to the researchers would have to be built from a combined methodological choice. The content itself would necessarily be first scrutinized using Content Analysis procedures (Bardin, 1995) having Atlas.ti as the analytical software of choice. This first reading would allow the surfacing of discursive categories whose deictic and contextual implications could be more deeply examined and understood under concepts of Pragmatic Linguistics (Lozano, Peña-Marín & Abril, 2002). Group interaction implications would be better evaluated from a methodological standpoint that considered the participants' community of practice as an effective discursively-bound societal formation (Mey, 2001) in which all written interactions would be valid expressions of cultural nature, following principles of Optimal Relevance (Sperber & Wilson, 1996) and being suitable material for an exercise of Virtual Ethnography (Hine, 2008). This combined, qualitative approach that would allow important changes of analytical focus as information grew in quantity and quality fitted the principles of Development Research (Van Den Akker, 1999).

A disappointing discovery

As the data were closely analyzed, troublesome facts soared. In quantitative terms alone, active participation in the units' proposed activities was far less than sufficient. Each one of the thirty-six study units proposed at least one discussion forum and one blog entry per participant for the minimum necessary work to finish them to be considered done. If we keep in mind that 405 (four hundred and five) participants signed up for the courses, we should have, after they were finished, at least 29,160 (twenty-nine thousand, one hundred and sixty) collaborative, discursive entries in forums and blogs, but all we could find were a mere 979 (nine hundred and seventy nine) entries from students (3.35% of the expected minimum participation). Qualitative inspection of all entries showed that only 112 (one hundred and twelve) of all 405 originally enrolled participants became actively involved with the courses' collaborative activities, while none was able to complete all of them. When asked for the number of people certified for their participation in the courses, neither the client city nor the certifying educational group answered. This clearly called for deeper investigation and understanding of the fact.

It was decided, then, that, together with the proposed discursive analysis of all written materials resulting from the established pedagogical interactions, a deeper, qualitative approach to the answers on the research questionnaire would be carried out for everything provided by all 112 effective participants; answers were sent back from 20 (twenty) participants (16% of the sample). Their positions were rather disturbing. In terms of the perception they had of each instance of the study units,

➢ theoretical instances of the courses, where all study efforts were essentially individual in nature, were preferred by 73% of the respondents;

➢ the first of the courses' instances that valued contextualization of the discussion topics did not do better than fifth of nine possible positions;

➢ the specific instance that called for active collaboration among participants came up in the penultimate position, *after* the Bibliographic References and just one vote above the units' self-evaluation exercises.

As they were asked about their qualitative perception of collaborative discussions and knowledge-sharing moments of the courses,

- ➤ 41% of the respondents said they simply did not exist. 33% of them said there were few;

- ➤ only one of the respondents said that, when in doubt or wishing to widen the discussion of a course topic, she would look for the teacher responsible for tutoring the virtual group. All others affirmed they would look for colleagues who worked in the same schools.

The last answer seemed contradictory with the seemingly large number of 979 entries in the collaborative activities; they were, though, proportionally few when compared to the minimum expected from 405 enrolled participants (3.35%), and represented no more than 13% (thirteen per cent) of the minimum expected from the 112 effective participants. Nonetheless, these "few" interactions were definitely meaningful. The pragmatic content analysis of the deictic aspects of the written interactions in the VLE showed that:

- ➤ in only 52 (fifty-two) of them, tentative collaboration could be perceived, being 32 (thirty-two) personal, *student to student* comments (mostly giving practical advice on pedagogical procedures) and 20 (twenty) of *student to ideal reader* type – being the ideal reader an impersonal entity with which one establishes a unidirectional "conversation", usually in the form of personal opinions not directed to anyone specifically but to everyone, potentially, where neither the participant nor the ideal reader are personified by first or second person pronouns, in a referential type of text. This ideal reader was the focus of a total of 741 (seven hundred and forty-one) entries.

- ➤ In 194 (one hundred and ninety-four) entries, the participants made discursive moves toward a *character-narratee* (Jouve, 2002), representing themselves in first person and the narratees in second person (singular or plural), usually encouraging the latter to provide any continuation to what was being exposed, but not necessarily counting on it.

- ➤ In 690 (six hundred and ninety) entries, there was a clear prevalence of the discussion topic, as theoretically presented, over the participants' perceptions or opinions about it, reducing the textual entry to a mere repetition of what had been presented in the courses' units. In only 60 (sixty) entries did the participants' perceptions or opinions were strong enough to propose a new perspective over the discussion topics, starting collaborative discussions that, unfortunately, were rarely ever continued.

Courses meant to generate digital inclusion and awareness of technological possibilities for teachers failed immensely to follow a basic principle of contemporary educational theory: being a collective, collaborative exercise where anyone's perspective is just as important as anyone else's for discussing and reconstructing a common-interest topic. In failing to do so, these courses faced great evasion and became a symbol of loss of intelligence, time and resources. It became tempting to search and discuss probable causes for their failure, and it was clear that concentrating our focus on the non-established interpersonal pedagogical relations was a promising path.

Failing to establish relations where they were needed
The noticeable dysfunction between the courses' pedagogical proposal and what could be perceived from analyzing their interactional data drove our attention to the search of the mechanisms used to ensure the best conditions for collaborative interactions to take place. Such mechanisms should be visible embodiments of the theoretical proposal, beyond the simple presence of collaborative tools as forums and blogs, encompassing especially methodological directions toward collaboration. This was where we found the most significant failures of the process.
Perhaps the most outstanding of these failures was the textual construction of the courses' units. Purely referential, impersonal texts prevailed in all units, never leaving openings for any linguistic strategy to put writer and reader in closer contact. This played against every possibility of establishing a more conversational tone, amplifying what Michael Moore calls transactional distance (Moore, 2008), adding psychological distance to the territorial one, far from all best practices for collaborative distance education activities – at least from the standpoint of whomever opposes the lonesome, prescriptive, self-instructional approaches to it.
Such impersonality certainly came as a shock for people who were, in most cases, for the first time in touch with the educational possibilities of the digital world, and whose professional lives had historically been centered on human interaction – independently of how traditional, teacher-centered their methodological

approach might have been. Following those course units did not seem to differ from reading a book in which the rare invitations to think and discuss are not but rhetorical. The voice of authority, that should represent the active participation of a more experienced peer (the author, in this case), always came with the weight of being totally extra-diagetical (JOUVE, 2002), unseemingly from a "real person" which could be perceived as an amiable instance, but rather as the infallible, not-debatable voice of a higher establishment.

Whenever individual people or small groups feel put up against a higher, stronger establishment, they tend to feel diminished in their possibilities of feeling uncertain about its principles, let alone trying to bring them into wider discussion. In the specific case of the analyzed courses, the prevalence of this kind of voice of authority contributed to shrink the possibilities of the perception of knowledge as a result of conscious efforts based on collective values, culturally and historically-bound and, thus, prone to change, evolve.

One could reason that such impression of solidity and undisputability is quite important to maintain an aura of trustworthiness to cultural or scientific knowledge; but that would mean to miss the point on the fact that knowledge is trustworthy for just as long as it serves its community well. If methodological approaches to certain school contents seem to be problematic enough as to generate continuous formation efforts, it is an important sign that not all is well, thus, should not have options presented as undisputable facts. This reinforces our certainty of having come across a remarkable inconsistency by analyzing the "inversed coherence" present in these courses.

This depersonalization of the voice of authority in the courses was also true to the opening texts of the forums and blogs, (in)directly forcing participants to assume the same tone, in a defensive disposition, preferring the safety of not exposing themselves to open criticism because of a different point of view. In such cases, establishing no interpersonal relations at all was preferable to undesired exposition, which, if on one hand made "survival" in the courses a nearly risk-free experiment, on the other hand was fundamental to the maintenance of a status quo where nothing could be deeply changed in the participants' pedagogical competences, either for better or worse.

The way teachers in charge of tutoring the courses were presented in the collaborative activities was not better. They would only be identified as Language Teacher or Math Teacher, differently from all other participants, whose names were always visible to everyone. This was part of a sorrowful institutional policy from the part of the content provider who, in spite of all recent research and publications saying differently, demanded that the tutors be as low-key as possible, leaving almost all the research, activities and thinking to participants alone; this included keeping tutors anonymous, and asking them to provide as little interference as possible. This resulted in great distortion of the function, which can be assessed by the following:

  ➢ the nearly non-existent moments in which tutors were directly sought by participants in order to solve a doubt or expand a discussion about any given topic;

  ➢ an explicit preference for self-study strategies verbalized by 80% (eighty per cent) of the interviewed participants in spite of the courses' theoretical endorsement of dialogical relations and collaborative attitudes toward knowledge building;

  ➢ the transactional distance reinforced by the tutors' wrongly encouraged absenteeism from discussions. In Language collaborative activities, there was one entry from tutors to every nine from participants; in Math, one from tutors to every four and a half from participants. Interestingly, the Math tutors adopted not only a policy of being more present, but also more dialogical in their entries, which did not necessarily brought participants to more effective partaking in the discussions. This seems to point to a crack in the general tutoring policy of the courses, once this specific group of tutors seemed to stray from it in the direction of a position that seemed more adequate to them;

  ➢ a total of 45 (forty-five) passages in which participants made serious conceptual mistakes for which they were not approached or corrected by the tutors, fragilizing the teaching/learning process.

The immediate consequences of the depersonalization of pedagogical relations in the observed courses went far beyond the high evasion numbers; it also prevented the establishment of rich dialogical relations, not allowing the free flow of information and the arising of renewed knowledge. What could be concluded from the observation of all available data was an eye-opener to all involved with the new methodological and epistemological possibilities of digital solutions applied to education.

CONCLUSION

The rich interpersonal pedagogical relations, as praised in the VLE's and its courses' theoretical frameworks, simply did not take place. The depersonalization of the relations established within the courses made it

almost impossible for the participants to realize that they should interact freely and constantly among themselves and with the tutors in order to solve real problems that they face daily in their classrooms with the help of a rich presentation of new theories about such difficulties. By means of an impersonal voice of authority that prevailed in all courses, and of an unfortunately passive attitude from tutors, participants felt more comfortable in approaching the opportunity the same way they would reverentially read a book, being passive recipients of information instead of active builders of their own competences.

The opportunities of establishing long-lasting productive relationships among teachers with similar interests (new societal formations) were (in)directly devalued, impoverishing the relativization of time and space, the most valuable pedagogical possibility of virtual environments.

Adopting a neutral textual persona in textual interferences throughout the courses' collaborative spaces was another negative consequence of depersonalized relations. According to meaningful (Ausubel, 1978) and andragogical learning theories (Knowles, Holton & Swanson, 2005), there is nothing impersonal about learning and teaching, once they result from individual and group interests, selections, negotiations and basic agreements, just like science, and every knowledge is then accommodated into everyone's knowledge structures the way it will fit them best – personalized, then. If the whole process of negotiating meanings to build new understandings happens in a rather neutral fashion, we reach an unsurpassable incoherence and become tied up to the non-enriching possibilities of repeating the already-known.

From what we have been able to see in the last few years of dedication to researching digitally-enhanced teaching and learning, the tendency of depersonalization in VLE-based courses is more of a trend than not, specifically so when educational initiatives face the challenge of providing formation to large, geographically-sparse groups. This usually results from a combination of factors, some of which come into view almost immediately:

> *Time constraints* make it more attractive to give participants a more passive role, so they can be fed a whole lot of information in less time; this variable makes us think if quantity is not being perceived as quality, which would be a major mistake. Fewer contents with more time for collective reflection and reconstruction usually bring better, more relevant results.

> *Financial calculations* tend to signal against having larger, more active groups of tutors following the discussing/learning processes of participants. Here, there is a significant ideological component to the reflection; while entrepreneurship in education is not disqualifying in terms of the potential quality of its courses, the financial balance must be rethought from a different perspective: quality courses with greater participation are usually better spoken of in the long run, combining educational quality with positive, long-lasting results over time.

> *Lack of specific formation* for teachers acting as tutors is another contributor to less relevant action from their part in virtual courses. Working in traditional classrooms bear little (if any) resemblance to the kind of work necessary in virtual environments. Students in virtual courses must be constantly, positively provoked to participate, their answers must be commented, put up for further discussion, be considered and pointed as relevant at all times and a specific learning unit or activity can not be finished before some wrapping up and trimming is performed, not to leave any reasonable doubts unnoticed and not discussed. Tutorial silence is the near equivalent, in virtual classrooms, of a traditional classroom without a teacher.

> *Uncertainty of tutors* about the subjects they are responsible for in virtual courses is a key factor for less relevant contribution to the teaching/learning process. This is not true for virtual courses only, but just as vital for the traditional classroom. Virtual courses, in their own turn, usually unite groups of different understandings and competences in terms of their subject, and this is guaranteed to bring up all levels of questioning from participants, from the most basic to the most elaborate, intricate questions and opinions. Tutors should not be freely hired based only on their formal education on the area of the offered courses, but should represent a higher variety of thought, research and development in that area. Of course there are no people capable of offering definitive answers to all questions about a specific subject, but an extensive repertoire of reading, discussing and publishing about the most recent trends of science is a fundamental ingredient to directing discussions to higher, more adequate levels. What we usually see when researching virtual courses are tutors whose command of their areas is only a notch above other participants', causing forced silence or less significant input to the discussions.

All these factors, combined with less-visible ones, were defining for the negative results in terms of establishing a real group of collaborative work in the courses we researched, causing high evasion and less significant (re)construction of knowledge, taking an opposite road to that planned in the theoretical framework of both the VLE and the courses offered therein. Here is an interesting contradiction we perceived: there were no theoretical discrepancies between the theoretical proposals of both, but a procedural one when the courses were effectively happening.

Many participants were rapidly driven to withdrawal from the activities and, for those who insisted on going on with the courses, a more unattended to, lonesome position was reserved, bringing no more gain than a trip to a local library could offer. All these sad results stemmed from a mix of factors that determined a near totally depersonalized approach of the courses' topics and, especially, of the participants. This is not what we expect from initiatives that propose to make significant use of new technologies for the benefit of learning.

Here is one thing we could learn from today's generations Y and Z representatives' approach of their common online activities (Veen & Vrakking, 2006): overcoming obstacles is learning, so interesting challenges move them toward a common goal. This movement involves a lot of discussing, negotiating and strategical thinking that takes place in virtual environments, synchronously or not, but goal-oriented and focused. In such environments, more experienced peers take turns in helping less experienced ones, not unusually by allowing them some minor mistakes until they are ready to discuss what they feel is being performed inadequately – and it always happens in very personal scenarios: though nicknames and avatars usually take up the place of the actual people behind them, these personas usually act in very predictable and coherent ways, as real names and real people could and should in online courses. None of it was present in the courses we researched – neither in numerous other ones we have come across in our line of work , but seem to be the yet indiscussed way to better using technology and its possibilities for really significant, *personal*, learning.

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401 - Teacher Learning in Transition: Participatory Practices in Digital Age Environments

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Abstract: The development and uptake of digital tools and social software is bringing about massive societal and economic change. Web 2.0 technologies have been widely recognized and promoted for their affordance of easy publishing, sharing, socializing, and communication. Web 2.0 practices are activities that use Web 2.0 technologies, embrace a learning paradigm that values participatory culture, emphasize collaborative learning and peer-to-peer interaction, involve active participation and engage learners in knowledge creation activities. Web 2.0 practices help individuals develop essential skills needed for success in today's world, such as critical thinking, problem solving, communication, and collaboration.

Although higher education has been taking advantages of Web 2.0 applications to create technologically-enriched learning experiences for students, most of the existing Web 2.0 literature shows that educators do not use those applications to their full potential. That is, the participatory, interactive, collaborative, and social aspects are often missing from learning activities. Furthermore, the impact of social media on teacher education has been rather limited. While expectations have run high about web-based instruction, virtual worlds, social media and the raft of "Web 2.0" tools, the impact on professional learning is not well documented. Recent research globally indicates that change is constant and that challenges educators need to be fully aware of include the adoption of Web 2.0 applications to support teaching and assessment in meaningful and authentic ways. The recent emergence of approaches to learning that are based on self-determination and networking such as heutagogy and connectivism help us understand learning as making connections with ideas, facts, people and communities. Learning for the professions has grown beyond mere consumption of knowledge and become a knowledge creation process. The new effective teacher must think more about process than content, enabling learners to operate in the digital world rather than learn a discrete body of facts. The paper will present the teaching and learning possibilities accompanying the social, participatory and collaborative tools that have emerged in the Web 2.0 era. For beginning teachers, competence in e-learning and the capacity to employ these tools to support lifelong professional learning. As technologies continue to change, there is a now a stronger emphasis on teacher learning and that is proactive, experiential and mediated by digital tools. The processes that are involved in teacher professional development are discussed, and linked to the enabling affordances of digital technologies. The complexity of teachers learning and teachers' knowledge is acknowledged and theorised, and evidence is presented that digital tools and their affordances can enable and support teacher learning in a number of productive ways.

INTRODUCTION: TEACHER KNOWLEDGE AND LEARNING

With the growth and expansion of the Internet and social computing, digital tools are widely used to mediate social interactions and communication. Social networking sites such as MySpace and Facebook are part of a larger suite of social computing tools that collectively fall under the label of Web 2.0. Extensive research indicates that these technologies are widely embraced and that the majority of students now carry a mobile phone, PDA and laptop. These technologies break down barriers at a number of levels, such as private and public space, learning space and social space. Along with the ubiquitous uptake of social networking tools, there has been an increased focus on the importance of students learning social media skills and digital literacies (Siemens, 2007).

In this ever changing context, mediated by digital tools, the expectation so that teachers become experts in the use and application of ICT tools. As described by ISTE (2009) teachers are now expected to ensure that they can support digital age learning by developing fluency in the use and application of digital tools and social media in the classroom. The aim of this paper is to identify the aspects and processes of the professional learning of teachers, and what part digital tools may have in the learning of teachers. The paper argues that there is enormous value in exploring the potential of web 2.0 tools for profession learning. While several models of teacher professional development have been applied to identify teachers' needs, digital age

thinking and networking have changed expectations of what it is to teach and learn in 21st century classrooms. There is currently little research that investigates how teachers learn with social media and digital tools. To address this gap, the paper considers pedagogical change and presents a number of theories of learning linked to digital age technologies and greater global connectivity. Next, the paper investigates what is known about teachers learning, and compares a number of theoretical models that provide insight into the nature of teacher knowledge and learning. Following this review, the core components of these models will be distilled and linked with the proposal that digital tools and their affordances can enable and support teacher learning in a number of productive ways.

Pedagogical change and professional development in the information age

Behind Web 2.0 is a vision that involves using the internet in more creative, social and participatory ways than was previously the case. Web 2.0 can exploit the internet's educational potential for social learning and teaching, as well as informal learning, and brings in an increased emphasis on autonomy, interactivity, creativity and collaboration (Alexander, 2006). One of the ways in which Web 2.0 is making an impact is through the creation of internet-based communities of teachers, through services such as blogs and wikis. While this might be considered an indirect mode of influence on learning, it is probably a significant one. Dissemination websites aimed at practitioners can create a community of discourse for teachers who have a shared interest in the practices and the adoption of innovative pedagogies. To assist teachers in their own professional learning, many websites are beginning to support the exchange of shareable learning objects (see for example TeacherTube). This is consistent with a trend for teachers to seek professional development activities online, achieve efficiency and effectiveness, through access to shared ideas and lessons plans. The theme of this paper is to conceptualise how teacher professional learning might be supported and enhanced through the affordances of web 2.0 technologies. By applying social-cultural and connectivist learning theories, and by examining innovative views of learning that are gaining currency it is possible to reconceptualise teacher professional learning, as social, experiential, reflective, participatory and constructive, and capable of being supported through distributed networks and mediating artefacts.

Emerging terms, theories and pedagogies

There are distinct calls for a rethinking of pedagogy to meet the demands of an era in which ubiquitous computing and social connectivity mediated by ICT are reshaping academia. This is evidenced in the emergence of a myriad of buzzwords and terms accompanying ongoing debates on issues depicting changing priorities in pedagogy. For instance, Ashton and Newman (2006, p. 828) note that we have *pedagogy* (teaching of children) *andragogy* (teaching adults), *ergonogy* (teaching people to work). However, none of these terms captures the imperative of innovative knowledge sharing and creation required in the 21st century. Nevertheless, a number of concepts now in use signal the change from traditional pedagogies to forms of teaching and learning engagement where learners having greater levels of agency, social connectedness and autonomy. For example, some theorists consider *heutagogy,* in which learning is completely determined and directed by the learner, to be the next stage in the evolution of andragogy (Hase & Kenyon, 2000; Aston & Newman, 2006). Heutagogical approaches place the ultimate responsibility for learning on the learner and are aligned with the expectation that individuals must attain learning-to-learn and self-direction in order to succeed in the knowledge society. They are based on the premise that an individual learns continuously through interaction with his/her environment and throughout his/her lifespan, often in the face of ambiguity and need. These conceptualisations challenge us to maximise the potential for teacher learning by employing the right blend of metaphors, frameworks and paradigms that capitalise on contemporary social networking tools and ICTs that people use in their everyday lives. Table 1 summarises a number of theories and paradigms of learning that have emerged in recent education and teacher development literature.

Table 1: New and emerging learning theories

Author/date	Theory	Principles	Scope for teacher learning
Lave and Wenger (1991); Wenger (1998)	Communities of practice	Members of a community of practice are practitioners who develop a shared repertoire of resources: experiences, stories, tools, ways of addressing recurring problems—in short a shared knowledge base	Engagement in "legitimate peripheral participation" so that through participation, building of social and intellectual capital of the community is enabled
Hase and Kenyon (2000)	Heutagogy	Goes beyond andragogy by advocating self-directed learning, capability and pro-active participation	Focus on knowledge sharing and creation of new knowledge from existing experience
Tangney, FitzGibbon, Savage, Mehan and Holmes (2001)	Communal constructivism	Teachers actively create their own knowledge, but are also active in the creation of knowledge for a wider learning community	Create tasks to engage learners in knowledge creation
Laurillard (2002)	Conversation theory	Teacher learning occurs through conversations about a subject matter which serves to make knowledge explicit and to promote reflection	Teacher learning is enabled by conversation, reflective and reciprocal dialogue.
Siemens (2005)	Connectivism	A theory that combines and integrates principles explored by chaos, complexity theory and networking. Making and sustaining connections is more important than simply knowing	The learning process is characterised by connecting information sets and by making the connections between events and ideas on a global scale
Brown (2005, 2006)	Navigationism	Teachers should be able to find, identify, manipulate and evaluate information and knowledge and be able to share in the knowledge production process.	Navigationism is a broader and more inclusive term than constructivism but includes knowledge creation. Teachers develop skills in navigating digital landscapes

Each of these theories hold some promise and scope for consideration when thinking about the development needs of teachers. The pedagogies depicted in Table 1 signal the change from traditional pedagogies to forms of teaching and learning engagement where learners having greater levels of agency, social connectedness and autonomy. For example, some theorists consider *heutagogy,* in which learning is completely determined and directed by the learner, to be the next stage in the evolution of andragogy (Hase & Kenyon, 2000; Aston & Newman, 2006). Heutagogical approaches place the ultimate responsibility for learning on the learner and are aligned with the expectation that individuals must attain learning-to-learn and self-direction in order to succeed in the knowledge society. Similarly, conversation theory and constructivism indicate that learners learn continuously through interaction with their environment and throughout the lifespan. A theory that has emerged to describe the social, interconnected and community-based characteristics of learning in contemporary times is connectivism. Connectivism strives to overcome the limitations of behaviourism, cognitivism and constructivism, by synthesising the salient features and elements of several educational, social and technological theories and concepts to create a new and dynamic theoretical construct for learning in the digital age. These conceptualisations of pedagogy and learning challenge us to maximise the potential for learning by employing the right blend of metaphors, frameworks and paradigms that capitalise on contemporary social networking tools and ICTs that teachers can use in their everyday lives for understanding creation and reflection.

MODELS OF TEACHER KNOWLEDGE AND LEARNING PROCESSES

Teacher knowledge is best seen as dynamic, and hence inseparable from the processes of learning. Teacher learning in turn is an active, experiential process, through which knowledge is enacted, constructed and revised. This does not however mean that teacher knowledge is only to be developed through experience and reflection. Hargreaves et al (2003, pages 197) commented that teachers are agents of change and that

"teachers are having to learnt o teach in ways that they have not been taught". Furthermore, lifelong learning for teachers as been recognised as essential according to Nonaka (1991).

> Personal knowledge is comprised of a network, which feeds into organisations and institutions, which in turn feed back into the network and then continue to provide learning to individual. This cycle of knowledge development (personal to network to organisation allows learners to remain current in their field through the connections they have formed.

Shulman's (1887) model of pedagogical reasoning was originally developed as a foundation for teaching reform. The model comprises actions that a teacher undergoes during the teaching process including comprehension of subject concepts, transformation of subject knowledge into teaching and instruction, evaluation of learning, reflection and new understanding of the learning process, self and the teaching process. The most original and significant part of Shulman's classification of teacher knowledge is the category of pedagogical content knowledge (PCK), indicating that teachers do possess a specialised knowledge base. As teaching continues to evolve, several researchers have revisited Shulman's model with a view to exploring how its relevance in the age of Web 2.0. Starkey (2010) has modified Shulman's (1987) model in order to reflect the evolution of learning theory since that time. The original model is grounded in constructivism, while the revised model includes connectivist approaches that assume that teachers create knowledge through connections in an open, digitally connected world where they operate in many overlapping communities. Teacher knowledge is complex and multi-faceted, and the nature of teachers' professional learning needs to be made more explicit. More recently, research attention has been given to expanding traditional notions of behaviourism and cognitivism, and to considering the nature of social interaction between people. Thus, the theories depicted in Table 1 draw together the ideas of distributed cognition (Brown, Collins & Duguid,1989), situated learning, and communities of practice, and are linked to a view of knowledge that suggests that cognitive functioning, rather than residing in individual minds is dispersed among people, objects, tools and technologies. In addition, this socio-cultural perspective leads us away from thinking about knowledge as a state of mind, to "knowing" as a social process.

How do teachers learn?
The phrase "professional knowledge" is used widely among teacher educators with the assumption that the definition and the processes of acquiring this knowledge are obvious. At the same time, published standards specify the performative criteria against which teachers are expected to demonstrate their teaching skills. The language used about teacher learning i.e. "training" and "development" suggest that the process itself is instrumental and unproblematic. Researchers have on the other hand, shown that the learning process is considerably more complex and that the global, digital age context is bring about massive changes in how teachers learn (Goodson, 2003). As concluded in the previous section on emerging pedagogies and theories, teacher knowledge is dynamic rather than fixed and constructed rather than transmitted.

Teacher learning is multifaceted, and includes component processes of experience, reflection and social construction, as teachers' work is cyclical and dynamic. Schön (1987) critiqued the ideas that education consisted in the transmission of data. Being able to reproduce codified knowledge was no guarantee of being able to apply it because so many problems existed in "indeterminate zones of practice - uncertainty, uniqueness and value conflict" (Schön, 1987, 8). He also emphasised that reflection on action was a significant means of learning from experience, and that the knowledge gained from reflective practice can be drawn up in future situations. Another aspect of how teachers learning through Vygotsky's (1978) "zone of proximal development" when for instance there is a process of mentoring and coaching of new skills. The context and environment for teacher learning is also important and is encapsulated in the idea of "situated learning" whereby the development of skills, knowledge and competencies may be supported by individuals, peers, objects and tools. Somekh maintains that professional knowledge building flourishes in environments that enable purposeful activity and distributed cognition (Somekh, 2001). In order to understand the role that digital technologies play in learning, we need to adopt a model that takes into account the elements of learning derived from a number of learning theorists. These elements would include purposeful activity, the social and interactive dimensions of cognition and the enabling role of digital technologies.

Models portraying the complexity of teacher learning
A number of models have been developed in an attempt to portray the complexity of teacher knowledge and learning, and all have overlapping features. These models are compared and summarised in Table 2.

All three models recognise that teacher learning is multifaceted and complex, and that development of teacher skills and knowledge is highly interactive, individualised social and interactive. All acknowledge that teacher learning and teacher knowledge are two sides of the same coin. Teacher learning involves active, experiential activities and through the processes of engagement and learning, knowledge is created, enacted, considered and revised. Pedagogical thinking is subject to many different influences and factors, and is a constant interplay between formal and informal learning, personal constructs and professional expectations, objective and subjective experiences. Therefore, the development of professional skills and competencies is very much an individual learning trajectory, and that it may be enabled by interplay of factors, including practical experience and participation in communities of practice. In the following section, the five competencies described by Shulman & Shulman (2004) as reflection, vision, community, capability, motivation, will be considered in the context of how digital tools can be used to mediate and to support teacher learning.

Table 2: Comparison of models of teacher learning

Theorist and model	View of the teacher	Type of knowledge
Banks, Leach & Moon (1999) [Four categories of teacher knowledge]	Teacher seen as knowledge professional Complex and individual	Subject knowledge School knowledge Pedagogic knowledge Personal constructs
Hoban (2002) [Professional learning System]	Teacher knowledge as constant construction	Transformative and generative
Shulman & Shulman (2004) [Ready, willing and able]	Having vision, reflection, motivation, community, practice, understanding	Ready (having vision) Willing (motivated) Able (knowing and begin able to do)

AFFORDANCES OF DIGITAL TOOLS AND SOCIAL MEDIA

Web 2.0 applications like blogs, wikis, online social networking sites, photo- and videosharing sites and virtual worlds have known an exponentially increasing development and popularity over the past few years. Web 2.0 is what we call the democratized Internet or the Internet for everybody, since anyone in the world can easily go online and create and share files. This empowerment of the masses and engagement in mass participation is the fact that all the Web 2.0 technologies make it almost effortless for individuals to contribute to the web based discussion and provides accessible support for social interaction and exchange of one form or another. Web 2.0 tools (blogs, wikis, podcasts, social bookmarking, mash-ups) have transformed the Internet into a place for networking, community building and sharing collective experience, some have been led to describe this new phenomenon of massively distributed collective intelligence as "the wisdom of crowds". Social media and Web 2.0 can be seen as tools which afford learners the potential to engage in meaningful activities for learning. Such activity may be autonomous or collective, and can encourage communication beyond text-based media with easy publication of user-generated artefacts. Stimulating enquiry, supporting collaboration, engaging with new literacies and generating multimodal artefacts are all novels ways of developing knowledge and comprehension. The use of Web2.0 tools can enhance users' abilities mad can enable activities and provide structure. Several views of the affordances of these tools prevail. For example McLoughlin & Lee (2007, p.3) note how blogging entails typing and editing, which are not affordances in themselves, but rather enablers of affordances which include idea sharing and interaction. They identify the following categories of 'affordances' associated with Web 2.0 or social software:

a. Connectivity and social rapport
b. Collaborative information discovery and sharing
c. Content creation
d. Knowledge and information aggregation and content modification.

They also make the crucial point that social software affordances do not, by themselves, guarantee that effective learning will occur. This requires 'careful planning and a thorough understanding of the dynamics of these affordances' (2007, p.4). Conole & Dyke suggest taxonomy of features as follows: speed of change, diversity, communication and collaboration, reflection, multimodality, immediacy, risk, uncertainty. Much of

the research investigates how teachers can be better prepared to use these activities in their teaching rather than exploiting these tools as part of their own learning. It is therefore useful to weave together particular types of Web 2.0 affordances with the opportunities for learning that they might offer, and to provide exemplars of tasks. A useful way viewing this is to present a number of purposeful activities with the affordances of Web 2.0 (Fisher, 2006). These activities are not discrete, but are rather overlapping and interwoven (See Table 3).

Table 3: Linking meaningful/purposeful activity with affordances of digital tools

Distributed Cognition	Accessing resources
	Discovering and inquiring
	Composing, creating and presenting multimodal texts with digital tools
Engagement	Playing and exploring uncertainty
	Taking risks
	Responding to immediacy
	Learning though multidimensional interactivity
Knowledge creation	Creating and adapting ideas in dynamic ways
	Modelling
	Representing ideas in multimodal forms
Community and communication	Sharing ideas and resources
	Engaging in reflective dialogue
	Participating in local and global communities

Burden (2010) gives some examples of how Web 2.0 tools such wikis and virtual worlds can be used to support teacher professional learning. Collaborative wiki learning environments can be used by teachers to write and share their perspectives on a particular pedagogical problem. The wiki space provides an alternative context for learning and reflection where the teacher is freed from the constraints of the staff rooms and classroom and is afforded the space to articulate and share ideas. In addition, participation in wiki is a self-generated form of professional learning and can bring the teacher into global networks for sharing ideas.

Teacher learning through experience and construction in virtual worlds and 3D VLEs is enabled by the provision of alternative learning spaces which provide participants with "the ability to explore, construct and manipulate virtual objects, structures and metaphorical representations of ideas" (Dalgarno &Lee, 2010, p. 11). These authors identify five specific affordances that 3D VLEs might generate for learners:

- spatial knowledge representation;
- experiential learning;
- engagement;
- contextual knowledge; and
- Collaborative learning.

Each of these affordances might generate a learning task that correlates with the aspects of professional learning identified by Shulman & Shulman (2004: Table 3). The potential of virtual worlds such as Second Life to host alternative learning experiences for teachers is gaining momentum as the learning process is highly experiential.

The next step is to demonstrate how these digital tools can be integrated into models of professional learning for teachers. While three different models of teacher professional learning was those of Hoban (2002), Banks Leach &Moon (1999) and Shulman & Shulman (2004). The latter describe teacher competencies as "ready, willing and able" and its aim is to assist in identifying and explaining teacher learning in a more explicit manner. As this model encapsulates the core ideas of both Hoban & Banks & Lee, it will be used to explore how digital tools can be used to enable and develop the attributes of vision, motivation, understanding, practice and reflection and community. This approach can also illustrate how experiences can be designed to support teacher reflection and professional learning in the information age. Given the affordances of digital technologies how might we best apply web 2.0 tools and social media in developing professional knowledge? Similarly Burden (2010) asks the question "Which aspects and affordances of Web 2.0 technologies are capable and suitable for mediating the elements of professional learning as depicted in Figure 1?
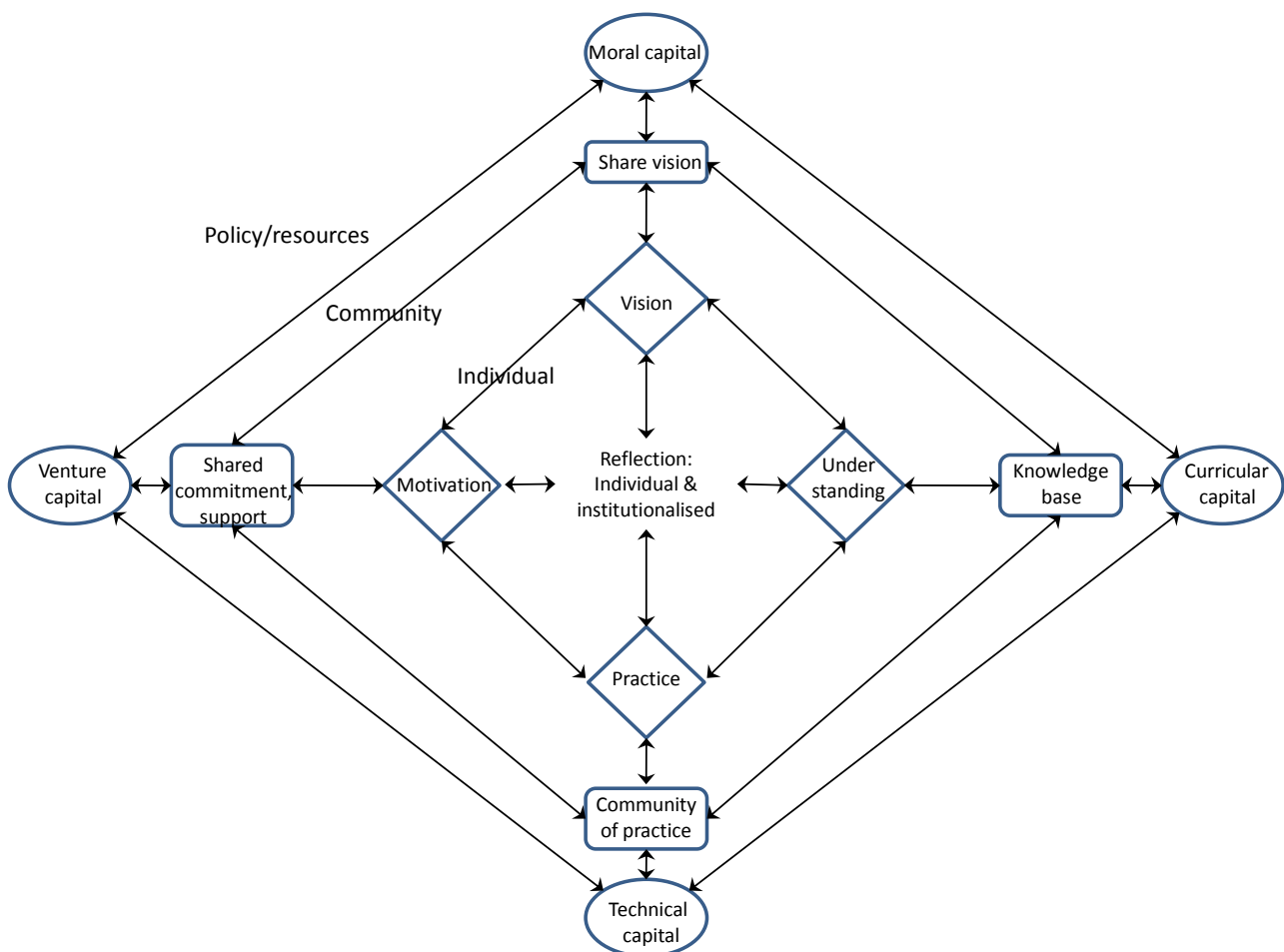
Figure 1: Model of teacher knowledge and learning (motivation, vision, practice, community, understanding and practice [adapted from Shulman & Shulman (2004) p 268

USING DIGITAL TOOLS TO SUPPORT TEACHER PROFESSIONAL KNOWLEDGE

According to Shulman & Shulman (2004) the accomplished teacher must have vision, a clear sense of classrooms as learning communities and motivation. In teacher education, vision means having a view on the purpose of education within society; views of learning and teaching; and positive proactive views on their own professional learning. The affordances of digital tools and social media have had a major impact on the social, economic and cultural aspects of society and education. Web 2.0 can support the five features of an accomplished teacher outlined by Shulman & Shulman (2004). Each feature is listed below and an example is provided of how social media can enable these characteristics:

Vision: Digital tools give teachers access to a global bank of ideas, views of learning and teaching and alternative strategies for teaching, learning and how schools operate in supporting learning and personal growth. Teacher vision is developed though informal learning and exploration of the multitude of websites offering professional development and teaching learning resources. Social networking sites allow individuals to connect, develop rapport, share interests, create community, and collaborate with peers. Many of these sites (for example, *Facebook* started off among small communities of college students in the USA, but have now spilled over into the professional worlds of work (e.g. *LinkedIn*).

Motivation: In the Shulman model motivation is defined as being willing to expend the energy and persistence to adopt teaching strategies that are aligned with their vision. Teacher capacity to engage with innovation and change is fundamental to the development of professional identity. There are many ways that digital tools can stimulate motivation to learning and grow as a teacher. For example, the web provides access to information and resources and allows participation in global e-communities of practitioners who share ideas and experiences. Through the affordances of distributed cognition, teachers can be motivated to expand their own frameworks for assessment and pedagogy.

Professional knowledge, understanding and practice: The openness of the web provides multiple representations of traditional disciplinary knowledge and can also mediate and amplify understanding when teachers engage with tools such as webquests, wikis, PDA's and mobile devices. These tools playa part on teacher representation of pedagogic content knowledge, and its implications for practice. McCormick & Scrimshaw for example, argue that teaching practice may change with digital tools in a number of ways i.e. by improving the efficiency of teaching, by extending the reach of teaching and learning and by transforming views of the subject itself.
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Reflection: Critical reflection is regarded as a core component of teacher professional learning and Schon (1983) emphasises the need for teachers to learn from their own practices and from the experiences of colleagues and mentors. Reflective practice can be supportive by a range of digital tools and social media. Digital video and podcasts for example, can enable teachers to capture, observe and review episodes of teaching and to use them as levers for reflection, critical commentary and analysis.

Learning in a community: Digital tools can play a role in gaining access to communities at local and global levels, where they can express shared visions, and review emerging practices. By providing social online spaces for professional communities to communicate and share ideas, digital tools enable teachers to sustain a community orientation to their professional learning. Tools such as shared databases, online conferencing and discussion forums are ideals spaces for knowledge creation and connectivity.

CONCLUSION

This paper has outlined the various processes that underpin teacher learning within a broadly situative perspective based on socio-cultural views and theories of learning. Key features or affordances of Web 2.0 technologies are identified as being particularly valuable and harmonious with teacher learning, even though most of these applications were not designed originally for teacher education or even education in the wider sense: Innovative practices supported by social media provide an opportunity for teacher educators to look at wider implementation issues around technical infrastructure, but they must also address pedagogical challenges such as the integration of informal learning experiences, the limitations of existing physical and virtual learning environments and the personalisation of learning experiences. There may be a culture shock or skills crisis when "old world" educators are confronted with the expectation of working with participatory web 2.0 tools, and technologies with which they lack expertise and confidence. For these reasons, there is a need to make time for talking, awareness raising, and discussion of what pedagogic approaches and tools best support the key competencies identified by Shulman & Shulman (2004). The goal is to facilitate learning, to blend the formal and informal, to support knowledge building and distributed cognition and engagement. The affordances of web 2.0 tools and digital technologies can support the growth of a reflective learning community to enable critical dialogue and communication while nurturing creativity, independent inquiry and communication. This can be achieved by employing the tools, resources and opportunities that can leverage what teacher do naturally – socialise, network and collaborate.

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THEME 5
Challenges in Higher Education

81 - University Students and Teachers International Mobility - Is it Worth?

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Abstract: In our turbulent world there exist a number of exchange programs around the Globe. One of the most popular with the students in the Czech Republic is an exchange programme called Erasmus. The existence of ECTS (European Credit Transfer System) allows us to count the modules taken at the host university towards the student's total credit score at the home university. Another one is CEEPUS for some European countries. What has been the impact of teacher and student international mobility on educational practice and research? I think that nowadays it is one of the real challenges not only in Higher Education.

We are [witnesses of](#) changing roles of managerial work so as in education of future managers. There is more and more important initial and continuing learning not only in schools but in different enterprises as well. We are moving away from classical didactic classroom and various workshops to enquiry-based learning, E-learning and learning by doing.

In this article we can compare some numbers and graphs. The most valuable are experiences of several people who have taken the mobility chance. The extracts are based on my individual empiric research in the years 2009 - 2010. All participants are or have been students in the Czech Republic across various majors. I do hope that their own words best illustrate losses and benefits of this kind of mobility.

I am teacher in Faculty of Civil Engineering teaching future managers who are prepared mainly for Construction Companies. When I ask the question: "Who from my students has spent at least 1 month alone somewhere abroad?" I can see only a few hands up. What a pity! Today they have such a lot of possibilities. Yes, I know: Teaching and learning process in BUT has lots of obligations, which are comparable with any other Technical University at least in Europe.

I have several reasons to believe, that international mobility shall be another necessary challenge maybe the new obligation... I strongly believe that a university degree means not only gaining some knowledge and information but mainly an ability to be a strong and enthusiastic person. Or at least it shall represent some level of personal development.

After about 30 years of my university teaching I can say that a student who has spent at least one month abroad alone is usually quite recognizable. He or she had the possibility to feel and discover new emotions and learn what you cannot find in the textbooks. It is a personal way how to look at the world with new eyes.

Keywords: Learning by doing, sharing and gaining experiences in a foreign country, language and personal development, education

SOME FACTS ABOUT EXCHANGE STUDENTS IN EUROPE

We are [witnesses of](#) changing roles of managerial work so as in their education. There is more and more important initial and continuing learning not only in schools but in different enterprises as well. We are moving away from classical didactic classroom and various workshops to enquiry-based learning, E-learning and learning by doing.

In our turbulent world there exist a number of exchange programs around the Globe. One of the most popular with the students in the Czech Republic is an exchange programme called Erasmus. The existence of ECTS (European Credit Transfer System) allows us to count the modules taken at the host university towards the student's total credit score at the home university.

Erasmus

"The ERASMUS programme is targeted at higher education institutions and their students, teachers and other staff and also at enterprises and other representatives of working life. The ERASMUS programme encourages students and staff mobility throughout Europe and promotes multilateral cooperation between higher education institutions in Europe and between higher education institutions and enterprises." [1]

The Erasmus programme is offered to the students since 2007 (before it was Socrates/Erasmus programme from 2000 to 2006). In the Czech Republic there are the programmes coordinated by NAEP (National Agency for European educational programmes).

Erasmus programme participants

The Erasmus programme is not offered only to students. The universities across Europe are keen to host research assistants and tutors as well. In the table below we will show the number of participants of the Erasmus programme coming in or going out of the Czech Republic.

Table 1: Total number of students and staff mobility in Europe in 2008/2009 ([2], [3])

	Total number of students (studies and placements)	Percentage of Europe's total student mobility	Total number of staff (teaching assignments and staff training)	Percentage of Europe's total staff mobility
Czech Republic	6 045 students	3,0%	2 580 staff	7,1%
Germany	27 894 students	14,0%	3 134 staff	8,6%
Spain	27 405 students	13,8%	3 695 staff	10,2%
Hungary	5 945 students	3,0%	1 147 staff	3,2%
Belgium	4 057 students	2,0%	1 224 staff	3,4%

The previous table shows us the mobility in the past year (the data from 2009/2010 are unfortunately not yet publicly accessible). The below shown graphs are indicating the trend of mobility within Erasmus and Socrates/Erasmus between the years 1998/1999 and 2007/2008.

Graph 1: Erasmus student mobility trend in the past 10 years [4]
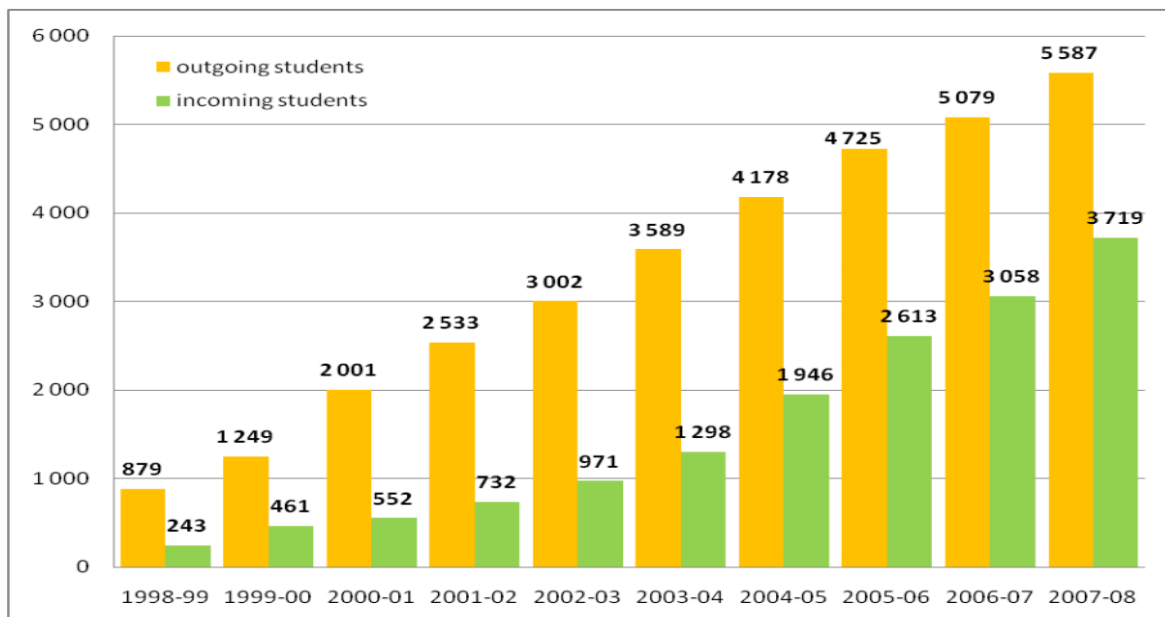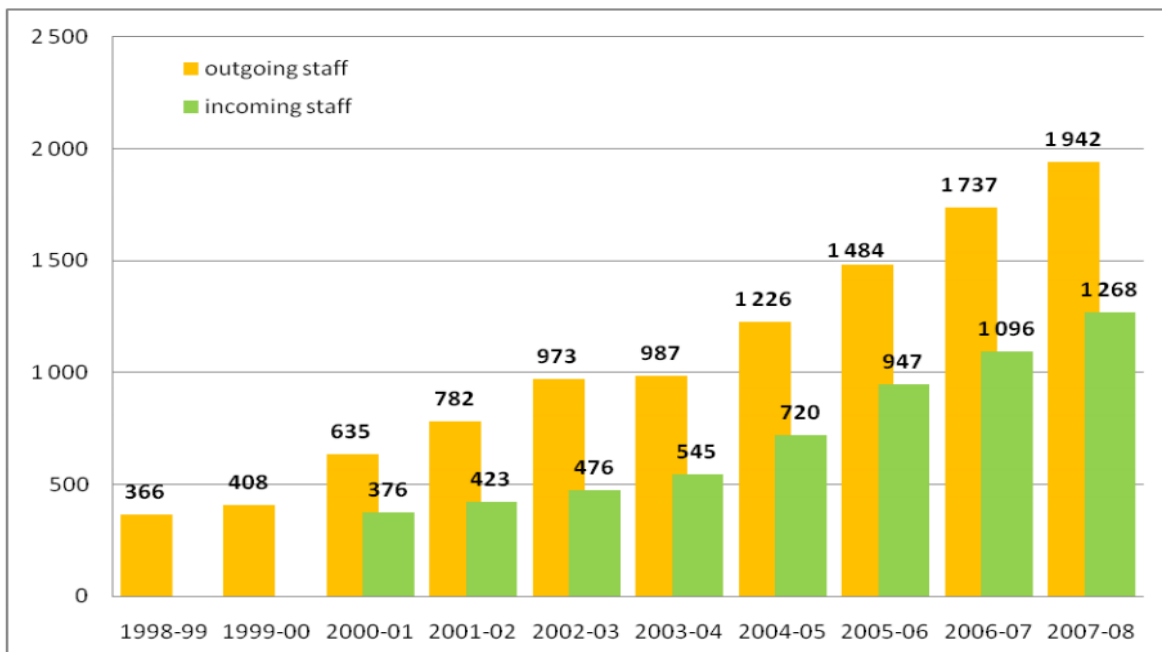
Graph 2: Erasmus staff mobility trend in the past 10 years [4]

As it can be seen on both of the graphs, the interest for the exchange is rising each year. However, it is not easy for a student or a staff member to actually participate on the exchange programme and there are many difficulties. Some of them are mentioned in chapter 3 with the specific students and teachers experiences.

How Czech universities mobility stands within Europe?
In the table bellow, from the European institutions that are sending out or accepting students, top 5 and some Czech are listed in the order of the number of exchange students either way.

Table 2: Top institutions for incoming / outgoing students in Europe ([5], [6])

#	Institution hosting students		#	Institution sending students	
1	U. de Granada; ES	1 858	1	U. Complutense de Madrid; ES	1 473
2	U. de Valencia (EG) Uveg; ES	1 667	2	U. de Granada; ES	1 408
3	U. Complutense de Madrid; ES	1 626	3	U. di Bologna; IT	1 365
4	U. Politecnica de Valencia; ES	1 547	4	U. Warszawski; PL	1 097
5	U. di Bologna; IT	1 526	5	U. Degli Studi di Roma; IT	1 090
12	UK v Praze; CZ	968	6	UK v Praze; CZ	1 088
101	CVUT v Praze; CZ	354	20	MU v Brně; CZ	699
129	MU v Brně; CZ	310	73	UP Olomouc; CZ	402
164	**VUT v Brně; CZ**	257	103	**VUT v Brně; CZ**	332

WHY GO ABROAD?

I strongly believe that a university degree means not only gaining some knowledge and information but mainly an ability to be a strong and enthusiastic person. Or at least some level of personal growth (development). I have been a university teacher for nearly 30 years. A student who has spent at least one month abroad alone is usually quite recognizable. It is a personal way how to look at the world with new eyes. It is the possibility to feel and discover new emotions and learn what you cannot find in the textbooks. For example "By respecting our differences we learn how to appreciate ourselves as well as honour other people. Because we see things differently both of us can be right." [7] By my own experience, mobility is one of the most effective methods to get much more than only study experience.

THE CULTURAL SHOCK AND ACCULTURATION

Meeting of different cultures bares with it the problem of a "cultural shock". The most common environment for those are either working or studying long term exchanges in between countries. It is important to realize, that the worker or the student himself is not the only participant in this exchange, but often his family members or children, if travelling with him.

A temporary residence abroad and a different culture environment is a stressful situation for a lot of people. Cultural shock may be a cause of psychosomatic problems (fatigue, headache, increased necessity of sleep...), depressions, fear, squeamishness, aggression and defiance. Some people are coping more successfully than others. The intensity can vary in every household, the magnitude of the differences and the length of the stay. Some of the less flexible and adaptable individuals may not even adapt at all and they simply refuse the foreign culture. However most of the people will go through the culture merging process, which is also known as "acculturation". The stages of the culture shock can be the following:

- pre-stage – the time before departure
- "honeymoon" – take place just after arrival, in the first moment, the reactions are positive and the individual is full of expectations
- culture shock – the negative perceive of the changes and possible symptoms
- progressive adaptation to the foreign culture environment
- full adaptation – the stage of acculturation
- the return shock

The issues and themes of intercultural education, intercultural management, international diplomacy, cultural shock etc. is the topic of "intercultural psychology" discipline.

SOME EXPERIENCES OF THE PEOPLE, WHO HAVE TAKEN THE CHANCE

In this chapter I want to share experiences of several people. The extracts are based on my individual empiric research in the years 2009 - 2010. All participants are or have been students in the Czech Republic across various majors. I do hope that their own words best illustrate losses and benefits of this kind of mobility.

BSc. et MA. Luděk Knittl – University Teacher

"It is difficult to imagine NOT having foreign exchanges for students and teachers alike... I can see many positives in spending time on a foreign exchange for anyone. For my students, this is often the first time when they can experience a foreign country from the point of view of a "local" rather than a tourist. Setting the issue of the language they are going to improve completely aside, there is a variety of challenges facing anyone who has being plunged into a different cultural and social environment. From trying to find one's way to accommodation and working out how the timetable works, to negotiating with teachers, administration staff or even a bus driver. Before our students go on their "year abroad" their focus is usually primarily on the language, however, they very soon find out that they are learning much more. Extending this... They do things differently. Well, this is exactly what our focus should shift to: doing things differently. There are certainly things we observe at other universities abroad that will not work for us back at our workplace but there just might be something that could potentially improve our work and, in turn, the student experience. And even if we come to a conclusion that there is nothing new or inspiring that we can implement (and I doubt that this would ever be the case), at least we can confidently say we have learned this first-hand.

I would encourage everyone to give a foreign exchange a go. Having experienced life and work in a foreign country's university, I personally feel that my horizons are much broader than ever before. As for my students, when they come back from their stay abroad, they are aware of a number of new skills they have learned and that they then bring into their further study but also into their future careers."

MgA. Michaela Plachká – AMU graduate, maternity leave

"(...) These experiences had a lot of benefits for me. From the professional point of view: I compared my own creative work with foreign authors and I saw it in a wider context. As well I have used the archives and music libraries which are bigger than in the Czech Republic. I visited a lot of concerts with composition unknown in Czech Republic and I was inspired by the enthusiasm for contemporary music. As to the language skills, it was an important benefit especially in the sense of direct communication and understanding. From the social side: learning of different mentality; new professional and personal contacts which I see as a big enrichment and investment for the future; contact with non-post-communistic society and faster friendly relations without barriers.

Apart from those above, my interest for the country increased and I gained a deeper understanding of its culture. And last – my personal growth: mental refreshment and improvement of my memory; improvement in self-reliance; training in proactivity; revaluation of my opinions, way of thinking in different fields of life; revaluation of my own possibilities, aims and goals; betterment of searching information; I came to realize the responsibility for my life; Inspiration."

Mgr. et Mgr. Karel Ouroda, Ph.D. – University Teacher

"Thanks to all the proclamation I have anticipated, that it will be easy... The only thing missing – the agreement between the universities... I have arranged all the necessities with the relevant people, I wrote the agreement, got it translated into English and both copies checked by the legal department. As to the formal side – everything was OK. It has been sent to the foreign university – but nothing has happened. How can you leave some ten thousand km away, if you are responsible for an EU grant worth 7 million CZK, a number of unfinished theses and all the other work that needs to be supervised in person thanks to the student mentality? (...)The biggest problem was to obtain the permit from the old employer for the new one and on top of that – I was responsible for all the substitute tutors for the time being.

A few weeks of medical examinations followed. Fortunately, everything went smoothly, but none of the doctors has given me the appropriate documentation or certification. Abroad, no private doctors are accepted, everything must be from a state hospital with the result confirmed. So after the arrival – the whole jazz again – multiple screening, blood samples, etc. And what have I learned? "Never give up. No matter what!"; "It is necessary to work on your own personal development, don't always sacrifice for others."; "The only thing you have is the one you have done yourself."

Recently, I have cooperated with local professionals and nowadays a book is being prepared. I am publishing articles, visiting sights, meeting new people – for the past few years – I didn't time for that back in Brno. On top of that I got to know, (...) who is a friend and who was only pretending to be... and the price paid: One yearly salary at the university – but that's not the issue. The ten-year preparation and facing the nearly-lost hope... As one wise man has said, "Three years of hard work – ten thousand years of happiness". I am looking forward to my return and I hope that no one else will have to improve his qualification facing the obstacles I have had. And above all I will succeed in developing cooperation in my field of study, that didn't exist before"

Bc. et MSc. Klára Marečková – Ph.D. student

Studying abroad is like a long experiential learning course. It's a decision to explore the jungle of life and let it become your big adventure. Being open and having courage will enable you to cross boundaries between countries as well as the boundaries in your mind: Turn a page, follow your bliss and doors will open for you that you never knew were there before.

My own study abroad started with one big loss: The loss of my horse, followed by the loss of my boyfriend and dreams. I felt terrible - angry, grumpy, and lonely. I needed to turn a page and go somewhere far. Oh, that's it - somewhere far! Travelling - wasn't that what I always wanted to do? Something I've never done though because of all our trainings? Let's study abroad! Now!

The earliest deadline for a study abroad was coming just in three days. It was an International Student Exchange Program (ISEP), a network of 300 colleges and universities from 42 countries around the world, advertised through the Centre of International Studies at Masaryk University. I wanted to improve my English and therefore the US became the country of my choice. I've spent my weekend searching through the websites of US universities till I chose and ranked 10 of them. The last step was to get a bunch of signatures on Monday morning and submit my application before 5 p.m. All went smoothly and couple of weeks later I've received a message that my classes at East Tennessee State University start on 23rd August.

My first flight ever and there I was, in the sunny and beautiful region of Great Smoky Mountains. There were plenty of parties and trips organized by the university at the beginning of the semester and everybody was very friendly and helpful .The year of my life has started. It was only a few weeks after the semester start when I got a part-time job at the Office of Career and Internship Services. Other international students became my family and several unique friendships with Americans made my time an unforgettable experience. I took overload of classes and used every opportunity to travel. My motto was: "I'm international, I want to see everything!"

Going abroad taught me to detach myself from the sense of ownership and to realize I'm a guest. I've started to explore this generosity and felt happiness – from the nature, new friends, and the little things of life. I felt a privilege to be there and that's why I was trying to do my best. I've learned to live my life and realized what does mean to love my home country, family and friends. I felt like a year abroad gave me so much that I've decided to study abroad even the following year. I did a master program at the University of Nottingham, UK. I'm doing my PhD in Toronto, Canada now and I'm still in the flow.

This is my story. Yours is completely different. But the point is: Got an idea? Does it seem crazy? Do it!

Ing. Helena Foltýnková – PR Account Manager

Having the chance to study abroad has been the only "real life experience lesson" that I had during my 5 years of University studies. And I bet it would be the only one I will remember and profit from even years after...

I have attended a study semester in Austria during my fourth year of University. It has been the last chance that I had before I graduate and I took the chance even though I think it could have been even better benefit if I travelled abroad sooner. Many of my colleagues at the University didn't have the courage to go and they regret it all ready. But was it really such a hard decision to make?

Studying abroad is of course a challenge. But as soon as you make the decision to go the worst is over. It is the biggest "but" on the way and as soon as you have this solved out, everything else should be much easier. There are many positive reasons to go - your CV begins to be more attractive for employers, you try to live by yourself in a different environment, you improve your language and your networking. Once, one of my very senior colleagues at DHL said: "life is all about networking". She was right.

I know that everyone who takes the chance is all ready a winner. There will be obstructions on the way but you will always remember the positive. And what's worse - there might not be any other chance later. You will have your careers, your families, your loans and your responsibilities. Benefit from what is now being offered to you and take the chance! It is your investment in the future...

Bc. et Mgr. Darina Čejková – PhD. student

"As everything, living beyond the comfort of your homeland has its own pros and cons. When I arrived to the US I was full of fear, especially about my language skills. In the first four months I hardly recognized the words I had learned at school. Communication, especially through the phone was terrible. (...) The Americans never correct you, they are very professional in the business and service fields and try to understand and serve you. What about our behaviour to foreigners? I also never heard from Czech folks that science is useful, many Czech people think it's just wasting of money. (...) Many things are solved only through email, especially at work. After work the Americans spend their spare time among themselves, it's very difficult to improve English very fast.

The start of a "new" life brought mind cleaning to me. I had to think about my stuff, my life and all the troubles from home, work, school etc. were so far. Finally, I had time only for myself. I think when not disturbed or surrounded by friends, family, I had to face up to all my good as well not as good qualities. I do believe I have been learning to improve on the bad ones, because there is nobody else to hide them. Thanks to luck (God?) I stay so far away, that there is no easy way to hop on a plane or a train and get back to the home stereotype and safety. The decision of a year-long stay means a real decision, including the price of air-tickets and a 12-month rent."

Ing. Ondřej Malovaný – BUT graduate

"Student mobility as another professional working experience abroad can enrich you in many aspects: One of the aspects of studying abroad is to gain knowledge of foreign language. When you study abroad you use foreign language in every day communication among your schoolmates, friends and you use it in the most natural way.

The majority of the biggest construction companies in the Czech Republic are likely subsidiaries of foreign companies nowadays. At certain level of management the foreign language is often used. In the near future the cooperation might be more intensive. It is possible that you will have to work with project documentation, do financial reports or deal with corporate regulations in a foreign language.

(...) It is important to experience cultural differences. Every country has a different culture, which is related to the way of living (historical and geographical conditions), communication, economical effectiveness and development. (...)You can experience different systems and attitudes both in education or work, evaluate them and gain the best of it. You might change some points of view on our country after living abroad."

Bc. Jana Nováková

To succeed in today's world, it is essential to be adaptable and to differentiate you from the others. International experience is definitely one of the ways, how to achieve both. Therefore I have been Au-pair several times and considered the Erasmus program a must. I was looking for a new, non-English challenge and I stated to learn French. I remember all the worries I had. Studying in a foreign language, all the paperwork which needed to be done… But I knew that when working hard, I will make it.

But in the end, the Erasmus program was like a vacation, compared to the experience that followed. I always wanted to be more specialized, but in the Czech education system, I knew that I will finish five years later

with the same major. In France, the system is different. I decided to trade my Czech studies to French and obtained a diploma in international HR management.

Being a regular student abroad is something very different. In addition, in France, a 6-month traineeship in a company is mandatory in order to validate your studies. That year was the most difficult of all. No hobbies, limited contact with home, all the foreign environment – basically a lot of work and nothing much else. But it did pay off. Due to the traineeship experience, I really discovered myself, my strengths as well as my weaknesses. Since then I have found a new job with responsibilities in the field of Human Resources, and time to time I am also responsible for a trainee.

What all these international experiences have taken me? And what are the gains?

When I come home, the people, who have never been abroad, think "that it is easy, if you know the language". The contrary is true, even if you know the language very well, it is difficult indeed. You are a stranger. If you don't look for and don't try to make friends, nobody will go towards you. You will be alone. Even if you make friends, you can't replace the friendships at home. In some way, I lost my friends in the Czech Republic. I don't really loose them, but when I speak to them, I have no common issues to discuss. The problems they have are not really problems from my point of view. Today, I have no home country; I am a stranger in France, but also in the Czech Republic. But on the other side….

I have learned two foreign languages on a professional level and discovered how the culture is influencing the work environment. I am more open-minded, I adapt easily to new situations and I communicate much more to prevent possible misunderstandings. Abroad, you're basically starting a new life which gives you an opportunity to do things what you'd have never done before. Today, when solving problems, I look at the problem from different perspective. These international experiences gave me an opportunity to learn things that I simply can't learn at home. I became a different person, independent, self-confident and more assertive, for instance. I'd have never found a job with responsibilities at my age, if I would not go to England couple years ago.

There was a life "before" and "after" an international assignment. It is really difficult to express by words what I feel; only people who lived abroad can really understand...

CONCLUSION

I agree with Luděk who said: "I would

 encourage everyone to give a foreign exchange a go. Having experienced life and work in a foreign country's university, I personally feel that my horizons are much broader than ever before. As for my students, when they come back from their stay abroad, they are aware of a number of new skills they have learned and that they then bring into their further study but also into their future careers." Helena added: "I hope that everyone who takes the chance is already a winner. There will be obstructions on the way but you will always remember the positive. And what's worse - there might not be any other chance later. You will have your careers, your families, your loans and your responsibilities. Benefit from what is now being offered to you and take the chance! It is your investment in the future..."

I am very grateful for having my own experiences abroad. I do hope that one day mobility will be a compulsory part of the university study. I think that we can pump all the goodness from this source because we have to support the professional development and various competences to our future managers, practitioners so as their teachers, mentors and trainers.

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107 - Educational Policies in Brazil and Portugal: *The Local Government*

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Abstract: The overall objective of this study[128] is to establish a possible comparison between authors from Portugal and Brazil, regarding the policies of transferring responsibilities from the State to the local (municipal) level. The specific objective of this paper is, following a theoretical analysis, to enter the data already collected on municipal institutions of higher education (IMES) in the State of São Paulo, showing that they are spread throughout the interior of the state in midsize cities (education at the local level). The expansion of higher education necessarily involves municipal (communal) teaching, at least in countries with a large territory like Brazil. These institutions have the advantage of being linked to issues of research and teaching needs in the region where they operate.

Keywords: autarchy, higher education, communal

INTRODUCTION

Education and urbanization are words which are historically and essentially linked, because formal education, as it is known today, has always taken place in the cities. Since ancient times, it was major cities like Athens that gave rise to prominent research centers. In this context, some cities stood out as centers of production of knowledge, as was the case of Alexandria. In the Middle Ages, the history of European education was characterized by the first universities, which came into being in cities such as Bologna, Heidelberg (1386) and Paris. In the nineteenth century, the German university emerges as a model to be followed by the Americas: bringing together teaching and research in one and the same institution to produce and disseminate knowledge. In comparison to Europe and the Americas, Brazilian university emerged much later.

In Brazil, the first higher education courses were only created in the nineteenth century and until 1930 they did not include universities. The first Brazilian university to be effectively institutionalized was the University of São Paulo, founded on January 25, 1934, integrating existing autonomous colleges in the city.

Only in the 1950s were the first municipal higher education initiatives recorded. "Overcoming this condition and catching up with a historical backlog in higher education is a constant challenge for the Brazilian State, because education is the basis of the continuing process of economic development and social justice that the country is seeking." (Lucchesi, 2010b, p. 2)

The expansion of Brazilian higher education is articulated by an effort towards modernization which began with the Kubitschek[129] Administration. It is against this background that the Municipal Institutions of Higher Education emerge. With the 1961 National Educational Bases and Guidelines Law (LDBN) and subsequent legislation, the IMES proliferated in various legal formats: autarchies, public foundations and private foundations. For their maintenance, they counted on public (municipal) resources and, in many cases, on the tuitions paid by students, which were only prohibited by the 1988 Constitution.

The overall objective of this study is to establish a possible comparison between authors from Portugal and Brazil, regarding the policies of transferring responsibilities from the State to the local (municipal) level.

The specific objective of this paper is, following a theoretical analysis, to enter the data already collected on municipal institutions of higher education (IMES)[130] in the State of São Paulo, showing that they are spread throughout the interior of the state in midsize cities (education at the local level).

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[128] This survey is part of a larger post-doctoral project on the IMES, which was carried out at the University of São Paulo Public Policies Research Center,2010. Thanks to the Fundação de Amparo à Pesquisa do Estado de São Paulo (Fapesp) for funding this project: nr. 2008/09712-5. Available at: www.fapesp.br. Retrieved: Feb. 2, 2011

[129] Jucelino Kubitschek was elected President of Brazil in 1955.

[130] In this paper, the IMES comprise all institutions created or transformed by municipal law, regardless of legal category, and supervised by the São Paulo State Board of Education.

The key questions discussed are: Can the theoretical approach of Brazilian and Portuguese authors demonstrate the relevance of *local government* in education? Currently, how important are municipal institutions of higher education to the *local government* and their move inland in the State of São Paulo, Brazil?

Linking national and local experience with the international theory that addresses this issue, as its theoretical framework, the survey took into account studies conducted by the following authors: Neto-Mendes (2004), Fernandes (2003), Souza (1999) on decentralization of education in Portugal;Di Pietro(2009), Lucchesi (2002, 2009, 2010) on an analysis of the Constitution of the Federative Republic of Brazil and Law 9394/96 - National Educational Bases and Guidelines Law -, in addition to a documentary analysis of Reports by São Paulo's State Councils of Education in order to describe regional and local authorities with regard to Municipal Higher Education.

Portugal's contribution, which in the opinion of Neto-Mendes (2004) "demands attention to the historical process of state building and its relationship with the 'peripheral powers' (the *local* and the *regional*) on the one hand, and, on the other, the current political, social and economic conditioning factors of global society governance", a contribution which will make for a better analysis of the local situation of municipal higher education in the State of São Paulo, Brazil.

MUNICIPALITIES AND AUTARCHIES: PORTUGAL'S AND BRAZIL'S PERSPECTIVES

Currently, from a European perspective, Portugal may be compared to Brazil regarding the policies of transfering responsibilities from the state to the local (municipal) level. Although much more sparsely populated than Brazil, "Portugal has, as it is known, the legal instruments which grant the local government an important and inequivocal status, simultaneously ensuring its political, administrative and financial autonomy: the Constitution, the Local Finance Law, and the European Charter of Local Autonomy created by the Council of Europe, signed by Portugal among other countries in 1985 and ratified in 1990. " (Martins, 2001, *apud*, Neto-Mendes, 2004). And it is still Neto-Mendes (2004) who addresses the role of local autarchies in public administration.

Fernandes (2000) relates the intervention of municipalities in education with the role assigned to them and also to schools in designing a democratic state, which the author considers specific and not the only possibility. In his opinion "within a certain conception of democratic state" there is a place granted to schools and to the municipality "in all state institutions and in that case, municipal intervention in education would be appropriate." (Fernandes, 2000, p. 33).

For Silva (2006, p. 48), autarchy comes from the Greek etymon meaning "self-government, self-direction." Legally, in Santi Romano's classic definition, it consists in the "ability a public body has, regarding the State, to manage its own interests by itself " (Moreira, 1997, p. 67 *apud* Silva, 2006, p. 48). Local autarchies are public bodies that enjoy that autonomy under present law.

Many of the IMES in the state of São Paulo, Brazil, are municipal autarchies. Although the two concepts are not exactly equivalent, since the two countries are distinct national states, they are similar in some respects, especially with regard to state education. Neto-Mendes quotes Martin (2001, p. 18), who states that currently the concept of democracy is linked to the idea of decentralization of power and it is in this context that the importance of the local autarchy emerges. The author claims that the decentralization of power (and hence of education) is part of a very broad discussion about the redistribution of power in the modern State. In Portugal this decentralization must follow the Constitution of the Republic, being also regulated by the Local Finance Law, which specifies a framework of duties and responsibilities. Neto-Mendes notes that the balance of forces between local power and central power is not static, rather it sets a dynamic and, of course, political process.

Portugal is also a signatory of the European Charter of Local Self-Government, established by the European Council, signed by Portugal in 1985 and ratified in 1990.

In Brazil, due to its vast territory, the development of local government has a long history, also because it was quite difficult for orders issued by the central government to reach certain remote corners of the country. In the late twentieth century, when the development of communications had already contributed to solve this problem, the 1988 Constitution of the Federative Republic of Brazil, by political choice, reassured the importance of the municipality as locus of power. It should be noted that since the Republic was proclaimed in 1889, Brazil has adopted a federative system in which each state enjoys a certain amount of autonomy and specific laws, as well as a State Constitution, a governor elected directly by universal suffrage and a State Legislature with members representing each region of the state.

According to the doctrine established under Brazilian law, autarchies are legal forms of indirect rule and, therefore, linked and submitted to the government, but they enjoy certain autonomy. They can be federal, state or municipal.

The Constitution (1988) provides in art. 37, XIX: "only by means of a specific law shall an autarchy be created and shall a public company, a mixed capital company, and a foundation have their creation authorized, it being necessary, in the latter case, for a complementary law to define the scope of action" (Brazil, 1988).

Autarchies are created by law, like many IMES in the state of São Paulo. They have their own legal status, capacity for self-government and are specialized in their purposes and activities, while this activity – higher education –, in the case of the municipal institutions envisaged in this study, is subject to control or supervision of the State so as to prevent them from deviating from their goals.

In Brazil, decentralization has a general regulation: The1996 National Educational Bases and Guidelines Law, in art. 8, provides that "the Union, States, Federal District and Municipalities shall collaboratively organize their educational systems," when it establishes the responsibilities of the States and the relaxation of regional and local public policies.

Comparatively, the issue of decentralization in Portugal and Brazil presents some similar aspects but others are quite different. This is because formal education in Portugal enjoys a much older tradition than in Brazil. Tradition is a positive aspect when it highlights the importance of education in society, but it can also be an obstacle to change. In the case of Brazilian IMES, they arose and proliferated when Brazil needed higher education and this existed only in some state capitals. In the case of Portugal, Neto-Mendes (2004) states that the issue of decentralization of powers is not limited to the participation of municipalities in educational administration. In his view, regionalization, which is foreseen in Articles 255 to 262 of the Portuguese Constitution, is still in debate, and this, in practice, affects the distribution of power to municipalities. In any case, the legislation only partially explains the dynamics of local government, including what regards municipal participation in education.

Levy (1997, p.51) states:

> The role of *local government* varies in each period of time and circumstance, according to the actors who participate in setting the political scene and the functions performed by the State in which that *local government* (emphasis by author) is inserted.

In Portugal the municipality attends preschool and elementary education, and more recently, professional education, but it has been recognized as an educational agent since 1996. "The approval of the Basic Law for the Education System has imposed a new orientation when it achieved, as the system's organizational principles, the decentralization of the structures and of the educational activities, '*so as to provide a proper adaptation to the realities, a strong sense of participation by residents, an appropriate insertion in the community and efficient decision-making levels*' (article 3, paragraph g)" (Almeida, 2004, p. 6) and "*for the creation of pre-school education establishments (art. 5, Nr. 5), the development of educational activities in the realm of special education (art. 18, nr. 6), in vocational training with the development of protocols with autarchies (art. 19. nr. 6, paragraph b) and in non-school education (art. 23 nr. 5)*" (Almeida, 2004, p. 7).

According to Grilo (1996, p. 11 *apud* Silva, 2006, p. 70) a new phase of municipal intervention in education began with the *Educational Pact for the Future*, which features among its nine objectives the goal to "modernize, regionalize and decentralize the administration of the education system" (Grilo, 1996, p. 11). The first of the ten commitments for action under the Pact is: "*to decentralize educational policies and transfer responsibilities to local authorities*." To accomplish this decentralization proposals have been made for "*a territorial rearrangement of levels of government intervention in the management of the school network*", and the "*transfer of powers and responsibilities to local authorities in the field of infrastructures, of social action of the intersectorial coordination of social levels and types of training, of socioeducation enhancement and curricular complementation, at the preschool and basic education levels.*" At last, Local Councils of Education are supposed to become more dynamic and the value of autarchies is to be recognized as local education partners.

One must agree with Silva (2006, p. 59) when the author states that the municipality has long ceased to be seen as merely the local representative of central power, but it is still a long way from being accepted as the representative of local needs. In Silva's view, it is still necessary to modify the legal political framework so that local autonomy becomes a fact, because the "transfer of duties, responsibilities and means" to the autarchies has been very slow so that it will still take sometime before their objectives can be reached. For Lucchesi (2002, p.51) "the reverse of globalization is the strengthening of ties between closer and smaller

communities. The municipality will be more important than the nation in the twenty-first century. This will pave new ways which may be positive for future society."

According to Touriñán López (2004, p. 35), strengthening the ties between closer and smaller communities is the opposite of globalization. He calls this movement of promoting local culture "glocalización" and it consists of what allows people to keep their identity through culture (Lucchesi, 2009, p.4).

METHODOLOGY

This survey was conducted with the data available, collected and organized by the CEE-SP and published in 1999, and the national data which are updated annually by the Ministry of Education. These were compared with each other and complemented, demonstrating the distribution and relevance of municipal institutions of higher education.

There are differences between the criteria of the State Board of Education (CEE) and those of the MEC / INEP in the classification of the municipal institutions of higher education, as the CEE-SP (São Paulo State Board of Education) includes all institutions that were founded by municipal law, and are supervised by the CEE, regardless of their present legal status, while INEP classifies as private the IMES that have chosen to be private law foundations, because the 1988 Federal Constitution prohibits public institutions to charge tuition.

Given this divergence, the study was based on the IMES list of São Paulo's CEE, adding further data collected from MEC / INEP, to generate a database that would come closer to present reality and allow for the preparation of tables and a more accurate analysis of the data.

In the quantitative survey, the gathering of information was continuous and the data were compared during the period studied (1999 to 2007), namely, the data on the number of institutions, types of courses compared to the total number in all higher education in the State, enrollment data, number of students beginning and concluding courses, location of the IMES, all resulting in unpublished new data. This is the frame of the broader research which aims to portray the situation of the IMES in the state of São Paulo, in the transition from the twentieth to the twenty-first century.

Municipal Institutions of Higher Education in the State of São Paulo (IMES): the survey.

The IMES: legal categories

For Maria Sylvia Zanella Di Pietro (2009, p. 422-423), the State may need to create legal entities to carry out indirect administration, and yet, despite being private corporations, they have almost all the characteristics of public entities. This is justified because their existence depends on the needs and goals of the State, which creates an institution to perform a certain activity which is actually the State's responsibility, among such activities is education.

In Brazil, since the 1988 Constitution, elementary education is the responsibility of the municipality, secondary education rests with the States of the Federation and higher education is the responsibility of the Union. However, other federal entities are not prevented from setting up educational institutions that are not within their specific competence. The case of municipal institutions of higher education is very peculiar because they appeared while other constitutional charters were in force.

The municipal educational institutions have gone through several phases in their history with regard to legal aspects. Prior to the 1961 National Educational Bases and Guidelines Law (4024), they were created and accredited by federal decree, as was the case with the other institutions of higher education in Brazil. After 1961 and until the promulgation of the 1988 Constitution of the Federative Republic of Brazil, the IMES were able to proliferate in various legal formats: as autarchies, public law foundations, private law foundations, but always created or transformed by municipal law.

A foundation, when created by the government, has a patrimony that is totally or partly public. Its legal status can be either private or public, as accorded to it by law, but its goals are mandatorily public. When it enjoys public status, it resembles an autarchy, and is even called a "foundational autarchy" (Di Pietro, 2009, p. 425).

The creation of local authorities meets the need to decentralize public administration, making it more agile, as highlighted by Decree Law 6016 (Brazil *apud* Di Pietro, 2009, p. 429).

Autarchies can serve several purposes (economic, industrial, corporate, social welfare), among which education and culture stand out, thus including universities (Di Pietro, 2009, p. 430).

The Brazilian concept of autarchy differs from the Portuguese and European concept in general. Sá (2000, p. 22) and Silva (2006, p.47) consider that the countries of Western Europe and Central Europe share many similarities with regard to regional and local distribution of power which characterize local autarchies.

Although there are differences from one European country to another, all autarchies arise from a pluralist and participatory view of democracy. For that reason, in 1985 the European Charter of Local Self-Government was drafted; it extends the role of local autarchies in democratic states, prizing the principle of local autonomy, which is already recognized by the Constitution in Portugal. According to the Charter, a local autarchy consists in the "right and [in] the effective capacity of local autarchies to regulate and manage, under the law, under their responsibility and in the interests of their respective populations, an important part of public affairs" (point 1 of article 2) and "necessarily implies that this public entity should be based on decentralization, self-administration, self-direction, self-management or self-governing of communities located in a territory. Paragraph 2 of article 2 of the same document stresses the importance of local power in democratic regimes, as it allows citizens to have a more direct participation in the management of public affairs that concern them, because the administration becomes closer to the citizen and at the same time more effective.

Maria Sylvia Zanella Di Pietro (2009) argues that in the case of private-law legal entities, i.e. ones "created by an act of Government", "**private law is partially repealed by norms of public law**" (p. 425). [emphasis by the author]

The table below shows the legal categories of IMES in accordance with the State Board of Education of São Paulo's legal acts authorizing their operation.
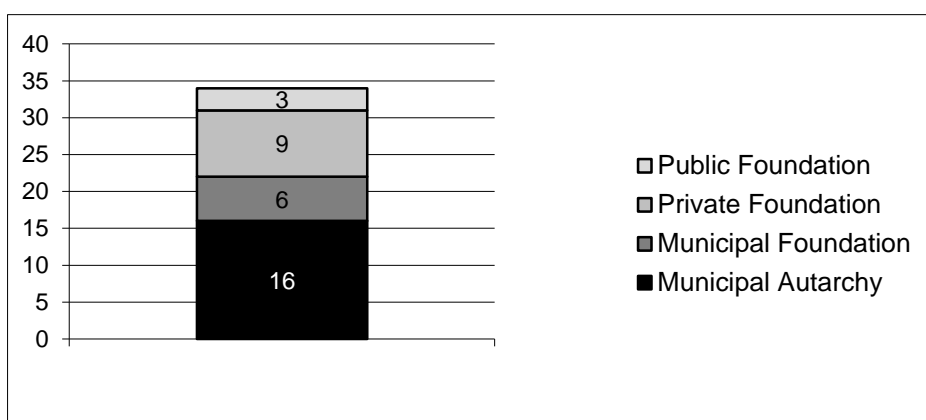
Source: CEE 2007
Chart 1: Administrative Categories on the Legal Act of The IMES SUPERVISIED by THE CEE-SP

The IMES can be organized into four administrative categories. The chart shows a preference for Municipal Autarchy, followed by Private Law Foundation. Both are forms that offer greater administrative autonomy. Autarchies, being the model that best serves the interests of the institutions, add up to almost 50% of all IMES.

The parameters that categorize whether an Institution of Higher Education is public or private cannot rely on mere conceptual interpretations or policies; the only way to do this is by legal provision, according to Brazilian law.

The Relevance of IMES in the State of São Paulo.

The expansion of higher education necessarily involves municipal (communal) teaching, at least in countries with a large territory like Brazil. These institutions have the advantage of being linked to issues of research and teaching needs in the region where they operate. In parallel, they need to be inserted into national and international networks of research, otherwise they will not be able to fulfill their role as institutions of higher education.

According to Lucchesi (2010a, p.10), "The sub-system of higher education in Brazil is constituted of universities, university centers, integrated colleges and colleges or individual institutions." Some IMES in the 1999 - 2007 period acquired another status as Integrated Colleges, University Centers or Universities.

The institutions of higher education have been motivated to change their academic category under pressure from the very system and also from the market which has become more demanding; in these disputes higher education loses its character of "**public asset**". The competition for students seems to be more intense, and the autonomy to create new courses is shown in the intentionality of the action; every year there are new courses in the institutions of higher education, although one can not prove their geoeducational necessity. However, the change is taking place, because "a new educational project and even a new law will only succeed when it sets aside the legal aspect and enter the field of culture (Lucchesi, 2002, p.101).

Nevertheless, the IMES of the state of São Paulo continue to be predominantly individual institutions of higher education.

In 2007, the São Paulo State Board of Education supervised 34 IMES.

Table 1: Comparison Between the Number of Students in Federal, State and Municipal Institutions of Higher Education with Data from INEP and CEE-SP [131]

YEAR	STATE		FEDERAL		PRIVATE		IMES		TOTAL	
	N	%	N	%	N	%	N	%	N	%
1998	69.422	10,23%	6.609	0,97%	555.949	81,91%	46.726	6,88%	678.706	100
1999	53.078	7,26%	6.754	0,92%	618.698	84,58%	52.992	7,24%	731.522	100
2000	50.629	6,26%	7.114	0,88%	692.751	85,70%	57.841	7,16%	808.335	100
2001	49.347	5,56%	7.358	0,83%	767.536	86,49%	63.207	7,12%	887.448	100
2002	65.108	6,69%	7.570	0,78%	830.846	85,40%	69.369	7,13%	972.893	100
2003	68.458	6,67%	7.832	0,76%	876.128	85,31%	74.592	7,26%	1.027.010	100
2004	68.838	6,38%	7.729	0,72%	919.790	85,22%	82.964	7,69%	1.079.321	100
2005	71.036	6,18%	7.687	0,67%	985.102	85,66%	86.196	7,50%	1.150.021	100
2006	73.840	6,00%	8.111	0,66%	1.065.820	86,61%	82.844	6,73%	1.230.615	100
2007	78.691	6,02%	10.139	0,77%	1.139.828	87,15%	79.210	6,06%	1.307.868	100

¹ Excluding enrolment in Centers of Technological Teaching (CET) and Technology Coleeges (FaT)

The enrolments in "IMES" includes Private Law Foundations created by Municipal Law and Supervised by CEE.

Source: INEP e CEE/SP

The IMES, percentage-wise, show numbers that are slightly below those of the state institutions[132] over the period 2000 to 2007, while both categories are well above the federal institutions in the State of São Paulo, but significantly below the percentage of private schools. Table 1 shows that in the last year surveyed (2007), enrollment in state institutions covered 6.02% of total students in higher education in the State of São Paulo and in the IMES, it reached 6.06%. The latter receive roughly the same number of students than the former, but their relevance to higher education in the State of São Paulo has been little noticed, because they have been poorly studied. The intense and meaningful scientific production of São Paulo's state universities brings them to the foreground not only in Brazil but also around the world (in particular, the University of São Paulo - USP), overshadowing the role of the IMES.

FINAL REMARKS

The analysis showed that the phenomenon that helped cities to become a **political arena** was the contemporary immigration of rural workers to the municipalities, which only occurred as of the mid-twentieth century, especially in Brazil.

The migration of rural populations to the cities in Brazil led to the move inland of educational centers, which arose in cities able to attract the population of the region where they are located. These were not only economical centers rather the very supply of education meant that a city became a center of populational attraction, especially of young people and qualified adults (teachers).

The IMES designed a new geography for higher education by contributing to the move inland, especially and early on in the State of São Paulo. The boundaries that restricted the Institutions of Higher Education to the Capitals of the States were displaced by initiative of the municipalities.

Local autarchies are already common in Portugal, but in Brazil, autarchies may be federal, state or municipal. In the case of IMES, they are municipal autarchies, although not all IMES have opted for this

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[131] Table 1 was created by the author in agreement with CEE-SP's guidelines, where institutions of higher education created by municipal law, even though as private law foundations, belong to the IMES category. The data are distinct from those of MEC / INEP, but were adapted to the CEE-SP list.

[132] The table includes 1998 because that year still showed a significant difference between the IMES and the state institutions. In the following year they lost approximately 3% of their total students in the State to private institutions and almost 1% to IMES

legal status, becoming public law foundations or private law foundations. The variety of legal status that is possible for Brazilian IMES makes our educational panorama very different from what is seen in Portugal. However, it is noteworthy that this case study refers to institutions of higher education. The situation of elementary education in Brazil has another legal status as public, free and secular education, which is beyond the scope of this study, which addressed specifically the Municipal Institutions of Higher Education of the State of São Paulo.

It can be seen that this is quite a peculiar case and that the subject deserves a more thorough study as part of a fuller discussion about sharing power or centralizing it.

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160 - Current Demands for Teaching in Higher Education - The Role of Students

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Abstract: This paper is a highlight of the new demands placed on teachers of Higher Education, based on his views on current behaviors and needs of students. The central argument in defense of the article is that the new characteristics of students, described by teachers, play a fundamental role in the formation of identity and who are carriers of offers of new teacher identities. This argument is based on empirical data collected through semi-structured interviews with the trainers of teachers working in three different types of institutions of higher education in Brazil. The corpus data was subjected to categorization according to the theoretical content analysis with the aid of appropriate software for qualitative analysis - the NVivo 8. The theoretical framework used to support the analysis and discussion of the data was the identities, whereby the identity constitution results from two heterogeneous processes. The first refers to the role of identities by the institutions and agents that directly relate to the individual, the *virtual identities*. The second process is the incorporation of identity by the individual making use of legitimate categories for yourself and for others, the *real identities*. The mismatch between the two processes results in the development of identity strategies. The great **heterogeneity** student is referred to unanimously by the trainers, the latter involving mainly contrasts, especially the living in the same class of young students and older, with very few technological mastery and with prior knowledge, with special education needs, students, workers with little time to devote to studies, which make long journeys every day so they can study. These situations interfere directly in the class dynamics change and require some time-honored practices of teachers that mobilizing identity strategies can target, or the accommodation of *identity for themselves* the *identity to others*, or the assimilation of *identity to other* for *identity for himself*. Thus, students are actors as bearers of new requirements for teachers, requirements for which are often not prepared placing the student in a prominent position on the staff's initial and ongoing formation.

Keywords: Trainers of Teachers - Students - Professional Identities

INTRODUCTION

The purpose this paper is to highlight one of the new demands placed on teachers of Higher Education, based on his views on current behaviors and needs of students. The central argument in defense of the article is that the new characteristics of students, described by teachers, play a fundamental role in the formation of identity and who are carriers of offers of new teacher identities.

The considerations proposed in this paper result from some of the results of an investigation about the trajectories of identification of teacher educators in undergraduate courses. This research aims to identify and analyze the professional identities of teachers who train teachers of undergraduate courses, built on the administrative organization and academic organization institutions where they work, the disciplines they teach and the field of knowledge of the course to which they belong.

Data collection was circumscribed in the western region of Paraná State, Brazil, focusing on trainers from three types of institutions - two private colleges, a private university and a public university, undergraduate courses common to all three types of institutions, which are : Degree in Physical Education, Degree in Mathematics, Degree in History and Degree in Pedagogy. In total was due to take place twenty-four interviews – course defined by two professors from each institution, one of a specific discipline and one of a pedagogical discipline, however, since some teachers work both in specific disciplines and pedagogical and even more of a course, the interviews, the total was reduced to twenty.

The interviews were audio taped and transcribed, as a result were subjected to qualitative analysis software - the QSR - NVivo where the data was entered into previously defined categories. By categorizing the data were organized in tables that allowed readings vertical, horizontal and transverse, as well as their analysis.

To attain the goal of this article was selected category Concepts and Practices and Students in this subcategory. However the data analysis was not restricted only to the category mentioned above, since in the course of the interview as a whole, emerging data on students' conceptions.

To compose the framework reflective of this article we present some initial discussions about teaching in higher education. We also present the central themes of the theoretical framework on professional identities that underlies our reflections and methodological approach followed for obtaining and analyzing data. Following are presented the data on students' conceptions and their analysis in the form of concluding remarks.

TEACHING IN BRAZILIAN HIGHER EDUCATION

Teaching in Brazilian higher education has attracted increasing interest from researchers in the educational field. With the advent of the Evaluative State presence in Brazil (Freitas, 1999, 2002, 2003), the requirements focused on quality and excellence in teaching attracted the eye for that theme. Research groups are formed, and several researchers are mobilizing towards the establishment of the field research of teaching in higher education.

For most of these researchers, one of the strongest determinants of teaching in higher education, is the institution in which the teacher carries out its activities. The institution's mission and roles prioritized determine the type of activity to be performed[133]. In an institution, private or public, federal, state or municipal, is the organization that sets the academic thinking and practice of teaching in different ways.

Thus, according to the type of institution in which the teacher works, their teaching will suffer different constraints. If the institution you work allows you to participate in a research group, it is likely that his vision of teaching has a strong research component. If your institution acting only in the field of teaching, the condition is likely to be the teaching without research.

In the case of universities, there is a tendency that considers the professional identity built around the scientific, since teaching is an activity seen as having less prestige. According Zabalza (2004), one worrying aspect in relation to teachers in higher education is the fact of having a professional identity uncertain, since their preparation for practice has always been focused on the scientific field, an aspect that hinders the establishment a professional identity tied to teaching.

For the same author as specialized activity, teaching in any grade, includes expertise, or requires specific preparation for the exercise. Teaching is a task taken by the complexity, since it requires detailed knowledge about the specific content and how students learn, among other skills.

Considering the complexity of teaching, Cunha (2007) highlights the need for conditions of justification of actions developed, based on knowledge based on arguments and theoretically sustained. Thus, the teaching profession requires a special formation to identify the amateur status of the profession, which tends to keep the culturally-installed being reproduced every day. Definitely not enough to be a teacher with expertise in one area of expertise to bring about learning for students, first of all, it is necessary to recognize the multiple demands of work and complexity of its activity.

The professor of higher education is the only professional which does not require specific formation for the profession, which leads to bad consequences for the teaching process. The increasing massification of higher education, the reduction in investment, the new demands of the labor market, the adoption of new technologies of information and communication require revisions to current models of performance and teacher formation. It is necessary that teachers pass their disciplines for specialist teachers of those disciplines, a movement that involves specific and pedagogic knowledge, with the main objective of student learning.

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[133] Higher education in Brazil, according to current legislation, is organized as administrative, academic and the formation as follows:
Administrative Organization
Public institutions are created or built, maintained and administered by the government: federal - maintained by the Federal Government, State - maintained by national governments, Municipal - maintained by the municipal government.
Private institutions are maintained and managed by individuals or legal entities under private law and are divided into: private for-profit institutions or strictly private, nonprofit private institutions, which may be community, religious or philanthropic.
Academic Organization
University Institutions: multidisciplinary institutions, public or private, formation of high level professionals who develop regular activities of teaching, research and extension. They are divided into universities, universities and specialized medical centers.
Non-university institutions, which can be CEFETs (Federal Centers for Technological Education) and CETs (Technical Education Centers), Integrated Schools, Colleges Isolated and Higher Education Institutes.

Cunha (2010) presents the following organization of teacher knowledge needed for teaching, related to the educational field:

- knowledge related to the context of pedagogical practice;
- knowledge of the size of the relational and collective work situations and processes of formation;
- knowledge related to the ambience of learning;
- knowledge related to the socio-historical context of the students;
- knowledge related to the planning of teaching activities;
- knowledge relating to the conduct of classes in multiple possibilities;
- knowledge related to the evaluation of learning.

The author stresses that different knowledge are likely to link with each other and are defined by mutual dependence.

The need for specific knowledge for teaching in higher education is also indicated by Masseto (1998), for whom the teacher, in addition to competence in a specific area of knowledge, you need the field on pedagogical as well as the exercise of political dimension.

Similarly, for Zabalza (2004), familiar with the discipline itself is fundamental to teaching, but not unique. Thus, besides knowing the content, teachers should be able to analyze and solve problems, analyze, describe and make content understandable to identify the best way to approach the contents of the ways to address them, select appropriate methodological strategies and resources that facilitate learning, organize ideas, information and tasks for students. The author also provides skills that relate to the character interact with the students. Therefore, instructors must know how to identify what the learner already knows, communicate clearly and friendly with students; act appropriately with the characteristics of the group of students who have to work, being able to stimulate learning, group work and thinking of them.

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Shulman (2005) believes that restrict teaching the basic skills, knowledge of content knowledge and general teaching is to consider teaching as something trivial, regardless of their complexity and their needs.

The teaching process begins when the teacher understands what should be taught and how to teach. In the process, involved at least seven types of knowledge: content knowledge, teaching general knowledge, knowledge of curriculum, didactical content knowledge, knowledge of students, knowledge of educational contexts and knowledge of the objectives, purposes and values of education and its philosophical and historical. The author also considers that among the categories of information presented, the teaching of contents knowledge occupies a prominent place, since it represents a blend of content and didactics.

The professional knowledge of the areas of knowledge into action, the second Ponte (1993 *apud* Traldi JR, 2006), breaks down into four main areas: knowledge of the contents of education, including the relationship with other disciplines, knowledge of curriculum ; student knowledge, involving characteristics, learning forms, needs and interests, and knowledge of the instructional process, namely which refers to the preparation, condition and evaluation of their teaching practice.

The teaching in higher education is usually understood as a consequence of other activities: in the case of teachers who work in the labor market, as a result of acting in his profession, in the case of teachers who work in other levels of education, as a result of teaching these other levels, and in the case of teachers who are dedicated exclusively to working in higher education, as a result of its relationship with the research. So, teaching takes a naturalized form of exercise. Such naturalization refers to the maintenance of the processes of cultural reproduction as a foundation for teaching, in other words, the teacher teaches based on his experience as a student and / or inspired by his former teachers.

Every teachers were formed by experienced teachers and pedagogical practices of them, so absorbed world views, epistemological conceptions, political views, postures and didactical experiments. This context contributes to their formation and for the organization, consciously or unconsciously, their cognitive and affective schemas that underlie their teaching.

The intervention in this process of naturalization requires professional reflection based on the deconstruction of the experience. The practices are changed only by reflection of the subjects about themselves and about their formation, the main effect of formation of teachers, whether initial or continued.

PROFESSIONAL IDENTITIES

The theoretical framework field of identity that underlies the discussion presented here is the statement by Claude Dubar, which understands identities as a result of "both permanent and provisory, individual and collective, subjective and objective, biographical and structural, the various processes of socialization that, together, build individuals and institutions define" (Dubar, 1997, p. 105).

The conceptualization that Dubar (1997) is about the notion of identity that assumes the perspective of social identity from the combined two transactions: one internal to the individual, and another, external, established between the individual and the institutions with which it interacts. This division intrinsic - for identity itself and identity to the other - is both inseparable and at the same time, problematic. Correlativity inseparable from the identity for himself to the Other and its recognition, that is, I just know who I am through the eyes of another. And problematic because one can only trust on communication between individuals to inquire about the identity that attaches to one another and so forge your identity. Because communication with others is marked by uncertainty, can't be sure that the identity of an individual's identity to coincide with the Other. You can then conclude that identity is never pre-defined: it is constantly construction and reconstruction, a move more or less uncertainty and more or less durable.

The constitution of identity results from two heterogeneous processes: the first refers to the attribution of Identity by the institutions and agents that directly relate to the individual and can't be analyzed out of action systems in which the individual is involved, resulting relations power between all the actors involved and the legitimacy of the categories used.

The second proceeding concerns the incorporation of identity by individuals and can't, in turn, be considered outside the social trajectories by which individuals construct identities for themselves, using categories that must be fair to the individual and the group from which to define their identity-for-itself.

The two processes do not necessarily coincide. There may be a disagreement between the virtual social identity to an individual identity and social reality that it assigns. Reducing the deviation between the two identities are promoted by identity strategies, which can take two forms: a form of external transactions to the individual and significant others in order to accommodate itself to the identity of identity to others - called objective transaction, and the way internal transactions of the individual, between the need to preserve some of their previous identifications (which are the identities inherited) and willingness to construct for themselves new identities in the future (target identity), in search of identity assimilation the other-identity for self- identity - this transaction called subjective.

The articulation between the objective transaction and subjective is the key of the construction of social identities. The transaction objective set up because, in a confrontation between the demands and offers of possible identities. This is a real negotiation between those seeking an identity in a situation of openness in their field and who can offer an identity in a situation of uncertainty with regard to the proposed virtual identities. This negotiation of identity involves a complex communication process, where the quality of relationships with others is a criterion and an important challenge in the dynamics of identities.

The formation and work contexts are some of the action systems that transport proposals of identities that come into contact with the trajectories of individuals with real identities. The formation of professional identity is the result of a process of secondary socialization, namely the acquisition of knowledge related to the specialized field of activity to which it refers.

Professionally, according to Lopes (2001), highlights the relevance of the professional identity of first base or professional identity, which corresponds to a trajectory and a strategy, considering it is a projection of themselves, present and past to the present the future, putting into play the self-image, assessment of their capabilities   and   realization   of   desires.

The space for the recognition of identity is inseparable from the spaces of legitimation of knowledge and skills associated with identities. The objective transaction between individuals and institutions are organized around the recognition and non recognition of skills, knowledge and self images that constitute the core of the claimed identity (cf. Dubar, 1995 *apud* Lopes, 2001).

COURSE METHODOLOGY

The study from which data were taken for analysis presented in this article is embedded in a sociological perspective, considering the categories of analysis proposed by Claude Dubar (1997) for empirical studies in the field of professional identities.

The data were collected through semi-structured interviews that were audio taped and transcribed.

The richness that exists in communication, especially in human speech, vision allows a "polysemic and valuable" (Campos, 2004, p. 612), which allows wide possibilities of interpretation. Therefore it is necessary to search a content analysis, nor extremely linked to the text or the technique - which could undermine the researcher's intuition and creativity - being too subjective, which would bring the danger of imposing one's own ideas and values researcher intentions expressed in the speech of the researched.

Certain data about the contents of a communication has no value until it is bound - by some form of theory - to another. So, "making inference in content analysis, means not only make assumptions about a certain subliminal message, but I base them with various theoretical conceptions of the world and the concrete situations of their producers or receivers." (Campos, 2004, p. 613).

Initially the treatment of data from the interviews was conducted with the aid of suitable software to analyze qualitative data - QSR NVivo. The software used on the one hand, served to support the organization and categorization of the interviews, providing an interactive work to exploit the information contained in articulation with the theoretical frameworks used in the study. On the other hand, also enabled the cross checking of different categories, linking, parallel and simultaneously, a horizontal analysis - all the interviews, by categories, sets - reviews and vertical, namely each interview, understood in its uniqueness.

Considering the theoretical framework and methodological approach used was constructed a set of categories and subcategories, so a priori. The software allowed us to create, like a tree, a codification scheme that allows the visualization of relationships between the various categories and subcategories, as well as the establishment of connections among themselves. For purposes of discussion to which we propose in this article was elected subcategories – "Student" - housed in the category called "Concepts and Practices". The subcategory used with respect to concepts and practices of teacher educators in relation specifically to students. Another subcategory used was called "What the students think and manifest", housed in the category "The importance of being teachers in higher education". The data emerged from questions asked to the teacher educators about students the major problems encountered in their teaching practice.

The definition of the research universe, as well as the choice of subjects was based on the following parties: the administrative and academic organization of the institutions working in the trainers, the hierarchies that are established in higher education with respect to the different courses, and greater or lesser appreciation of the pedagogical disciplines and specific.

In total was planned to take place twenty-four interviews - two teachers for each course in each institution, one specific discipline and one pedagogic discipline, however, since some teachers work both in specific disciplines and pedagogical, and even more of a course, the interviews, the total was reduced to twenty.

During the presentation and analysis of data, the teacher educators interviewed will be referred to by the sequence of subject 1 (S1) subject to 20 (S20).

DATA RESEARCH AND FINAL CONSIDERATIONS

From the information gathered through the instrument of data collection, we present an overall profile of teacher educators participating in the research, taking into account gender, age and academic title.

In synthesis, we can say that the subjects in this investigation are divided almost equally between men and women, mostly aged between 36 and 45 years; In terms of titration academic, most - seventeen teachers - a master's degree, only five professors have doctoral degrees and only three teachers have specialization.

Through analysis of the worlds built mentally by individuals from their social experience, it is possible to identify the professional identities. "These 'active representations' structured discourse among individuals in their social practices 'specialized' thanks to its mastery of a vocabulary, the internalization of 'recipes' to the incorporation of a 'program' (Dubar, 1997, p.100).

Among the dimensions of such "active representations" is the relationship with language, namely the categories that the individual uses to describe a situation experienced as articulates the external constraints and internal wishes, obligations outside and personal projects requests from others and personal initiatives.

Thus, for the same author, the identity constitution results from two processes that are heterogeneous: the first refers to the role of identities by the institutions and agents that directly relate to the individual - are the virtual identities. The second process is the incorporation of identity by the individual making use of legitimate categories for yourself and for others - are the real identities. The do not correspond between the two processes results in the development of strategies that can target the accommodation of identity for

themselves the identity for other, or the assimilation of identity for other for identity for himself. These are, respectively, of the objective and subjective transactions.

The way individuals articulate the acts of attribution and acts of belonging have led the construction of specialized knowledge or professional knowledge. Try to learn this knowledge, considered as results, both biographical and relational, can give clues to how subjects articulate acts of attribution and belonging.

Reading of data has allowed us to initially view the subjects of private colleges are those that refer less to the characteristics of origin of students, three teachers speak of the situation of their students as workers, a teacher speaks of differences of age and a speech about students who discover they are in the wrong. At private universities, teachers are more detailers about the students, referring to family problems, problems of identification with the course, students are very young, "rulers" of technologies, lack of previous knowledge workers from various professions With different age groups with special needs or who live far from the university. At public universities, the teachers mention some other features: the immaturity of students, students young and active, "computer" with "historical characteristics", rather politicized, with lack of knowledge about the course, there are differences between students of evening classes and daytime, different age groups, students with little cultural baggage.

In terms of relations with the studies and the disciplines, teachers of private colleges say their students are inquisitive little bit and participatory, with some difficulties in learning, disinterested, do not enjoy studying, reading and reflecting. At private universities, teachers also say that many students have learning difficulties, are uninterested, they lack the curiosity to learn, question the importance of the pedagogical disciplines, value more the specific disciplines, have difficulty reading and writing, comprehension and interpretation texts and are unruly, but on the other hand, some of these teachers believe that students are committed and responsible. For teachers of public universities, many students are disinterested, they have difficulty reading and writing, are not in the way that would show little interest in the educational disciplines, are unruly, disinterested and not very committed, but on the other hand, some Teachers consider that "most students are responsible, diligent and interested" (S14, S15, S17, S20).

Among the knowledge to teach, according to Shulman (2005), is the student's knowledge and its characteristics. The data show that, at least in general, the study subjects have knowledge about learners and their characteristics. The characteristics of the students mentioned by the subjects, resemble that authors like Zabalza (2004), Alarcão (2001) and Anastasiou & Pimenta (2005) show in their studies.

Zabalza (2004) believes that higher education is no longer social privilege for few. While in Brazil, access and retention in education is still relatively small, the statistics show significant increases in the number of young adults entering higher education[134]. This range does not occur only in the horizontal direction - young people from different social classes and different geographical locations - but also vertically - individuals of different ages. Such a situation may result in the need of care for larger groups, the heterogeneity of the groups, in little motivation for the study, the recruitment of new teachers - not always adequately prepared for teaching - at least the possibility of more individualized attention to students.

The greater heterogeneity of students involves the fact that they have to answer the demands of others strictly geared to the objectives of the studies, as in the case of spouses and family obligations, students who work or live far from the place of study. Such situations can directly interfere with class dynamics and require special attention from teachers.

The student of higher education, according to analysis Alarcão (2000), presents to psychosocial problems - represented by the family and social rootlessness, feelings of emancipation and liberation, conflict of values in different spheres of life; methodological problems - frequent absences, acceptance of failure as normal, dispersed among too many activities and inadequacy in the methods of study. For the author, these factors impose new demands on the teaching level in question.

To that end, Pimenta & Anastasiou (2005) indicate the results of a study of 140 teachers working in an institution of higher education with six courses, predominantly nocturnal. The description of the problems perceived by teachers for students similar to those reported by the subjects of the research reported here. The authors systematized the results as follows: lack of interest, motivation or commitment to their own learning, passivity, individualism, interest on the note and pass the year and / or get degree, lack of discipline and study habits insufficient; level of knowledge or insufficient prerequisites to follow the course; difficulty in

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[134] According to data of the evolution of higher education - Graduate - 1991 to 2007 (provided by INEP - www.inep.gov.br) in 1991, they entered through the entrance exams and other selection processes, 426,558 students, in 1995, the inflow was 510,377 students, in 2000, 897,557 new students, in 2005, enrollment was 1,397,281 students, and in 2007 were 1,481,955 students.

interpreting, writing and reading, difficulty thinking, lack of critical, high heterogeneity and diversity in each class of general maturity, lack of time to study, with little extra contact class, student-workers.

The same authors, in addition to features found in students, denounce characteristics of institutions for students, especially towards the lack of reception that have been generating some of the negative features presented by the students. The institutional organization and the teacher's practice can generate negative attitudes among students, such as:

- Lack of clarity in the area of knowledge, its epistemological universe and professional relations with the world, society, life;
- Lack of clear information on the formative trajectory that will perform and on the demands made upon them;
- Strictly targeted formative routes to courses and classes, without prospects for understanding the development possibilities for research, study in other places such as schools, cultural spaces, in general, labor camps, and no prospects for establishment of interpersonal relations and working with colleagues and teachers.

In the last three issues, linked to institutional issues, we can see many of which are implicit concepts and practices that can be observed in the data from this research. This situation is a clear indication of how the process of perpetuating some of these concepts and practices. With regard to the expectations that teachers have towards the students, It is noted from the data, that among the teachers of private colleges, are the expectations that students learn the content taught, who wish to learn, they have aware that there are no ready-made recipes, learn the content, but also learn where to find them. Faculty members at private universities, there are the expectations that students learn content, they have good performance as professionals, they are better people, and know at least how a school. Teachers at public universities expect their students to acquire the discipline that is fundamental, it becomes apparent that the chosen course is what you really want to life that are better than the teacher.

If the space for recognition of identity is inseparable from the spaces of legitimation of knowledge and skills associated with identities, the objective transaction between individuals and institutions are organized around the recognition and non-recognition skills.

To Dubar (1997), the process of seeking recognition means possible conflict transactions between individuals - who have desires for the identification and recognition - and institutions - offering statutes, category and forms of recognition. They are put in play spaces where individuals identify priority are considered sufficiently recognized and valued. Being able to play with different spaces and to negotiate and manage investments belonging is an essential element in the transaction objectively. The possibility of multiple partners in the pursuit of recognition can put space of the classroom and the students in a prominent place.

Obviously, see the student how significant other indicate conceptions of teaching and student that the teacher has. If the student is seen as a central element in the process, a subject that has an active role in defining teaching, then it is possible that it is seen as a significant other, and thus occupies the central role in maintaining the social reality of the subjects. Anyway, it is possible to assume that peer recognition is more visible and safer than the recognition of students.

In relation to what students think of teacher educators study subjects, according to the trainers themselves, the data show predominantly positive references. One subject says he is viewed negatively by students, but that's not what they say, another subject that indicates a more positive or more negative, by students depends on the discipline, or can be viewed positively in discipline and unlike another.

Among the questions that guided the interviews with the subjects of this study, some were prepared with the aim of causing the subject to clarification of the identity for himself, considering his correlativity to the other and his recognition. Thus, teachers have focused identities for themselves, specifically, to be "demanding", "committed", "hard" and "good teacher" directly linked to the other identified as the student.

The research data allowed us to identify and highlight one of the factors that can be understood as a bearer of offerings of new identities as teacher educators. Students, either by their different characteristics and require appropriate treatment by teachers, both for its central role as a significant other in identity constitution teacher. Thus, students are actors as bearers of new requirements for teachers, requirements for which are often not prepared placing the student in a prominent position on the staff's initial and ongoing training.

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170 - Crafting Programs to Stimulate Student Engagement and Persistence in Higher Education

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Abstract: This mixed descriptive and interpretative study sought to identify aspects that contributed to students' engagement with their academic and social milieu in Colombian higher education settings. Responses provided in a questionnaire and interviews conducted with coordinators of retention programs indicate that students' sense of engagement is fostered when they take part in activities and projects crafted to stimulate their participation in the research and innovation agenda of faculty. Also, when those projects go beyond the classroom boundaries, students tend to engage and persist on their academic endeavors and display a strong sense of social responsibility and leadership. The results indicate that there is an imperative need to transform traditional pedagogical and curricular practices. They should be oriented towards establishing connections between the education institutions and the contexts where they are located so that all members of the academic community can actively participate in the social dynamics of their regions.

Keywords: Student engagement; higher education retention programs, teacher and student partnership.

INTRODUCTION

Promoting development worldwide requires that higher education institutions focus on guaranteeing access, equity and quality (UNESCO, 2009). Consequently, nations around the globe have begun or continue to examine their education policies and practices to improve the access of students to universities and the quality of their academic experience. Colombia has developed and implemented different strategies intended to increase the number of individuals entering the higher education field. However, student dropout rates remain close to 45% (Guzmán et al., 2009), which implies that only half of the students who enter an academic program complete it successfully. This loss of students minimizes the opportunities of development for the country as there are less qualified people to enter the workforce and increases social exclusion and inequality (Donoso and Schiefelbein, 2007). Furthermore, it has a grave impact on students' self-concept and personal life, on their families and on the universities themselves. Among other aspects, students who abandon their career experience frustration because their professional and economic aspirations become limited, and this consequently hinders their possibilities to ascend socially (Rivera et al., 2005). Families are affected not only in terms of their economic investment, but in the positioning and prestige that is usually associated to earning an academic degree (Pinto et al., 2007). Student attrition also impacts the financial stability and the sustainability of academic programs and becomes an aspect to examine in connection to the quality and effectiveness of higher education institutions (Fike & Fike, 2008).

The results of various studies conducted in Colombia to identify the contributing factors in the high rate of student attrition parallel those obtained worldwide. They are associated to financial support, mistaken vocational selection, weak academic skills that are mainly connected to critical reading, writing and mathematics, social adaptation barriers, disaffection from school, lack of academic engagement, students' degree of maturity, and reduced family support (Guzmán et al., 2009; Rojas, 2008; Rojas & González, 2008; Castaño, Gallón, Gómez & Vásquez, 2008; Pinto et al., 2007; Ministerio de Educación Nacional, 2006; Ramírez, 2002).

Higher education institutions in Colombia have proposed different programs to respond to the obstacles detected and to increase student graduation rates. They include, but are not limited to, economic and academic support programs, vocational orientation, transition programs aimed at facilitating the adaptation of students from high school to the university, and recreation, sports and cultural programs usually grouped under the label 'student welfare'. However, little is known about how those programs are functioning and the results they are yielding so that student retention policies can be formulated more accurately.

This paper describes the findings of a study carried out by a group of researchers from the School of Education at Universidad de La Sabana in Colombia that sought to identify the characteristics of successful higher education retention programs. More concretely, the report focuses on programs designed to cultivate

student and faculty collaboration and partnership in research and community projects, the role they played in fostering student engagement and the perceptions of coordinators regarding the programs as a contributing factor in student retention. The study was sponsored by Colciencias, a government agency that provides financial support for research projects.

STUDENT ENGAGEMENT AND PERSISTENCE

The word engagement has a plethora of definitions. However, the literature in the field of student retention shows three distinctive interpretations of the term. The first one, which is known as behavioral engagement, centers on student participation in both academic and social activities. The second one, emotional engagement, embraces attitudes, values and feelings towards academics, the school, teachers and classmates. The third one, cognitive engagement, "draws on the idea of investment; it incorporates thoughtfulness and willingness to exert the effort necessary to comprehend complex ideas and master difficult skills" (Fredricks, Blumenfeld & Paris, 2004, p. 60). According to Zyngier (2008) these definitions pose a problem as they emphasize displays of behavior of what students do and what the school does for them, which may lead to having passively compliant and ritualistically engaged students. The author states that a critically transformative perspective is necessary to truly engage students. This implies attending to their cultural world and responding critically to their lived experiences, fostering ownership and empowerment to strengthen the belief that they can impact their own lives.

Early work on student engagement (Astin 1993; Pascarella & Terenzini, 2005) showed that purposeful educational activities increase the possibilities of students to learn, and in general to achieve cognitive development. The relevance of those activities in retention is highlighted by Crosling, Thomas and Heagney (2008) who claim that a striking factor in students' decisions to abandon their careers is the significance of the learning experience. In the same vein of thought, Kuh, Kinzie, Schuh and Whitt (2005) highlight the importance of formulating meaningful educational practices to boost students' motivation so that they invest time and energy in their academic tasks. They also point out the need to allocate the necessary resources to organize learning experiences and invite students to take an active part in them.

Chickering and Gamson (1999) pointed out that those practices should be built around the following seven principles: Contact between students and faculty, cooperation among students, active learning and time on task, immediate feedback, high expectations and acknowledgment of diverse ways of learning. Vaughan (2010) shares the same view and states that effective institutional practices should be centered on "active and collaborative learning, student interactions with faculty, level of academic challenge, enriching educational experiences and supportive campus environment" (p.60). Hence, a supportive institutional atmosphere is crucial to open opportunities for students to be part of the academic community. It is by strengthening integration with the institution that students are more likely to persist on their academic endeavors. Tinto's interactionalist theory emphasized this idea and proposed that student persistence "hinges on the construction of educational communities in college, classroom, and classroom levels which integrate students into the ongoing social and intellectual life of the institution (Tinto, 1987, p. 188).

There are various enriching educational experiences available to engage students. One of them is to involve them with faculty members in research and innovation projects. Learning communities help to achieve this purpose. They have been created to foster the design and organization of curricula that bring together teachers and students' intellectual and social growth. Besides, they offer unique experiences that enrich team work and drive student participation in research and the construction of new knowledge. Barefoot (2004) points out that these communities have an impact on student involvement and interaction; particularly in commuter institutions. Janusik and Wolvin's research (2007) indicates that learning communities "can provide students with a sense of identity and with connections to faculty" (p. 169). Besides, they provide a strong sense of self-direction and motivation and increase the opportunities to develop attitudes and qualities for team work.

Experiential learning is another alternative to promote student engagement. Kolb (1984) defined it as "the process whereby knowledge is created through the transformation of experience" (p. 41). It incorporates concrete experiences, fosters reflection and abstract conceptualization, promotes experimentation and stimulates the connections between concepts and classroom discourse and the prior experiences and knowledge of the learners. Chaves (2006) states that "educators must include experiential learning in curricular designs and coursework and create opportunities for dialectical learning experiences whereby students and teachers can challenge or affirm old knowledge and at the same time create new understandings" (p. 150).

According to Fall (2006), experiential learning is closely connected to community-oriented projects at the tertiary level. These types of projects include civic-engagement and service-learning oriented activities that

become a route to connect the institution, its students and the faculty with the members of a community. They also serve as a foundation for the development of civic skills, appointed citizenship and commonwealth (O'Meara & Kilmer, 1999 as cited by Fall, 2006). The author also claims that there has been an abundance of literature that accentuates the role of civic engagement in responding to the needs of the society. In that sense, service learning is "an approach to experiential learning, an expression of values-service to others, which determines the purpose, nature, and process of social and educational exchange between learners (students) and the people they serve, and between experiential education programs and the community with which they work" (Belbas, Gorak & Shumer, 1993 as cited by Fall, 2006).

Pineda (2010) and Pineda and Pedraza (2009) demonstrated that students who participate in retention programs that foster interaction with the community improve their social skills and generate a strong sense of personal and professional commitment. The experiences of those students, who showed vulnerability and who were considered 'at risk', revealed that they developed competences that helped them to communicate more effectively with others both inside and outside the university. Moreover, their active participation in community projects of their interest generated awareness of social issues and empathy with the members of those communities. Students indicated that they had an opportunity to develop and apply their professional skills and that being part of those programs created a sense of identity with the institution that led to strengthening their academic persistence.

To sum up, an important aspect to consider when discussing engagement and persistence is that they are completely dependent upon the actions the institution proposes to empower students to achieve their full potential (Zyngier, 2008). In that regard, teachers play a very important role as the formal or informal interaction they hold with students significantly affects students' level of confidence and trust in their abilities (Vogt, 2008). Therefore, as Fabela-Cárdenas (2009) claims, it is teachers' responsibility to search for ways to foster communication, involve students in active learning and give them a 'voice' to express themselves about the processes in which they are involved.

METHODOLOGY

This study analyzed higher education programs in Colombia that optimized student retention. The main objective was to identify convergent and divergent points between the programs that showed efficient results in decreasing student attrition rates. One of the specific objectives was to document the manner in which problems associated to social and academic integration were confronted. This goal embraced the idea of examining aspects that pertained to students' social and academic engagement and their influence on their trajectories. The study was framed in a mixed descriptive and interpretative perspective and was conducted from January to September 2010 in Colombia, South America.

The project consisted of two phases. The first one focused on the collection of quantitative data by means of a questionnaire that measured variables associated to student retention. The second one utilized qualitative data; more specifically information gathered by means of in-depth interviews conducted with the coordinators of the retention programs selected. The information collected in the second phase allowed to have an ample vision of the role some programs played in engaging students from the point of view of those in charge of leading them.

Sample

A data base was elaborated considering the information provided by the Colombian Higher Education National Information System (SNIES) that indicated that there are 309 tertiary institutions in the country. Due to the fact that the system was not updated, the web pages of the institutions were explored to locate information such as the name of the president, e-mail address and the names of the individuals in charge of the retention programs. Additionally, 13 more institutions, which did not appear in the data base, were included. The questionnaire was sent to all 322 institutions. Out of these, 121 entered the online system where the questionnaire could be located and 72 responded it, which corresponds to 22.33% of the total population. Forty nine (68.1%) of the ones that answered the questionnaire were private and 23 (31.9%) were public.

Table 1: Type of institutions that responded the questionnaire

Type of institution	n	Percentage
Private	49	68.1
Public	23	31.9
Total	72	100

Specific criteria were used in order to select the institutions for the second phase of the project. Those that evidenced a decrease in their attrition rates or that did not show an increase in their dropout rates for six consecutive years were included. This criterion was examined by means of an item included in the questionnaire that requested data on dropout rates from the years 2003 to 2008 as reported in the SPADIES system. This is a software application used by the Colombian Ministry of Education to gather information about higher education student dropout, predict students' degree of vulnerability and trace their academic trajectories. Unfortunately, very few institutions reported their student dropout rates. This may be due to the fact that they were in the process of systematizing the information that the Ministry of Education was requesting at the time. A second plausible explanation for the reluctance to share this data was the feeling of apprehension at the idea of generating a negative institutional image as high dropout rates are considered a sign of school ineffectiveness.

A total of 19 institutions that met the criteria were identified. Also, 7 more were included in the interviews and were selected by means of the snow-ball sampling technique (Merriam, 2009). Members of the research team asked retention programs coordinators to recommend others who they may know and who were working on programs that fostered social and academic engagement. The names suggested were also confronted with information that appeared in the web page of the National Ministry of Education that highlighted the efforts of institutions that were working on initiatives to stop students from abandoning the higher education system.

Data collection instruments and procedures

A questionnaire was designed to gather information about the specific action plans of higher education institutions to confront student attrition. The first part of the questionnaire dealt with demographic information that included student dropout rates. The second part examined aspects connected to financial support, recruitment and transition programs, student services, and curricular and pedagogical practices to foster student academic and social engagement. This last part is the focus of this paper. The items were developed considering the most relevant aspects discussed in theory and research articles about student retention. Two experts in the field examined the validity of the instrument and adjustments were made based on their observations. The questionnaire was also piloted at a private university that willingly decided to use it. The final version was administered to the higher education institutions via e-mail in a message that included a link to access the questionnaire. The application was open from March until September, 2010 and the data gathered was stored in a repository of the Universidad de La Sabana.

The second instrument was an open-ended interview that served to examine, in depth, the characteristics of effective retention programs. This instrument was also piloted in the same institution where the questionnaire had been administered. Based on the piloting, adjustments were made and the research team proceeded to conduct group interviews with coordinators of retention programs who willingly consented to participate in this research. Each interview lasted from 90 to 120 minutes, was audio and video-taped, and later transcribed using orthographic transcription.

DATA ANALYSIS

Frequencies of responses to the items in the questionnaire were calculated to obtain a general panorama of the types of programs students were mostly involved. Percentages of responses were also calculated to identify the degree of contribution of those initiatives to student retention. For the qualitative phase, the researchers used the guidelines of the grounded approach framework (Corbin & Strauss, 2008) to analyze the data from the interviews. Open coding was done line by line in each of the interview transcriptions and recurrent themes were identified and grouped into categories. Relationships between the categories that emerged from the data were established and explanations for those relationships were then built. The members of the research team discussed the visual displays that were created to examine the relationships between the categories until reaching a consensus on their possible interpretations. These discussions served as a means to examine possible biases in the analysis, contradictions, or any other issues that could affect the interpretation of the data.

RESULTS

Because the theoretical framework behind the project indicated that engagement was fostered when students were involved in learning communities and teachers' research and innovation projects, the questionnaire requested information about the existence of these practices (different from thesis or other graduation requirements). Table 2 shows the number of institutions that responded this part of the questionnaire. The responses indicate that 95,1% (n= 39) had students participating in learning communities, 72,5% (n= 29)

included projects that connected students to teachers' research projects, and 61,5% (n=24) had innovation programs in which the students were involved.

Table 2: Institutions that reported students' involvement in different types of projects

Type of Program	n	%	Total that responded the item (n)	Total %
Involve students in learning communities	39	95,1	41	100
Involve students in research projects	29	72,5	40	100
Involve students in innovation projects	24	61,5	39	100

The higher education institutions that answered the questionnaire were also asked to rate the degree of contribution of each of the three forms of engagement in a 1 to 4 scale than ranged from high contribution to no contribution to student retention. The following table shows that 53,8% and 52,4% of the institutions that responded this part of the questionnaire considered that learning communities and research led by teachers, respectively, contributed in a medium degree to student retention. In a less proportion, 40% of the institutions indicated that innovation projects oriented by teachers had a medium contribution to retention.

Table 3: Perceived degree of contribution of student involvement in 3 types of practices to student retention

Degree	Learning communities led by teachers	Research projects led by teachers	Innovation projects led by teachers
High	23,1%	42,8%	40,0%
Medium	53,8%	52,4%	40,0%
Low	23,1%	4,8%	18,7%
None	0%	0%	1,3%

Involving students in academic work that transcends the classroom

Harper and Quaye (2009) point out that a key aspect in student persistence is the capacity of institutions to generate interaction and integration in meaningful practices that transcend the classroom. This is certainly an aspect that emerged in the interviews conducted in this study. The higher education institutions that did not have an increase in dropout rates stimulated the involvement of students with their social and academic milieu through participation in what has been known as research '*semilleros*'. The term builds on the notion of 'seedbeds' and is used metaphorically to refer to study groups that are the starting point for future development. The objective of those '*semilleros*' is to refine young researchers' skills and provide them with professional development opportunities so that they shape their abilities and become permanent members of the research groups led by teachers. The institutions allocate financial resources to teachers interested in creating these study groups and invite students who have began their fourth semester in their career to be part of the groups. Call for participation is also done by the teachers themselves in their classes.

A characteristic of those study groups is that teachers develop research proposals that foster liaisons between the university and businesses, industries and organizations located in the region. Teachers conduct research that responds to their needs and interests and promote the participation of students as research assistants. An example of such partnerships can be found in the tourism industry. Colombia has been working on creating favorable conditions for people from different parts of the world to visit the country and explore the territory and the touristic attractions that the nation offers. Various universities have been working on identifying 'corridors', a label used to name the zones in the municipalities and provinces where tourism can be fostered. Once those areas are identified, teachers and their students, along with members from the tourism organizations, work together in the implementation of diverse projects that also embrace studying the negative impact of the development of tourism. More concretely, the projects focus on children prostitution, a problem that has been affecting the country recently. The following excerpt from an interview refers to involving students in initiatives aimed at working in education to prevent children prostitution:

> *When we think about organizing innovation and research projects, we begin by thinking about how we will impact the region. We think about who will be benefited by the project and how we can contribute to what they do. Then we identify the 'corridors'. We go to the municipalities, identify their characteristics and with that information we try to respond to the needs and the interest of the people in that context. There is the intention to promote projects that respond to the situation of our region. I refer to tourism and to problems associated to the development of tourism. An impact such*

as the prostitution of children. We are interested in working with education institutions to develop prevention processes, and in this project we involve our students. (Translation done by the author of this paper, interview institution 15, p. 12-13).

Implicitly, the projects aim at fostering social responsibility. It is evident that in many of the institutions interviewed, the projects in which students participated intend to promote awareness of social reality and invite them to take action. A participant mentioned, for example, the partnership created between students in early childhood education programs and 'community mothers' (women that take care of children at their homes on a daily basis and who receive a stipend from the government for this work). Teachers guide students in the implementation of pedagogical alternatives to enrich the work that is done with children and their caregivers. The development of the projects implies becoming aware of social and cultural issues that may affect the implementation of the pedagogical practices proposed:

> *In early childhood education programs we seek to integrate the work of students and community mothers. The goal is that the university impacts the social sector. A series of synergies result from this. Students in their undergraduate programs are not in a bubble. They become immersed in their realities, to which they are expected to respond. (Translation done by the author of this paper, interview institution 1, p.14).*

Fostering networks

An aspect that apparently impacts student engagement is the close association that some teachers have with members of the industry and the business sectors. Many universities hire teachers who used to work or were working in enterprises, laboratories, factories, non-governmental and governmental organizations, just to mention a few. This results in possibilities to generate networks that facilitate the insertion of students in their selected professional fields. In one institution, for example, there are 'technical visits' that are proposed to have contact with key agents in those contexts so that the students relate to their future professional environment. Students obtain first-hand knowledge of the processes implemented in the places they visit and with this information they make decisions about the projects in which they would like to participate.

In another university, students work under the supervision of managers and teachers who, in a partnership, design and implement projects according to the development plans traced for the region. One of such plan is known as 'peace and competitiveness' which aims at working with communities in remote areas or regions that were once affected by violence and poverty. The programs request that students live in those areas for a period of time, which results in a deeper knowledge of the realities of the country, as expressed in the next sample:

> *It is a very enriching experience. It's very valuable and it is an adaptation space because many students face a hard time when living in a municipality for six months. Besides, it's an interesting interdisciplinary work. You have the future designer, the mechanical engineer and the therapist together. They talk about everything, they live. They coexist. It's an experience in which get to know their country (Interview, institution 7, p. 9).*

Contextualized curricula

A recurrent issue that emerged from the interviews was the need to permanently revise and update the curriculum so that it responds to the context in which the students are expected to work as professionals. The contents of courses must be coherent and pertinent to the prospective working environment of students. They should allow students to carefully examine issues such as history, identity, socio-cultural and political aspects of the regions and their people. By reflecting upon these issues students strengthen their ties with the communities they intend to be involved with:

> *We insist on the idea that the curriculum responds to a concrete region. That region has a name, its own needs, geography, history, identity and its own socio-economic and political conditions. We expect teachers to be aware of that and maintain a pertinent curriculum (Translation done by the author of this paper, interview institution 5, p 20).*

CONCLUSIONS AND DISCUSSION

This study showed that some higher education institutions in Colombia are engaging students in research and innovation practices that foster partnership with teachers, organizations and members of the community

where students are expected to work. From an institutional point of view, such practices apparently affect students' academic persistence and they have a medium to high degree of contribution to student retention. The analysis of the interviews allowed distinguishing two clear means by which universities are engaging their students. One of them is by stimulating participation in research study groups called '*semilleros*' in which students develop and refine research skills with the permanent orientation of teachers. The second route is by cultivating collaboration between teachers and students in projects that transcend the boundaries of the classrooms and that are targeted at responding to the specific needs of the communities where the institutions are located.

Both routes to engage students have positive consequences. First of all, the partnership with teachers can foster students' commitment to their personal and professional development. If students feel they are valued and accepted by their teachers, they will work more eagerly and effectively on the tasks proposed. It is important to note that the contribution of this relationship is twofold. As Elgren and Hensel (2006) point out, student and faculty collaboration benefits from the "natural synergistic relationship between two primary objectives: ensuring good student learning outcomes and advancing the research agenda of the faculty mentor" (p.5).

Second, the involvement of students in business, industry and community projects leads to open opportunities for them to acquire knowledge about the processes and experiences that take place in real life scenarios. Besides, such participation fosters a sense of ownership and social responsibility. In relation to the first point, the contact with different agents and their expertise provides valuable insights to nurture their professional development. Regarding the second aspect, when projects are crafted to stimulate the analysis of reality and to actively participate in the formulation of solutions to specific problems, needs or interest, students feel that the work done acknowledges them. This aspect is consistent with the ideas proposed by Zyngier (2008) who state that engagement involves owning, a term that refers to students seeing themselves represented in the work. The findings also parallel those of Fall (2006) who indicates that engagement in meaningful practices embraces participation in community-oriented projects in which students consider they are making a difference. The same idea is emphasized by Zyngier (2008) who states that engagement requires "empowering-students with a belief that what they do will make a difference in their lives and the opportunity to voice and discover their own and authoritative life" (p.1773).

The results highlight the importance of reflecting upon the pedagogical models used in higher education institutions. First, it is indispensable to design multiples possibilities that allow students to become involved in hands-on experiences, and innovation and research projects oriented by teachers. Second, the myriad of pedagogical practices in and outside the classroom should promote students' intellectual and creative growth. Becoming involved in projects that address the needs or interest of the communities where the institutions are located is an optimal choice to reach that goal. Third, it is relevant to consider that creating and maintaining partnerships between teachers and students is a daunting enterprise that requires institutional commitment and support. This implies developing policies to allocate financial resources and time frames for teachers to shape their plans and adjust them to their pedagogical needs.

Teachers are at the heart of student engagement. Therefore, it is imperative to count on professionals capable of establishing networks in which students contact and communicate with members of the industry or business sectors and members of the community in general. It is teachers who exert their capacity to orchestrate the complex tasks that are required in learning communities, innovation and research projects, and the relationships that are weaved with different people involved in those projects. So, it is imperative to implement professional development programs for educators to optimize their abilities and assume the challenges of collaborative work. Underpinning this issue is the need to examine if higher education institutions are providing opportunities for teachers to refine their pedagogical competence and the extent to which students are directly affected by such competence.

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204 - Teachers' Assessment at the University of Alicante: Prospects and Actions

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Abstract: Universities in Spain have the responsibility to guarantee the training and competence of their teaching staff. On the other hand, educational administrations ensure –through assessment agencies– the compliance with quality standards among those who wish to become teachers, by means of processes developed prior to their selection.

Seeking to favour teaching assessment, the Agencia Nacional de Evaluación de la Calidad y Acreditación [National Agency for Quality Assessment and Accreditation, ANECA for its Spanish initials] has developed the Programa de Apoyo a la Evaluación de la Actividad Docente del Profesorado Universitario [Programme of Support to the Assessment of the Teaching Activity performed by University Teachers] known as DOCENTIA, which has as its aim to make it easier for universities to design mechanisms to manage the quality of the teaching activity carried out by their teachers and favour their professional development as well as its recognition. The DOCENTIA Programme follows the recommendations for quality assurance made by the European Association for Quality Assurance in Higher Education (ENQA). Furthermore, its design includes the standards established by some international organisations, such as the Joint Committee of Standards for Educational Evaluation.

One of the values which pervade overall behaviour at the University of Alicante (UA) is its commitment to the promotion and assessment of quality oriented to improvement. In this paper, we deal with the objectives of the DOCENTIA programme, established at the UA on an experimental basis, its dimensions and elements, the process through which the evaluation must be performed and the analysis of the documents generated by its implementation and, finally, the results derived from its application.

Keywords: quality assurance, teaching and learning assessment, Higher Education

INTRODUCTION

Despite the difficulties and the newly-emerged challenges, Spanish universities are making progress in the process of convergence towards the construction of the European Higher Education Area (EHEA). One of the main goals during that journey is to achieve teaching and learning excellence at university education through a high-quality teaching and research action.

In the document entitled *Realising the European Higher Education Area* (2003), better known as the Berlin Communiqué, it was stated that Higher Education quality was the heart of the European Higher Education Area. For that reason, the document laid special emphasis on the support to quality at the different national and European institutional levels, and an explicit mention was made of the need to share criteria and methodologies oriented to quality assurance. On the other hand, and in keeping with the principle of institutional autonomy, the main responsibility for quality assurance at university education falls upon each one of the institutions.

As years go by, while the Bologna process keeps moving forward, the criteria, guidelines and methodologies which the European Quality Agencies (ENQA) –and the National Agency For Quality Assessment and Accreditation (ANECA) in Spain– have been designing and implementing permit to shape and make available to universities a number of transparent, comparable procedures with which they can check if the degrees, the teachers, the services, etc. reach the quality standards required.

Within this context, the University of Alicante (UA) has convincingly recognised the need to supervise the teaching activity performed by its teaching staff in order to guarantee quality regarding both teaching and student learning. More specifically, its statutes explicitly say that "*The University will look after the quality of the teaching imparted together with its adaptation to the society's needs and will ensure evolution in the teaching activity carried out by its teaching staff*" (Art. 103). In turn, its Strategic Plan (2007) assumes that one of the main values in its operation is to guarantee teaching quality, assuring comprehensive training and the accreditation of studies by means of a high-quality educational offer which can guarantee that students will acquire the academic and professional competences needed to develop their skills and favour their incorporation to the professional world.

Therefore, within the framework of the guidelines established by the aforementioned agencies, the University of Alicante sets itself as an outstanding goal to achieve on-going improvement and promote quality in its formative offer, evaluating all its areas (teaching, research and management) as well as its global operation. This is the context where we must situate the proposal for the assessment of the teaching activity performed by its teachers as part of the improvement process which guides the institution's general behaviour.

TEACHERS' ASSESSMENT AT THE UNIVERSITY OF ALICANTE: THE DOCENTIA PROGRAMME

Teaching assessment at the University is carried out by means of the DOCENTIA-UA Programme (2007). This programme forms part of a consistent evaluation system which is aligned with the policies that affect teachers, especially in the processes for their selection, with their training, with the development of their professional careers, with their promotion and, also, with their salary. Its main objectives are:

g) To effectively achieve teaching and learning quality through monitoring and improvement actions linked to the assessment results.
h) To support the training and teaching professional development of teachers.
i) To make available information for their promotion.
j) To provide data for the distribution of economic incentives for the teaching staff as well as for departments, in accordance with the *Plan de Ordenación Integral (POI)* [Overall Organisation Plan] of this University.
k) To encourage and reward teachers for their teaching effort through the recognition of best practices.

Seeking to achieve this aim, the University has established the dimensions and elements that form the Programme, which derive from the orientations suggested by ANECA (2007) and included in the *Manual de Evaluación de la actividad docente del Profesorado de la Universidad de Alicante* [Manual for the Assessment of the Teaching Activity of Teachers at the University of Alicante (DOCENTIA-UA, 2007), summing up:

Table 1: Dimensions and elements in the teaching assessment procedure (adapted from ANECA, 2007 and DOCENTIA-UA, 2007)

DIMENSIONS	ELEMENTS	
I. TEACHING PLANNING	1. Teaching organisation and coordination	Organisation modalities
		Coordination with other teaching actions
	2. Teaching and learning planning	Foreseen learning results
		Foreseen learning activities
		Assessment criteria and methods
		Materials and resources for teaching
II. TEACHING DEVELOPMENT	3. Teaching development and learning assessment	Teaching and learning activities performed
		Assessment procedures
III. RESULTS	4. Results in terms of formative objectives	
	5. Teaching activity review and improvement: training and innovation	

The dimensions are assessed using the gradation scale suggested by ANECA, which distinguishes four categories or grades (1-4). They respond to the following parameters: **adaptation** (referred to teaching activity; to the organisation, planning and development of teaching and to the evaluation of their students' learning, as well as to the professional competences described in the syllabuses); **satisfaction** (expressed by the opinion of interest groups: mainly students); and **orientation towards improvement** (reflection on the actual teaching activity carried out by teachers).

EXPERIMENTAL APPLICATION OF THE PROGRAMME

The first experimental phase of teaching assessment started in 2007. During this transitional period, it was compulsory for full-time teachers who reached between five and ten years' experience working at the university in 2008. Nevertheless, teachers involved in promotion, accreditation or qualification processes could also participate in the process voluntarily.

Figure 1 shows the participating teachers according to the centre they belong to. We can see that the seven centres which form the University are represented, a majority corresponding to those who belong to the Faculties of Science (29.49%) and Letters (25.64%). These centres are the ones which have a higher number of teachers with tenure, which underlines their importance a priori, taking into account the conditions established for the participation in this experimental phase.
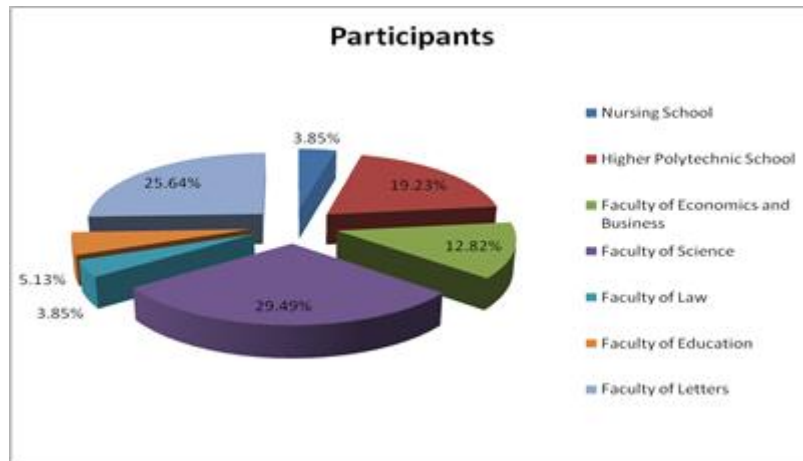

Figure 1: Participating teachers distributed by centres

On the other hand, various agents were involved in the process:
o) The participating teachers, who carry out a self-assessment of their teaching activity.
p) The academic leaders (Heads of Department and Deans), who assess the extent to which the activity performed by teachers adapts to their teaching assignment.
q) The students, who express their opinion about the teaching imparted by a specific teacher.
r) The Centre's Assessment Board, which is responsible for issuing a summary-report of the comments made by the previous agents. The Board was formed by two evaluators from the centre or faculty in question, one from another University centre and two external evaluators who did not belong to the University of Alicante. They all had to demonstrate that their teaching activity had been evaluated positively for at least two years. The Board issued a global assessment, which was expressed using the terms: very favourable, favourable and unfavourable.
s) Guarantee Board. In charge of settling the allegations presented against the evaluation reports drawn up by the different Boards. Formed by seven members appointed by the University's Governing Council in accordance with the criteria based on candidates' teaching and assessing experience.
t) Quality Technical Unit (UTC for its Spanish initials). A technical and support element for the different agents involved in the process. It is responsible for the preparation of the information and evidence available at the institutional databases of the University.
u) Education Sciences Institute (ICE for its Spanish initials). In charge of the design, application and follow-up of the training plan to be implemented by those teachers whose assessment results are not satisfactory. It additionally has the assignment of orienting teachers when filling in the self-report.
v) Deputy Vice-Chancellor's Office for Strategic Planning and Quality. Responsible for coordinating interaction between all the agents involved in the process.

Figure 2 permits to visualise a summary of the sequence corresponding to the phase of experimental application of the DOCENTIA programme, carried out during the 2007/08 academic year.
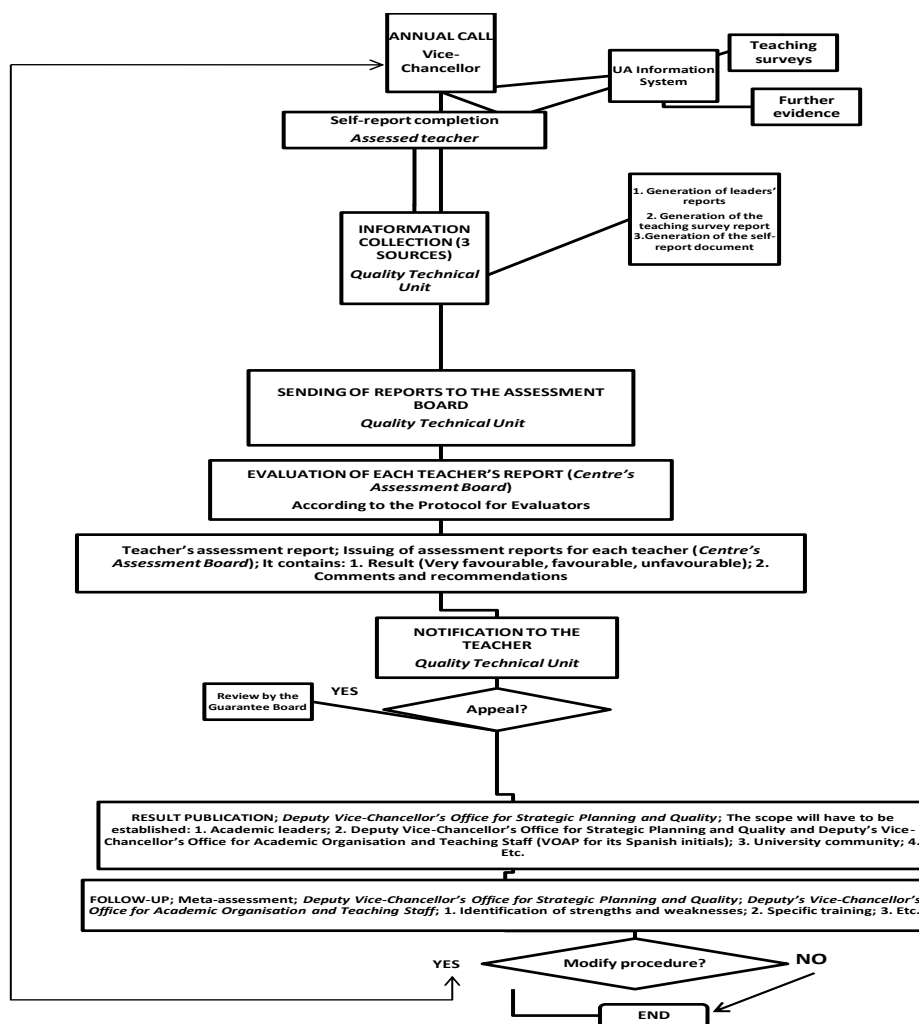
Figure 2: Assessment process (Source: DOCENTIA-UA, 2007)

Information collection was carried out through the base documents completed by the aforementioned agents. These documents are:

1)Self-report, with three modalities: *initiation* (teachers with a maximum of five years' experience), *consolidation* (teachers with between six and twenty-five years' experience) and *senior* (teachers with over twenty-five years' experience). This document has the characteristics of a portfolio which includes the teachers' own reflections about the teaching activity performed.

With the aim of facilitating analysis and reflection, the document focuses on three dimensions: *teaching design* (teaching guides), *teaching performance* (physical/in-class teaching practice) and *learning results* (academic achievements). In turn, it is subdivided in three sections related to teaching possibilities and conditions (context), to teaching coordination and management, and to teaching guide design.

The only difference existing between the three modalities concerns the self-report in the senior modality, which includes a specific section to explain the reflection on one's own teaching career, on training and work conditions among young teachers, on the viability of the changes operated, and on the orientation proposals addressed to new teachers.

2)Academic leaders' report. It is drawn up by the heads of department and the deans or centre directors. The report is related to the planning, development and results of the teaching activities developed by teachers over a five-year period.

3)Student survey. It is a questionnaire with ten questions about the teaching imparted by the teacher (teaching guide, communication and physical as well as virtual tutorials), motivation strategies, training and knowledge of the subject, teaching materials, adaptation of the teaching guide components and general assessment). It includes a 0-to-10 assessment scale.

4)Evaluation report protocol. The responsibility of completing it falls upon the evaluators in the Centre's/Faculty's Board, with three modalities which correlate with the aforementioned

professional categories. The sources of information to estimate quality evidence are the teaching guides for subjects, the teacher's self-report, the leaders' reports and the student surveys. The assessment scale includes four gradations: "Highly appropriate," "Appropriate," "Hardly appropriate" and "Inappropriate." The protocol for the senior modality adds two more elements: student performance rates and the data from the *POI* (Overall Organisation Plan).

5)**Teaching activity evaluation report**. The Assessment Board uses this instrument to transmit the overall assessment with the following terms: "Very favourable", "Favourable" and "Unfavourable".

6)**Request to appeal before the Guarantee Board.** It makes available to the assessed teachers the procedure to revise their assessment.

EXPERIMENTAL PHASE RESULTS

Figures 3 and 4 show the results of implementation in an experimental phase of the teaching activity assessment procedure at the University of Alicante. We can see in Figure 3 that 83.33% of the reports have been favourable, 16.7% being very favourable. It must be underlined that no unfavourable reports have been obtained. Therefore, it is obvious that the results are highly satisfactory.
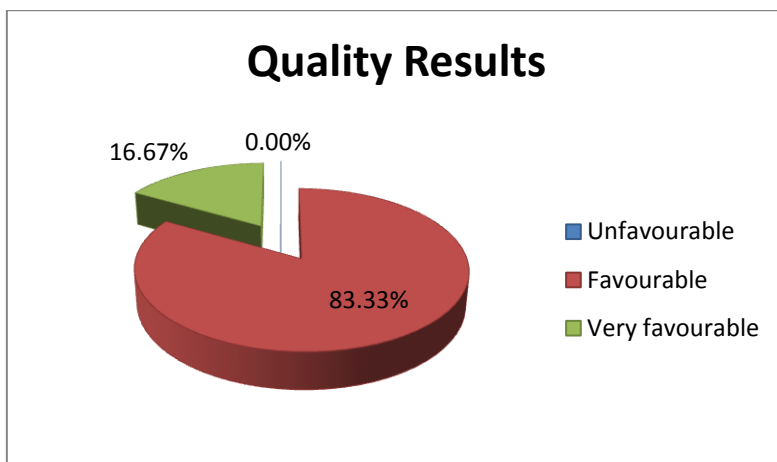

Figure 3: Teaching assessment overall results at the UA

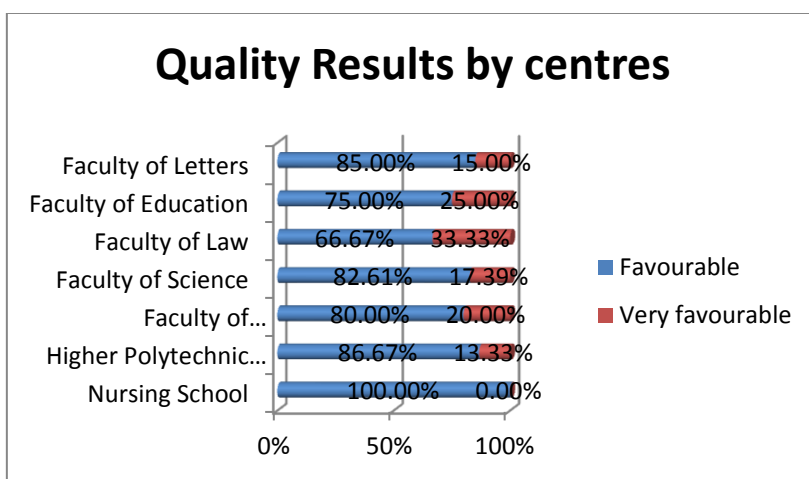In turn, Figure 4 shows the results distributed by UA centres and faculties.

Figure 4: Teaching assessment results by centres

It can be checked that only the Nursing School did not obtain very favourable results in the final report. On the other hand, the Faculty of Law is the centre which obtained the highest percentage of very favourable results (33.33 %). Although it is undeniable that the results are satisfactory, there is always margin for improvement in education quality matters. The teaching assessment carried out during this first experimental phase is just a small part of the teaching activity at the University and, therefore, we will have to wait for the results of a wider sample than the one analysed in this case. On the other hand, even if they confirmed the results obtained with the sample examined here, there would still be a wide margin for improvement.

CONCLUSIONS AND PROPOSALS

The first conclusion that can be inferred from the analysis performed is that the results obtained during the experimental phase of application of the Docentia programme at the University of Alicante are clearly satisfactory. On one side, the instruments used have turned out to be functional and efficient for the purpose they were designed to achieve. On the other side, the assessment of teaching performance demonstrates that it responds to positive standards. However, quality is an 'infinite' magnitude, even though that represents a *contradictio in terminis*. That is why satisfaction with the achievements made is never complete. In fact, the University has reviewed the procedure described, has studied the suggestions and comments made by the teachers and those involved in the assessment process and has drawn up new protocols for the application of a second experimental phase planned to be developed during this year 2011. The new instruments are included in the document entitled *Procedimiento de Evaluación de la actividad docente del Profesorado de la UA (Fase experimental 2010)* [Procedure for the Assessment of the Teaching Activity performed by UA teachers (Experimental Phase 2010)].

The EHEA construction process is inducing modifications which affect the core of European university structures. Methodological strategies are being transformed with a defined orientation towards the improvement of university teaching quality. Furthermore, the progressive implementation of internal and external quality assessment procedures is having a strong impact on the improvement of teaching activity.

Therefore, a second conclusion that can be drawn from the data provided by this paper suggests that the universities and interest groups know how important it is to improve education quality and also how necessary it is to strengthen collaboration between institutions and quality agencies. It consequently seems to us that it is highly advisable to complete this experimental introduction phase of the DOCENTIA Programme to ensure the implementation of the teaching assessment system at the University of Alicante as a whole. Obviously, it cannot be an isolated action but just one part of the general improvement plan for university services contained in its Strategic Plan. That requires human, material and informative resources. The University has a Quality Technical Unit with a valuable human team that must provide their effort to obtain reliable information about the value of indicators, so that they can be used efficiently in the management of improvement processes focused on training and also on the services delivered by this institution.

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205 - Internal Quality Assurance at the University of Alicante: Process and Prospective

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Abstract: This presentation has a twofold objective. On the one hand, it summarises how quality culture has entered the Spanish university system; and on the other hand, it analyses how this process is being implemented in the University of Alicante context.

The conceptual framework which serves to contextualise this interpretative analysis of the situation regarding quality assurance systems at university education stems from the mainstream literature on EHEA construction.

Document analysis was the methodology chosen for this study and we have also examined the official documentation as well as the regulation which has governed and developed this process during the last ten years, a period which concludes with full activity on the part of the external assessment agencies created, which act as guarantors of the quality process that has been incorporated into the Spanish university system. The design and implementation of programmes for the qualitative improvement of the teaching staff, of the different qualifications and centres, can be easily illustrated looking at the University of Alicante, where the authors of this paper have checked the degree of assumption and implementation of the different quality improvement programmes that this academic institution is developing.

Keywords: quality assurance, assessment, accreditation, EHEA

THE SPANISH UNIVERSITY OF THE TWENTY-FIRST CENTURY

Globalisation has caused a deep impact on the spheres that shape the different societies worldwide. Higher Education has not been left out of this phenomenon (Castells, 2009; Giddens, 2007; Hargreaves, 2003; Mattelart, 2001; UNESCO, 2005). The context of global economy forces universities to adopt a proactive attitude towards their environment and, therefore, the most industrialised countries have developed processes to integrate the international dimension into teaching, research and educational services. However, the dissemination of these processes makes it necessary for these academic institutions to establish quality assessment and assurance mechanisms in their activities and programmes, as this will allow them to compete successfully in an increasingly universal context.

The term 'quality' has traditionally been associated with the concepts of excellence or outstanding performance. Much has been written about the meaning of quality at Higher Education during the last few decades, and multiple definitions have emerged (Harvey & Green, 1993; Parri, 2006). Perhaps one of the most widely accepted defines it as "suitability for its purposes." This definition means that the institutional purposes materialise in the principles and aims proposed, which show their quality precisely when they are achieved.

As a methodological and expositive option, we will deal with this process contextualising it in the Spanish territory from a socio-historical perspective which, as an inclusive framework, embraces and gives meaning to the qualitative transformation process that the university is gradually undertaking.

University education in Spain was clearly elitist until the second half of last century. Different circumstances gradually modified that reality, especially the widespread access to Higher Education, the increased social interest in the performance of universities in the research field and also the growth of financial resources and the progressive consolidation of university autonomy.

In the 1980s, many university systems around the world started to be regulated with new legal frameworks which stressed the independence of universities. In that context, the *Ley de Reforma Universitaria* [University Reform Act] of 1983 represents a turning point in the status of universities, as it establishes a new model for the relationship between University and State based on the autonomy of the former. Later on, from the second half of the 1980s, the Spanish university joins the EHEA construction process and begins to

design its own convergence process, progressively outlining a renewed European Higher Education system (Colás & De Pablos, 2005; Goñi, 2005; Benito & Cruz, 2005; García, 2006; Martínez & Sauleda, 2006).

The Bricall report (the Spanish equivalent to what the Delors, Dearing or Attali reports meant in other European territories) was published in 2000. This report suggested the introduction of an accreditation system for academic qualifications at the Spanish university and the subsequent creation of an accreditation agency that could perform this task with full guarantees.

The 2001 University Act (LOU for its Spanish initials) incorporated the principles of assessment and accreditation, giving new competences to Universities and Autonomous Regions. It supported society's trust in its universities and demanded from them the consequent responsibility of answering to the educational administrations and the society itself, urging them to be efficient when using the public resources that were placed at their disposal. On the other hand, new management and coordination powers were designed and foreseen for the Autonomous Regions.

One of the main reasons for the modification of this Act (Spanish initials, LOMLOU) carried out in 2007 was to boost the role and responsibility of all the agents involved in the university system. The new text pays special attention to intergovernmental relationships and also to coordination and cooperation in the academic context. The creation of the *Conferencia General de Política Universitaria* [University Policy General Conference] and the constitution of the *Consejo de Universidades* [Council of Universities] with advice, cooperation and coordination functions in the academic field are both efforts in that direction.

THE AGENCIA NACIONAL DE EVALUACIÓN DE LA CALIDAD Y ACREDITACIÓN (ANECA) [NATIONAL AGENCY FOR QUALITY ASSESSMENT AND ACCREDITATION]

The concern for quality increases the external activities of Higher Education institutions. It also influences the creation of agencies with functions that include making sure that universities assume responsibility for the resources allocated to them, providing an independent testimony of the quality level achieved in order to improve quality in the services that they deliver.

One of the main innovations in the aforementioned LOU is the introduction of external quality assessment mechanisms with transparent criteria and procedures in the Spanish university system. That was the reason for the creation of the National Agency for Quality Assessment and Accreditation (ANECA for its Spanish initials) which develops its assessing activity in an independent way to measure the Public Higher Education System's performance, as a means to reinforce its quality, its transparency and its competitiveness. The modification of LOU made in 2007 has a lot to do with the boost given to ANECA activities, favouring its active participation in the verification of qualifications, in the assessment of the academic merits accumulated by the future teachers with tenure, in the assessment of teachings and institutions, and in the assessment of the teaching staff during the phase prior to their hiring. The modification also establishes it as a significant source of information. Its action plans foresee the preparation of studies and reports derived from its assessment activities and from the analysis of university quality indicators. This information is oriented to satisfy the needs of the different interest groups (Ministry of Education, Universities' Social Councils, Students' Associations, etc.).

These are the programmes with which ANECA contributes to the implementation of the assessment function in the different contexts:

AUDIT Programme. Addressed to university centres with the aim of guaranteeing the establishment of an internal quality assurance system in those centres. It combines different elements such as formative offer, teaching development, academic staff, training results, etc.

DOCENTIA Programme. It assesses the teaching quality provided by teachers.

VERIFICA Programme. It evaluates the proposals for syllabuses formulated by universities, and especially their alignment with the fixed objectives.

MONITOR Programme. Designed to supervise the implementation of an already-established official qualification until the moment when it is re-assessed for the purpose of renewing and confirming its suitability (accreditation) once again.

EVALUACIÓN DE PROGRAMAS OFICIALES DE POSGRADO [ASSESSMENT OF OFFICIAL POST-GRADUATE PROGRAMMES]. An instrument to assess the proposals for post-graduate courses at the universities located in Autonomous Regions which do not have their own assessment agency.

MENCIÓN DE CALIDAD A PROGRAMAS DE DOCTORADO [QUALITY MENTION FOR DOCTORATE PROGRAMMES]. This assessment implies recognising scientific and technical as well as formative excellence in some specific doctorate programmes.

Finally, ANECA has available two types of programmes —depending on the professional categories we plan to access— to make it easier for university centres to select more competent and better trained teaching staff:

PARA LA CONTRATACIÓN DEL PROFESORADO NO FUNCIONARIO [FOR HIRING TEACHERS WITHOUT TENURE]

It assesses the teaching and research activity, as well as the applicants' academic training for the access to the 'teacher on a contract' categories established in the LOMLOU (lecturers without tenure).

NATIONAL ACCREDITATION (ACADEMIA Programme).

It evaluates the profile of the applicants who wish to join the group of university teachers with tenure (i.e. *Profesores Titulares de Universidad* [University Senior Lecturers] and *Catedráticos de Universidad* [University Professors]).

In turn, ANECA cooperates and collaborates intensely with the assessment agencies based on the Autonomous Regions[135] and works through a network with European agencies, helping to develop the European university space and strengthen the universities included in the Spanish system. In short, it has as its essential aim to contribute to quality assurance within the university system, introducing elements associated with innovation, competitiveness, comparability, transparency and accountability.

Within the framework of its working plans, it has direct and permanent contact with each one of the universities. It analyses their specific needs and signs agreements with them to materialise the support established between both parties in consulting, methodology and financing matters, so that we can face the teaching accreditation and certification processes with a success guarantee.

In turn, universities have drawn up institutional plans to promote, raise sensitivity and favour self-assessment, improvement, certification, and accreditation initiatives. With that aim in mind, most universities have created quality technical units, which have as their purpose to design and implement plans and programmes included in their strategic plans, which are in turn always oriented to the achievement of the purposes described.

LA AGENCIA VALENCIANA DE EVALUACIÓN Y PROSPECTIVA. (AVAP) [VALENCIAN ASSESSMENT AND PROSPECTIVE AGENCY]

The *Agencia Valenciana de Evaluación y Prospectiva (AVAP)* [136] [Valencian Assessment and Prospective Agency] was created in 2006 for the evaluation of university, scientific and technological activities. Apart from being an agency dedicated to the assessment of scientific and technological university programmes, it aims to be a prospective agency in those same fields, an observatory of the foreseeable changes in the areas considered strategic for economic and social development in the Valencian region.

In 2010, the *Comisión para el Seguimiento y Acreditación de los Títulos Universitarios Oficiales (SATUO)* [137] [Board for the Monitoring and Accreditation of Official University Qualifications] prepared the Protocol for the Monitoring and Renewal of the Accreditation for Official University Qualifications, which was later ratified and approved by the *Conferencia General de Política Universitaria* [University Policy General Conference] and the *Consejo de Universidades* [Council of Universities].

This document outlines the characteristics corresponding to the system of university qualifications that will receive public recognition. This catalogue includes the so-called official qualifications, the validity of which in the whole national territory requires the previous elaboration by the government of the guidelines and conditions to obtain them

On the one hand, this protocol offers guarantees for the monitoring of the official qualifications with the aim of ensuring the effective implementation of teachings in accordance with what is established in the syllabus introduced. This supervision implies analysing the report for the accredited qualification, a specification of the teaching planning carried out and the identification of problems, amongst other aspects.

Assessment agencies, together with universities, play an important role in the monitoring procedure, as they must draw up detailed reports with which they will be able to ensure the availability of the best possible information to make the decisions of renewal or rejection regarding the accreditation of the qualifications under assessment. The indicators proposed for this purpose are: i) performance rate in the qualification; ii) dropout rate; iii) efficiency rate; and iv) graduation rate.

In 2010, the AVAP specified the protocol for the monitoring of university qualifications in the Valencian Autonomous Region. These were the objectives sought with this protocol:

e. To ensure the effective implementation of the teachings already introduced, in accordance with the content of the syllabus for the verified qualification by the *Consejo de Universidades* [Council of Universities].
f. To guarantee public availability of the pertinent and relevant information
g. To detect possible deficiencies in the implementation of the qualification, suggesting recommendations and improvements.
h. To identify best practices for their dissemination within the framework of the university system.
i. To provide relevant information to analyse the extent to which the degrees adapt to the European Higher Education Area.

Simultaneously and in parallel with the regulatory development and the initiatives undertaken for quality assurance on an international, national and regional level and being aware of the importance that quality has in all its institutional contexts, the University of Alicante has been developing actions meant to achieve the quality and progress objectives in the Higher Education offer it is responsible for.

HISTORICAL APPROACH TO THE INCORPORATION OF QUALITY IN THE ALICANTE UNIVERSITY CONTEXT

Quality assessment is a complex and difficult matter. Until very recently, quality was exclusively addressed from quantitative parameters (volume of resources per student, number of students per teacher, etc.). In recent years, however, a new conception has emerged in which other qualitative data prevail over quantitative information. These qualitative data refer to the analysis of people's performance or the efficiency in academic contents, amongst other elements.

On the one hand, this quality assessment processes imply the guarantee of university services within an increasingly diversified context. On the other hand, they are approached as contributions to university teaching improvement. This means that quality assessment somehow seeks to control the university system and, at the same time, it facilitates and increases freedom for the university institution, which in turn entails accountability by means of systematic assessments of its activity which have consequences.

The two essential goals of assessment are to identify the institution's strengths and weaknesses (quality state diagnosis) and make that information available to society. The assessment of the university system permits to build a quality system which, according to Michavila (2005), must consider at least five functions:

- to generate strategies for the improvement of teaching, research and management
- to act as an accountability mechanism before governments and society
- to be an instrument that provides public information about the activities performed by the university
- to facilitate the introduction of differential financing systems
- to be used as a programme accreditation mechanism.

Within this framework, it becomes essential to draw a clear distinction between the instruments and goals of the university system. Assessment is a tool at the service of the objectives sought by education, teaching and research. It must be consequently made clear that the objective is not to assess and, therefore, we cannot organise the university system from the premise of facilitating the application of what are nothing but instruments for the achievement of its goals and not its objectives.

Universities have drawn up institutional plans to promote, raise awareness and favour self-assessment, improvement, certification and accreditation. Furthermore, most of them have created quality technical units to make easier the implementation of their strategic plans oriented to the aims described above.

The University of Alicante has been involved in the different quality assessment plans and programmes which have been implemented at Spanish universities since the 1990s. It participated in the first *Programa Experimental de Evaluación de la Calidad del Sistema Universitario* [Experimental Programme for Quality Assessment in the University System] (1992-1994) and in the *Proyecto Piloto Europeo* [European Pilot Project] (1994-1995) which encouraged the adoption of a common assessment methodology for Higher Education. Also, from 1995, in the *Primer Plan Nacional de Evaluación de la Calidad de las Universidades (PNECU)* [First National Plan for University Quality Assessment] which was in force until 2000 and later continued since 2001 with the 2nd Plan (PCU). The first phase of the *Primer Programa de Evaluación Institucional* [First Institutional Assessment Programme] started in 2003. The second phase of this programme was undertaken in 2008 with the presentation of the qualifications which have completed at least three promotions with the current syllabus.

All these plans have made it possible to gradually address the assessment of university quality in Spain and shape an assessing culture which answers to society using the mandatory reports.

In 2002, the University of Alicante created the *Unidad de Planificación Estratégica y Calidad (UPEC)* [Strategic Planning and Quality Unit] with the function of providing technical and administrative support to the quality improvement actions undertaken by the UA. This unit functionally depended on the *Vicerrectorado de Planificación y Asuntos Económicos* [Deputy Vice-Chancellor's Office for Planning and Economic Matters].

In 2004, the UPEC was converted into the *Unidad Técnica de Calidad (UTC)* [Quality Technical Unit], which depends on the *Vicerrectorado de Planificación Estratégica y Calidad* [Deputy Vice-Chancellor's Office for Strategic Planning and Quality] and has as its specific mission:

> To facilitate development for the University of Alicante's quality policies in the teaching, research and management areas and support the agents involved in all those processes which are oriented towards the continuous improvement of this institution, favouring the creation and dissemination of a quality culture among all members of the university community, along with accountability before society. [138]

This Unit is in charge of facilitating the development of quality policies implemented by the University of Alicante in the areas of teaching, research and management. It is therefore an essential element for the dissemination of culture quality among the university community members. Among the different programmes[139] that it contributes to develop stand out the following:

DOCENTIA Programme

We can summarise the content of this Programme, to which we have referred in another paper presented to this Conference, pointing out that its objective is to assess the quality of the education imparted by UA teachers. Its procedures stem from the guidelines provided by ANECA and permit to collect relevant information about the teaching activity performed by teachers using the Campus Virtual tool. In other words, the teaching staff is assessed through the triangulation of the information coming from students (teaching survey), from the academic leaders in the centre where teaching is imparted (leaders' report) and finally, from the teachers themselves (self-report). This assessment is complemented with the evidence available in the institutional databases and is developed over five-year periods.

An initial experimental phase has been developed in which a cohort of 80 teachers was assessed and, at the moment, we are working on the implementation of a second phase, where the assessment will be extended to the whole teaching staff.

AUDIT Programme

The LOU establishes that all official qualifications must go through an accreditation process developed either by ANECA or by regional agencies, both at the moment when a specific degree is proposed (verification process) and when it has already been implemented (process for its accreditation).

Following ANECA's orientations, the UA has designed a Sistema de Garantía Interna de la Calidad (SGIC) [Internal Quality Assurance System] trying to find a balance between those orientations and its own characteristics in the actions promoted to help quality improvement in its programmes and qualifications in a continuous, systematic and structured way. This SGIC has been verified by ANECA and currently finds itself in the phase of implementation at the different faculties, after which it will be certified by ANECA. This certified SGIC will make possible the verification of the future university qualifications (degree and master's degree).

The SGIC design considers the needs of students and other social interest groups regarding the training offered by the UA. Its implementation seeks to honour the commitment to satisfy the social needs and expectations, to offer the transparency required within the EHEA framework, to incorporate ongoing improvement strategies, to efficiently organise teaching initiatives and to facilitate the accreditation of the qualifications already imparted at the University centres.

Each centre prepares a SGIC that includes the following elements related to university training:
   a) Formative offer design: Definition of objectives, student admission criteria, criteria for the eventual suspension of the degree, etc.

b) Development of teaching and student-oriented actions: Welcome and support activities addressed to students, teaching-learning methodology, learning assessment, external practical activities and student mobility, complaint and claim management, student report management and formalities for academic qualification certifications, etc.

c) Academic and teaching-support staff: Access, assessment, promotion, training, recognition and support to teaching, etc.

d) Material results and services: Design, management and improvement of classrooms, laboratories, libraries, bibliographic funds, etc.

e) Training results: Measuring, analysis and utilisation of results, labour insertion, satisfaction of different interest groups, etc.

f) Public information: Dissemination of updated information about training.

This SGIC materialises in an implementation structure formed by different bodies with their respective specific roles: Dean's team, Faculty Council, Quality Board and Quality Coordinator.

In 2009, the University of Alicante obtained a favourable assessment by ANECA in the AUDIT programme for two of its Centres: the Faculty of Letters and the Social Work School (currently integrated into the Faculty of Economics and Business).

VERIFICA Programme

During the present 2010/2011 academic year, the UA has started the implementation of the new official qualifications (degrees and master's degrees), which had been previously verified by ANECA and AVAP. There are obviously no relevant data available about this process yet, but in general it seems to be developing rather smoothly.

MONITOR Programme

In 2011, ANECA has set in motion the MONITOR programme with the aim of supervising the implementation of new syllabuses, helping universities to gradually improve the aspects which may present deficiencies with a view to their future accreditation.

A pilot project will be developed during this year based on the design of a straightforward, agile and consistent procedure structured around four broad dimensions:

a. Information for society and for prospective students

Accessibility, intelligibility and usefulness of the information included in the verification report for the monitored qualification will be checked.

b. Information for students

Attention will be paid to the accessibility and intelligibility for students of aspects related to the materialisation of the syllabus during its implementation.

c. Information about operation

Information will be requested about the way in which the implementation of the syllabus is being undertaken and about its internal follow-up procedures.

d. Information about training results

The University will look after the compliance of commitments regarding the achievement of the competences corresponding to each qualification and the values for each indicator.

This Project will be applied on a significant selection of official qualifications agreed with Autonomous Regions and universities.

PEP Programme (hiring of teachers)

We do not have specific data corresponding to the University of Alicante in this respect. However, we do have available the results from the Teachers' Assessment Programme for Hiring (PEP, for its Spanish initials) for the period comprised between January 1st and December 31st 2009, which have been published by ANECA.

We can see in this report that 61% of all the applications filed obtained a positive assessment. Breaking down the results by contract modalities, 53% of the applications for the category of profesor contratado doctor [Teacher with a PhD working on a contract] obtain a positive assessment. On the other hand, the category with the highest percentage of positive assessments is that of Ayudante Doctor [Assistant Teacher with a PhD] (78%).

By knowledge areas, the Social and Legal Sciences area provides the highest number of assessment applications (28%), 59% of which obtained a positive assessment. In turn, the Health Sciences area provides 12% of the applications, with 63% obtaining a positive assessment.

CONCLUSIONS AND PROPOSALS

The document analysis carried out about the situation of external quality assessment at Spanish universities permits to state that it is structured around three main axes: assessment of official qualifications; assessment of the teaching and research staff; and quality assurance systems for university teachings (ANECA, 2009)[140]

Regarding the first axis, the design and implementation of the official Higher Education programmes in the whole Spanish university system is representing an important challenge for the agents involved in the process. For universities, because they have had to design the qualifications; and for assessment agencies, because they have played a significant instrumental role, assessing the new qualifications and guaranteeing their quality through the VERIFICA programme.

Because of the need to harmonise the new qualifications with the EHEA, the design of new syllabuses has taken into account relevant aspects related to the content of the subjects proposed, to the teaching process, to students' learning and to the context where the university carries out its teaching role.

Universities and quality agencies have maintained an intense dialogue throughout the qualification design phase which has contributed to improve the quality of the different degrees and master's degrees. This dialogue must be further encouraged during the new monitoring phase for the qualifications already implemented (MONITOR programme) which has just started, as this will improve them and make universities' accountability before society more efficient.

The second axis mentioned above refers to the assessment of the teaching and research staff. On the one hand, the assessment processes which are being carried out at the moment guarantee that the future teachers and researchers fulfil the specific requirements to develop their functions, either forming part of the university teaching bodies or through contracts signed with universities. On the other hand, they permit to recognise quality in the teaching activity, in research and in the management of teachers who are already developing their professional activity at universities.

The national accreditation system (ACADEMIA Programme) has reduced the costs of the previous national qualification system, both for teachers and for the Public Administration. It additionally places at the disposal of universities a wide range of candidates for their selection of the teachers who will eventually occupy posts in the university teaching bodies. Nevertheless, it must be highlighted that the majority of the staff accredited gets their promotion at their own University, which means that competitiveness is practically non-existent during the internal candidate selection process.

The assessment prior to the hiring of teachers and researchers is following a downward tendency, although the number of assessments performed is still very high. It is worth highlighting that, in our opinion, it is important to encourage a vision of assessment for accreditation that makes mutual recognition between agencies effective. Progress has been made in this direction during the last few years, and that is positive because the process is now more clearly defined, a lesser effort is required, and participants have a more positive perception of a process that is arduous and problematic in principle. It would be advisable to study this possibility in more depth for the future.

As for the teaching and research staff, programmes for the assurance and recognition of the correct performance by teachers who are already working at universities have also started to be applied. In many Autonomous Regions, like ours for example, either local agencies or ANECA assess the individual merits of a part of the teaching staff, this assessment being the criterion for the granting of regional salary complements. It must be highlighted that there are differences between Autonomous Regions, both regarding the assessment procedures for the granting of complements (merits assessed and ways to do it) and in relation to the amounts corresponding to the complements received by the positively assessed staff.

The third axis concerns quality assurance systems at universities. The AUDIT programme has as its aim to orient universities in the design and implementation of the aforementioned SGICs. The degree of involvement in the implementation of the Programme has been quite high (over two thirds of the universities). In most cases, the final result obtained has been positive, though with recommendations which highlight the convenience of making improvements in aspects such as the way in which interest groups take part in the design and development of some actions, the mechanisms for the implementation of the improvements derived from the revision process and the need to provide more details in relation to the extent of accountability.

The assessments carried out through this Programme have proved useful in the context of verification for new qualifications, taking into account that it is compulsory to have reliable quality assurance systems. As the process of implementation continues with more new qualifications, many of the favourably assessed

SGIC designs will have to be implemented by the universities themselves, as is happening at the University of Alicante.

Coexisting with the AUDIT programme, the DOCENTIA programme has been designed to favour quality improvement in teaching activity. Universities have integrated their procedures into the SGICs, considering the relevance of the activity concerned. This is the course of events at the University of Alicante at the moment. Practically the whole of the Spanish university fabric has taken part in the Programme and all the reports issued by the assessment agencies have been favourable. On the whole, it can be concluded that the designs suggested by universities to assess the teaching activity performed by their teachers should improve in their implementation process in order to achieve:

> a) a higher degree of teaching activity discrimination in terms of quality. We are under the impression that the procedures designed still do not permit to really distinguish the staff showing the best performance.
> b) a greater weighting of results to explain quality in teaching activity.
> c) more descriptive quality in the assessments performed, so that they can become more useful to teachers, to universities and to agencies.
> d) a better operating link between the assessment results and the consequent decisions in the areas of teacher training, promotion and recognition.

Despite being aware of the fact that it is still in its infancy, the overall analysis about the implementation of the quality assurance system at the University of Alicante allows us to be hopeful in relation to its future development. We insist on the need to integrate it into the general improvement plan for university services included in the Strategic Plan of the UA. This requires human, material and information resources. The University has a Quality Technical Unit with a valuable human team that must provide their effort to obtain reliable information about the values for the key indicators, so that they can be efficiently used to manage the processes focused on the improvement both of training and of the services delivered by this institution. At Faculties, the different managing teams and a large proportion of the teaching staff have demonstrated the sensitivity needed to implement the process successfully. Therefore, it is necessary to activate a type of institutional leadership which can boost the synergies required to guarantee quality assurance in their research activities and training programmes, boosting its international dimension and, ultimately, favouring its successful positioning within the context of global economy and the society-network.

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NOTES

1. ANECA is a national foundation which certifies the qualification and accreditation of teachers to impart teaching at Spanish universities. The Autonomous Regions have created regional agencies with similar functions within their respective areas of competence; here is a list of those agencies:

Agencia Andaluza de Evaluación (AGAE). [Andalusia]
Agencia de Calidad y Prospectiva Universitaria de Aragón (ACPUA). [Aragón]
Agència de Qualitat Universitària de les Isles Balears (AQUIB). [Balearic Islands]
Agencia Canaria de Evaluación y Acreditación Universitaria (ACECAU). [Canary Islands]
Agencia de Calidad Universitaria de Castilla-La Mancha (ACUCM). [Castile-La Mancha]
Agencia para la Calidad del Sistema Universitario de Castilla-León (ACSUCYL). [Castile-León]
Agència per a la Qualitat del Sistema Universitari de Catalunya (AQU). [Catalonia]
Agència Valenciana d'Avaluació i Prospectiva (AVAP). [Valencian Region]
Axencia para a Calidade do Sistema Universitario de Galicia (ACSUG). [Galicia]
Agencia de Calidad, Acreditación y Prospectiva de las Universidades de Madrid (ACAP). [Madrid]
Agencia de la Evaluación de la Calidad y Acreditación del Sistema Universitario Vasco (UNIQUAL). [Basque Country]

2. Act 5/2006, of May 25th, for the creation of the *Agencia Valenciana de Evaluación y Prospectiva (AVAP)* [Valencian Assessment and Prospective Agency]. Official Gazette No. 154, of June 29th 2006.
3. This board is formed by representatives from the Ministry of Education, Regional (Autonomous) Governments, Quality Agencies and Universities.
4. Retrieved on March 22nd, 2011 from http://utc.ua.es/es/presentacion.html
5. Retrieved on March 23rd, 2011 from http://utc.ua.es/es/documentos/carta-de-servicios.pdf

6. ANECA (2009) Informe sobre el estado de la evaluación externa de la calidad en las universidades españolas. Retrieved on March 10th, 2011 from: http://www.agae.es/include/files/agae/Informe_Calidad_2009.pdf

240 - Design of Media: Didactic Guide to Competences Development

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The application of the principle "Learning throughout life" leads the implementation of new research plans in the E.E.E.S frame. This principle demands the continue follow up in learning of university professors. In order to prepare them for the latest challenges. In this context, University is the institution in charge of creating knowledge, professional development and global learning in students.

Teacher's learning must focus on those aspects more suitable for answers to Bologna requirements (1998). These requirements have been completed in the meeting of Bergen (2004) and in the one of London (2007), which summarize the most important demands in order to make come true the agreement reached.

This is our work line and we have published several researched (Medina, Dominguez, 2007, 2009, 2010, 2011) Which have contributed to present models for preparing teachers to deal with the new learning-teaching context.

In relation with previous research we want to get deeper in the learning model for teacher's competencies. (Medina, 2010: Medina, Domiguez & Gonçalves, 2011). It has become a further step in the quality and typology of the competencies of university professors.

We want to follow and boost a specific competences map, the following one:
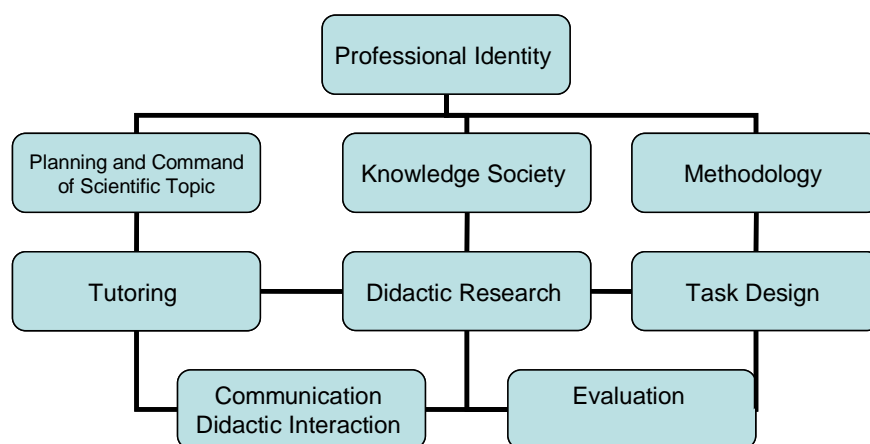
JUSTIFICATION OF TEACHER TRAINING IN DIDACTIC COMPETENCES.

The European higher education area (EHEA) stands out as an essential end that students achieve the generic/core and professional competences that are most valuable, that allow university students become prepared and committed to new values and able to resolve efficiently and with continuous improvement the challenges of their future profession.

It we want students to acquire a high mastery of those competences, we are as a first idea and base: Have teachers acquired the necessary training to answer adequately to this necessary educational aim?

The answer has been given in previous investigations (Medina et al., 2007, 2009, 2010), (Medina, Dominguez & Conçalves, 2011), (Medina, Dominguez & Medina, 2011) and between other investigations (Medina, 2011).

It is urgent that teachers receive thorough training and high dedication in order to master the teaching competences required to face the new challenge and to act with the vigour and the relevance that the present time demands due to our integration to the EHEA.

The hypotheses that we are working on and that the study makes evident is that university teachers and specially the distance university teachers requires a deep reflection on the whole of the competences that arose from our previous research (Medina et al., 2007), (Medina, Dominguez & Gonçalvez, 2011), but in the new program initiated in December of 2010, in different university contexts and specially in the Program for Professional Development in Quito (ESPE); in the University Program for Distance Education and with the

new frame of UNED, it was highlighted that teachers must acquire the aimed and presented competences in the official curriculum, but among them the following must be highlighted because of their impact in the acquisition of the whole of the competences:
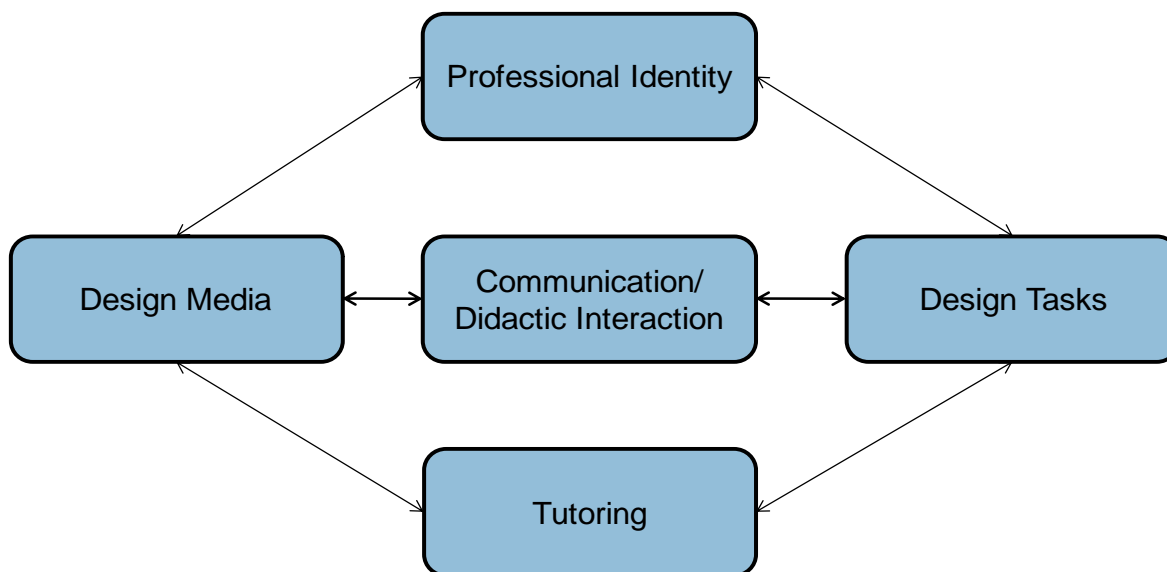
These competences make up the bases of the most representative competences of the action and quality of teaching in higher education institutions. Previous research (Medina, 2010) show that the distance education teachers require new forms of knowledge and recognition of the relevance of their task and also of the most valuable decisions to face the new challenges and the specificities of a higher education committed to enabling students and to train them to master the most relevant competences:

1. Knowledge Society.
2. New professions.
3. The universality of the job market.
4. Quickly changes.
5. Technological transformations.
6. Work flexibility.
7. An eco-training, complex and multicultural society.

Before this demands university teachers must reflect about the permanent models of change, the needs of the students and the plurality and harmony of the European titles.

Development of communication, identity, media and tutoring.
These competences make up a representative map of teacher competences that distance university teachers must master and that on the whole constitute the most relevant pedagogical practices. (Medina et al., 2011).

There are three reasons for this selection:
- Research of EHEA context.
- Specificities of the practice of distance university teaching. (Medina, Dominguez & Gonçalvez, 2009).
- Relevance of the program of professional development of UNED (webs of innovation and improvement plans and teacher training/ Net of Innovation and Teacher's Training (ESPE-QUITO).

Communicative Competence
The essential competence to distance university teaching is communication, basically mediated and supported by the classic and digital materials, developed through direct and virtual tutorials, which is characteristic of distance teaching methodology.

A new map is drawn and defines the new model of training that must be applied to the distance modality and that has been transformed and adapted from other modalities of normal university because the demand on the teachers is that they use platforms such as Wbcr, ALF, Moodle, etc. That implies a vigorous specialization on the part of the teachers and that the EHEA considers as evidence of the quality of the university systems that we represent.

Professional Identity

Communication

Design Media/ Task   Tutoring
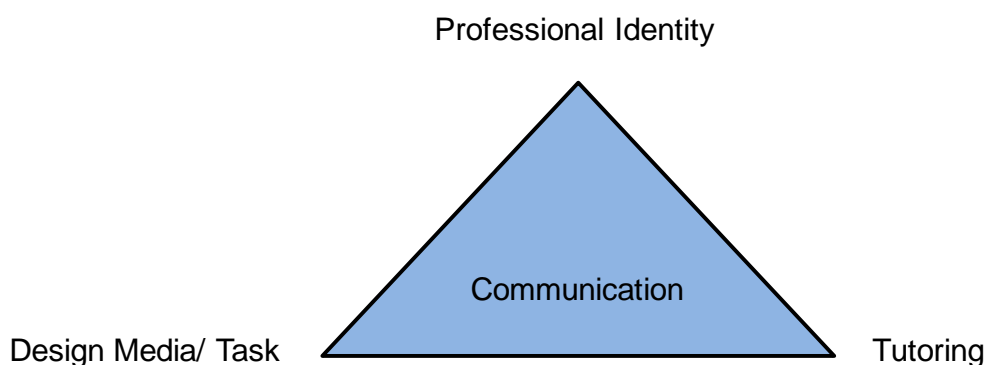
This triangle synthesizes the relevance of these competences that are a priority for distance university teachers, and for any university teacher who has to consolidate them if they want their students in turn to master the core and professional competences that are demanded in order to obtain titles recognize in the EHEA.

The communicative competence in the Information and Knowledge Society is central. It's specified and makes itself evident in the use of the knowledge and professional communicative practices, attitudes and values that determine a close interaction between the components of the communicative process.

Agents – message and medium – receptor.

Expert teachers- Design of the media and tasks – Professional students.

The specificities of communicative competence in distance education makes itself evident in:

- Design media.
- Use platforms
- Combination of forums chats and e-mail.
- Development of tasks
- Tutoring USE

There is a need to deepen into the model of design of didactic media in order to achieve a empathic and comprehensive communication that facilitates the students acquisition of the competences, the advancement of academic knowledge and the anticipation and solution of the complex problems and processes of the future profession.

There is an improvement in communicative competence when we develop the professional practice centred in the design of didactic materials and the empathic performance of the tutorial conference.

This complementation between competences shows that the integration of a holistic development of the whole of the competences is required to the point that the competences configure a process and a context of mutual enrichment and reciprocity.

There is an advancement in communication through the actions and practices of improvement, among them, the use of video-conferences, forums, chats, and also the creation of study guides, didactic tools classic materials and e-books, these constitute de most adequate medium to improve the communicative processes.

The design of didactic media is in itself an authentic communicative process and we must work on the configuration of techniques and models that perfect it continuously.

Among the media of consolidated design we choose the following:

Study-guides: Thematic synthesis, as guidance and motivation to encourage autonomous learning and contributing with a schema that specifies: ccompetences, learning outcomes, contents, tasks, timing, and development of practical problems, self-evaluation and bibliographies.

Didactic units: Synthesis of the whole of the competences, learning outcomes, extensive presentation of contents, tasks, professional contexts, self-evaluation and complementary bibliography.

Design of virtual materials, in teaching platforms, organized according to an instructive and transformational sequence, with close complementation between all the resources, with higher interaction open to social networks and with the creation of new contexts of complementation between the different media

The communicative competence becomes consolidated when diverse styles, mediums and resources of presentation of culture, academic knowledge and professional issues, integrated in a new vision of the teaching tasks, are used.

MODELS OF THE MEDIA DESIGN FOR THE INNOVATION OF TEACHING

The competence in design of media for professional development builds a mode in which to base its communicative relevance and quality. In this way we improve students' motivation to use a warm style and to develop the metaphors and analogies more adapted to the field of knowledge.

The structure of the discourse must differentiate itself for its simplicity and mastery of a direct style, contributing successively with the concept, facts and theories that the students must grasp with a relevant projection to the professional environment and to the solution of future issues characteristic of the working context.

The writing of the texts is the great challenge of the teachers, who must carry out a design that is:

- Instructional-didactic.
- Literary and motivational style.
- Agreeable
- Powerful and impressive.

The text must summarize the most valuable academic advancement and inter-disciplinarity, with projection in the demands and problems of the future profession, training students in this double relevance scientific and professional, but presented in a clear and ordered way that allows the students to improve their knowledge and helps them with the challenges that are characteristic of a working environment in constant change and with an international inter-dependency.

DESIGN OF THE INVESTIGATION

Research Objectives
To identify the most valuable and relevant competences for preparing that the students acquire the teaching competences and develop a culture of improvement of the distance teaching-learning process.

Specific aims
- To disclose which are the most representative competences that the teacher must advance on in order to improve higher education.
- To select the most representative competences in order to face with vigour the demands of the EHEA.
- To value the meaning and repercussion of the communicative competences, media design, tasks and tutorials in the professionalization of university teachers.
- To determine the inter-relations between the mastery of the chosen teaching competences and the training of the students in core and professional competences.

Research problem
The research aspires to find out and value the teaching competences that are more representative and that the university teachers and specially those of distance education must master in order to meet with vigour the demands of the EHEA and to support Long Life Learning in the students, preparing them to master the general and professional competences.

People and Sample of the Research
People and Sample of this research are people are university professors from UNED in Spain (100 PHD) and ESPE of Quito (60 teachers) who value the command and importance of these competencies.

Methodology
We have used a combination of quantitative methods (questionnaire) and qualitative methods (narrative, analyze of didactic materials, interviews) methods, in order to deepen in those selected competencies.

Among this integration of methods we underline in this research the approach of ''Analysis of the Communicative Model'' used to design and test the quality of the didactic materials, selecting some dimensions of the map created by the IVED and the new characteristics of the process of design of didactic media and tutorial communication development (Medina, Dominguez, & Sánchez, 2008, 2010).

Data analysis
We present the most relevant findings that emerge from the questionnaires, discussion groups, narratives and

analysis of didactic materials performed in order to study the global relevance of the selected dimensions:
- Communication.
- Media design.
- Tutorials.
- Professional identity.

Globally, the average results of the questionnaire and standard deviation of the answers of UNED teachers, both permanent teachers (Madrid headquarters) and teachers of a variety of other centers (Canary islands, Asturias, Talavera, Vigo, etc) are the following:

Results achieved (teaching competences	Average	Standard deviation	Mode	Percentage
Communicative competence	4,4	1,04	4	66.3%
Media Design	4,1	0,7	4	83%
Tutoring	4,4	1,2	4	65,5%
Professional identity	3,9	1,2	4	57,6%

The highest value among the average correspond to Tutoring and communication, specially when you add them up

CONCLUSIONS
Distance Learning Teachers consider competencies as a suitable whole for the development of university teaching. The selection of the competencies stands out as necessary sequence of command for the right performance of professors and training students.
- Professional Identity,
- Tutoring,
- Communication,
- Media Design and Evaluation.

These competences have been chosen by university teacher as relevant to their teaching training and they are part of the challenge of modernization of the teaching profession that the EHEA demands, specially the media design and the tutoring which represent student's bases to answer to society's inter-culturality and complexity.
The close relationship and complementarity between these competences is essential in order to allow university teachers to answer to the real needs of a world in constant change and with new professions being constantly created.
The achievement of the objectives is confirmed specially when there is evidence that in order to train students in generic and professional competences, previously the teachers need to be conscious of the mastery they have achieved in those competences and they understand their competences in their prototypical dimensions:
- Learn to know and master the academic knowledge that is the foundation of the competences.
- Learn within and from the issues of their own profession, the most relevant issues that they will need to deal with, applying academic knowledge and re-creating their knowledge from the action.
- Develop the attitudes, values and codes of conduct that characterize university life and culture.

The most relevant competences to reach the full professional development of university teachers has been synthesized in the four mentioned before, with special emphasis on the design and development of classic and digital media which have been extended with a process of support, collaboration and advise from students and colleagues of different cultures.
The main conclusion is to verify that there is a close relationship close and supportive between the knowledge and the mastery of competences mentioned and the ones achieved by the students in the new intercultural, social scenario.
The relevance of this study lies in the confirmation of the updated of previous research which showed that the teachers must take an active part in the design of the university and that the guidelines for the optimal academic, human, social and institutional training of the students and future professionals happens when there is a greater coincidence between the media design and the tutoring, two essential aspects of the distance

education teacher training. Previous studies that focused on this line of research confirm this (Medina et al., 2007, 2008,2009, 2010, 2011) and (Boterf, 2008,2010).

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272 - Being a University Teacher in Times of Change - The Academic Profession and its Reconfigurations

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Abstract: This paper is theoretically streamlined on the orientation chart in reference to Sociology of Higher Education and the analysis of the academic profession under the influence of the government policies for Higher Education. The main aim is to describe and analyze the reconfiguration of the academic profession over the on-going scenario of changes on the Higher Education context. It emphasizes the factors that influence this reconfiguration of the academic profession, that is, the redefinition of the roles and duties of university teachers. The survey takes the quail-quantitative methodological design, sequential mixed method. The theoretical views of the reviewed literature have been used both to guide the study and to favor the data double-crossing.

Keywords: Academic Profession, Mixed Methods, University Teacher Roles.

INTRODUCTION

The second half of the twentieth century witnessed intense economic, social, political, cultural, technological, educational, that impacted the higher education systems in all countries and created tensions between educational policies and international trends related to globalization, internationalization, marginalization, fragmentation, technologization, turned out to be "a complex period permeated by paradoxes" (UNESCO, 1999, p.111). The academic environment has become diverse and complex, influenced by the changes due to education policies and the relationships between university and society. The transformations of the university as a social institution and as an organization has generated changes in its structure and operation, and the dynamic of change, has generated changes caused from the external environment affects the universities and the academic work that takes place in them.

Changes in the academic profession have been highlighted in the literature, concerning the expected roles, the new roles that are now required, resulting in reconstruction of identities in response to changes in labor and roles (Taylor, 1999), a reconfiguration of the academic profession (Finkelstein, 2003, Schuster & Finkelstein, 2007), the vulnerability of the academic profession (Beck & Young, 2005). In the landscape of change that characterizes the contemporary world the academic work becomes complex, difficult and challenging at the same time, with changes and trends in the context of changing the nature of academic work.

In Brazil, we emphasize the study of Mancebo and Franco (2003) which discusses the academic work, especially the teacher-researcher who works in the graduate, and the study of Bosi (2006, 2007) that questions the precariousness of teaching in higher education and its consequences.

The university teacher is immersed in this scenario of changing demands and this is the core of our research interest: how the changes undergone by the university, higher education, affect or reconfigure the academic profession, the condition of being a university professor? The aim of the research was to understand the reconfiguration of the academic profession in the context of changes. We started with this initial question: How the changes undergone by the Higher Education affect or reconfigure the academic profession, the condition of being a university teacher?

The study was developed in two phases. First, initial exploratory, in which, after identifying the focus of interest and defining the problem and goals of the research we studied the literature to develop theoretical study and definition of the methodological design of the study. The second, a field study in two stages: a preliminary study of qualitative interviews with key informants, followed by an investigation focused on quantity, using a questionnaire to a sample of 340 teachers from three universities located in the Brazilian Amazon.

The nature of the research problem and objectives were essential elements to the methodological design and we assume a plurality to be able to capture the complex and dynamic reality of the university and the academic profession and thus, we assume that plurality with a view empirical-analytic and interpretive-qualitative methodology making use of mixed or multi method, in view of complementarily, combining

sequentially, qualitative and quantitative strategies, with the expectation that the approaches can be combined, without, however, have a simplistic view of that such harmonization is free of care and accuracy, whereas the essence of two distinct approaches, but while considering the possibility of reconciling them in a mixed methodological design, which takes the complementarily of the data, as a research strategy, with forms multiple collection and data analysis.

A BRIEF SCNERARIO OF HIGHER EDUCATION AND THE RECONFIGURATION OF ACADEMIC PROFESSION

The landscape of higher education in particular aspects related to research presents some sides of the changes hereby synthesized.

1. Decline of government commitment to the funding of universities.
The format changes require funding of public institutions to seek resources through the provision of third sector services and, at the same time, not to increase the payroll, with an overload of existing permanent staff or with the use of temporary contracts. With fewer financial resources are adopted mechanisms that force universities to seek private sources of funding and teachers faces an increase in its "usual obligations, to acquire business skills in order to convert dc its expertise in services tailored to the market" (UNESCO, 1999, p.439). In Brazil, the educational law (Law 9394/96) provides the principle of diversification of funding sources and application of this principle has had an impact in shaping the university in logic of rationalization and productivity, as Lima (1997) calls the adoption of the accounting paradigm, an increase of agreements and contracts of paid services to meet budget gaps.

2. Increased demand for higher education and growth in higher education participation.
In post-industrial society, the valuing of higher level training and recognition of its strategic importance to the social and economic development led to an increasing demand for higher education, or what Didriksson (2008) when referring to Latin America called the massification of social demand for higher education and its rapid growth. In Brazil in 1960 the 260 Higher Education Institutions (HEIs) had 93,202 students, in 1995, there were 894 HEIs with 1,759,703 students, and in 2004 relied on the 2013 HEIs 4,163,733 students, although this number corresponds to only 17.35% of youngsters from 18 to 24 years. Four years later, the Higher Education Census carried out as indicated 5,080,056 undergraduate students. This growth was achieved through the private sector expansion.

It is important to note some changes related to expanding access to higher education and a trend towards greater equity in access, with the increase and differentiation of the student population has led to a kind of transformation of elite university in mass university, which reflects the student profile in number and a more heterogeneous profile, both in background, the motivations and interests of students, the possibilities of time dedicated to studies. The so-called new public who are attending the university, demand a new way to respond pedagogically to their characteristics. Low income students more socially diverse demand that institutions of higher education have programs that address those demands, teachers prepared to deal with situations that probably they did not face before. This transition to a model of mass and the increase in the number of students with diverse interests and needs, changes in the ratio of the number of students per teacher, a workload with many classes may be reflected in the teacher's work, requiring new forms of performance, new roles and perhaps a diversity of profiles of university teachers.

Mancebo and Franco (2003) examine teachers' work in times of globalization point to changes in the basic functions of the teacher, with "new tasks" that are attached to teaching, resulting in over-work, which has been growing for teachers in especially for those which the authors call a certain "track hierarchical teacher: one that research" (p.194). These authors discuss this situation as a result of flexible work processes and products that characterizes the working world today and this logic the "teacher's work is no exception (...) new functions were added to the central pillars of its action, education and search "(p.199).

3. Diversification of roles and work intensification.
Teachers are faced with new demands and expectations reflected in the diversification of roles, expansion and intensification of activities, not only by increasing the workload of the teacher in the quantitative logic, with larger groups and with support for smaller groups or individual support, the adoption of schemes tutorials for students, new teaching methods, interdisciplinary work. But also, the expansion of its traditional functions of teaching and research, with the task of seeking external resources to facilitate research projects, preparing proposals to seek funds in a competitive environment for these resources, new responsibilities with networking with the community, industry, government and service delivery. Teachers tend to allocate more

time and attention on tasks that are best evaluated or whether they believe that the research has more impact on the rewards, apply more time in this academic function than in other academic activities.

Hargreaves (1996) calls attention to the time (how many hours teachers work) as a factor in structuring the work of teachers and notes that both are dimensions that structures the and the work is structured by the time: "far from being a trivial matter, both the amount of time available to the teachers, and to a greater extent, whoever controls this time and for what purpose are converted into crucial issues "(p.01).

There is an increased workload and fragmentation in the work of academics. The workload is not simply the number of hours of work, but mainly the elements that govern the relationships between teachers and the university as an organization, with its norms and rules. Considering the rules of academic work and how their structure, work routines, as they are sorted academic activities, evaluation criteria, it is possible to understand one important dimension of analysis, the literature has been named by the expression "working environment", or working conditions" . Stromquist et al (2007) reports a deconstruction of the academic profession, working conditions becoming worse, or status of teachers questioned and also university practices being put in doubt. Already Finkelstein (2003) uses the term reconfiguration of the academic profession, especially given that the model of full-time professor, engaged in teaching, research and service, is changing.

We understand that this idea of reconfiguration can be related to adjustments in the characteristics of academic work, re-arrangements in the form of action, in shaping the work that academics develop, escaping the typical constitution of the academic profession and probably leading to a differentiation and segmentation career with a smaller number of teachers with dedication to research and knowledge production while others working more in undergraduation, i.e. the teaching function. The new requirements and responsibilities that are being asked to teachers may not only mean an increased workload, in scope and intensity, but also can be the origin of conflict with academic activities, a source of fragmentation of time work and energy dispersion. Pressure to increase the workload was a factor indicated by 70% of participants in the survey.

4. New undergraduate profiles.

With the recognition of the strategic importance of higher education for economic and social development, new kinds of training are now required. These new profiles, (Neves, 2007), are demanding "flexibility, agility, alternatives for rapid integration into the productive system in constant change, which requires a rupture with rigid standards and models of training" (p.14). Thus, there are external demands for a predominance of university education focused on training, market-prompting new professional and teaching methods consistent with these new profiles, which, in turn, request a change of focus from teaching to learning, with consequences in terms of teaching practices more student-centered in learning to learn, problem based learning, learning doing research, interdisciplinary projects, collaborative learning projects, life long learning, creating the need for a change in strategy training of university and teacher training. The changes in objectives or even the design of what should be a university education, with the diversification of courses and training levels, with stronger ties to the labor market and concerns about the employability of graduates, eventually show a reorientation of the university's role in society and the functions and purposes of higher education and a reconfiguration of the organization of the university. So contradictory and multiple claims and aspirations are directed to the university as an institution and to the university education. A trend indicated by the literature is related to differentiation and segmentation of higher education with courses and curriculum offerings beyond traditional offerings and greater flexibility and options multiply study.

5. Pressure for quality and productivity.

The growing demand for quality determines the evaluation and accountability mechanisms that are driven to the universities, courses, academic activities, focusing on productivity . Those issues have impact to academic work and at the same time an increasing competitiveness among institutions. The implicit quality assumptions about the university seem to have fallen to the ground. Now quality is something to be assumed explicitly. Similarly, professors have to show that are able to do well, to perform its function well, satisfying the demands of society with maximum quality and efficiency. Regulation and standardization, certification assessment strategies appear to be related to quality assurance.

The pressures for quality, quality control mechanisms as a means of social control of the university, often linked to funding and regulation, eventually causing structural and functional changes in the university, changes in job training and curricula, focusing on academic work, and require a review of teachers' action strategies, greater planning efforts and documentation of their work, formal and administrative requirements, which can be seen from the viewpoint of partial loss of academic autonomy and control of program

development. The work of Askling (1997) and Harvey (2002) contains a vision that allows us to understand that the development of quality assurance processes required of students perform more administrative tasks and imposes a considerable workload. As Mancebo and Franco (2003) reported that a "metrics of institutional life (...) to get into the issues relating to tensions in teaching, a conclusion is obvious: the educational system that today revolves around the evaluation" (p.198-199).

The prospect is an "audit culture" as argued by Beck and Young (2005) when they cite Power (1994) and Strathern (2000), because, facing the performance criteria imposed from outside institutions requires the demonstration of the academic work relevance. Following the work of Freidson (2001), they argue about a sense of crisis and loss, and use the words of the title of the essay: "an assault on their professionalism" concerning the academic profession. The debate on quality control is generally seen by scholars as a threat to academic autonomy. Another relevant aspect is the struggle for visibility that is pointed to by Ball (2005), as the essence of performativity and its measurement technology.

6. Internationalization of the university.

Under different forms and with a global dimension in goals, in the function and work of the university in welcoming students from diverse backgrounds, implement adjustments to international standards, inter-institutional cooperation with international networks fellow members, international curricula, promoting mobility for students, creating international scientific networks develop e-learning or virtual universities. According Marginson (2000) the internationalization is related to a growth of relations between nations and cultures, and universities, in this respect, has a long history, partly because they have always been international in its orientation with respect to exchanges, cooperation and cultural exchanges. Prior to the expansion of graduate studies in Brazil, most of the Brazilian university professors held post-graduate studies abroad. Both the rise and consolidation of the Brazilian graduate programs were marked by the presence of foreign teachers. However, the internationalization context that takes new forms. Today for example greater international integration is important for postgraduate courses are well evaluated.

7. Development of application-oriented research.

The value of research aimed at solving problems, reaching the interests of the disinterested research, or academic products of high visibility, prioritizes short-term research at the expense of long-term research, with the consequent influence on academic autonomy. Licha (1994) following Weiler (1991) indicates that the process of transformation of the research has implications on academic autonomy, "understood as freedom to set the research agenda of an institution and also as regards the evaluation of scientific effort In general, the philosophical orientation of higher education"(p.46). Milton Santos (1999) analyzes the implications of this logic in the evolution of the role of academics, says that "the sage is replaced by the scholar, the scientist by the mere researcher, the professional intellectual, if not the major concern is over the meeting and teaching of truth, in all its forms, but a fragmented activity, dominated by an immediate objective or targeted to a reductive aspect of reality" (p.02).

Academics seem to be challenged by their work, before autonomous, now tending to be more regulated. A "research agenda" of the teachers seem to assume the logic of just-in-time knowledge worker, announcing a new kind of academic profile. At the same sense Leher (2004) makes a critique of the productivity and highlights the concept of academic capitalism that has characterized the university's agenda when he observes: "But it is necessary that the 'old' universities are convinced that this is not academic knowledge. The market requires an operational and pragmatic knowledge. In this context, technological innovation is inserted into the agenda of higher education on the capital periphery" (p.881). In this sense, another academic ethos prevails: one based on the market, with its notions of productivity, which can also lead to an institutional market ethos, but is relevant to understand to what extent these changes affect the academic profession.

THE NATURE OF ACADEMIC WORK AND ACADEMIC PROFESSION

University teacher are expected to be teachers ad researchers and the ideal is that both are intertwined in universities. Such ideal makes teaching and research the heart of the academic profession, as its core and represents the nuclear territory, with specific purposes or functions, and certainly specific skills. Community service (as called in Brazil - Extension) is the third element of the activity of a university professor and covers activities that enable linkages with society, cultural diffusion, services, dissemination of knowledge in order to make it socially available including linkage between universities and the productive sectors. Balbachevsky (2005) states that the two dimensions of academic work (teaching and research) and the conditions under which they perform differ relevantly in Brazilian higher education, as different institutional

settings impose vary greatly conditions for such activities. According the ideas of Altbach (2000, 2003) and Enders (2001) the author Balbachevsky points that the centrality in teaching activity has been documented in studies in different countries over the last decade, although it is possible to identify groups highly professionalized in research activity.

In other words, even the centrality of academic work is the binomial teaching and research, and teaching or extension to a greater or lesser emphasis in one or another academic activity, the changes undergone by the university should affect the academic work, promoting pressures in the daily work of teachers, the demands of productivity, and finally, in their capacity as teachers. If the university is changing, you may say that the academic profession also is. Where there was an academic profession or an academic career it may be drawing to multiple sections or reconfigurations.

University teachers are in an institutional field, a workspace, and therefore, act as specific actors in this space. They have expectations, ways of working, ways of acting and ways of perceiving change. Therefore it is necessary to consider the development in the setting or atmosphere of the work of the professor - space, time, organizational sets, classroom, and macro social space. The organizational context affects and is affected by the changes that act on the university and on academic work. Even teachers are able to develop mechanisms to strengthen their autonomy; it will be increasingly influenced by the institutional, organizational and social context in which this scholarly work develops.

Working in Higher Education is a social practice and depends not only on the decisions that institutions or teachers make, but is also broadly influenced, by the institutional context and the external environment. It is therefore important to understand how teachers perceive and respond to this changing context and demands of scholarly work seeking to clarify the connections between higher education policies, the changes they bring to the profession with the likely changes in the academic role that is expected of teachers, in the university practices, and finally in the reconfiguration of the academic profession. The possession of a specialized field of knowledge, formally certified by any educational institution and be under contract for a higher education institution or research center to develop one or more characteristics of occupational function, constitute what Grediaga (1999) claims for the minimum be considered an academic one: the field of knowledge practiced, the association of members of the organization in establishing a commitment to work and the scientific community that emerges from the process of sharing the central goal of research and make socially available knowledge. Basing their arguments on the modern notion of profession sustained by several authors, Grediaga conceives the academic profession as a particular type of profession.

The academic profession is consequently a special type of occupation dedicated to generate and transmit specialized knowledge, because even with the pressures for accountability, the increasing bureaucratization of the HEIs, the profession remains central to the university as the organizational space where the academic work happens and the interaction between members of the academic profession. Scholars differ in terms of its main activities in terms of knowledge areas (disciplines), type of institution to which they are linked - whether public or private, elite or mass, focusing on undergraduates' school or belonging to the category of research universities. Enders (1999), in a joint work with Teichler, displays important changes in higher education and the relation between the university and the society, involving the status, function and role of the university, reflected in the academic profession. Although these pressures are not a recent phenomenon, the university needs to know how to deal with the changes. Uncertainty, sense of crisis, decline, erosion, and marginalization, unstable context, are the words present at the academic profession and possibly revealing a loss of its fundamental characteristics. However, it is necessary, as argued Enders, investigate whether the changes and challenges of higher education will have a serious impact on the academic profession.

An important element of analysis is what Marginson (2000) names "deconstruction of the academic profession", indicating trends related to the loss of academic autonomy, considering the use of managerial practices (managerial approach to the administration), the increasing in number and importance, role of professional administrators, managers and technical staff rather than academic staff. It is a trend that leads to a centralized management of research with the partial weakening of departmental disciplinary identity, the creation of corporate programs at the margins of academic norms of international programs such as continuing education, graduate and corporate education, the increasing use of part-time work to meet emerging areas, leading to higher fidelity to the senior managers and less to the department or institution, the break of disciplinary structures and the creation of colleges (without departmental basis) for purposes of teaching or research centers or temporary projects, the subsumed research management systems for performance appraisal to allocate resources.

Indeed, what once seemed protected by traditions, institutions and values as academic freedom, intellectual integrity, and commitment to respond to social concerns, scientific autonomy and stability in the job, is now altered. Does academic freedom, so important to academics, will survive in these changing times?

Autonomy, job security, effective conditions to produce a work of quality, are conditions that make the academic work possible and the literature indicates that these conditions have worsened. Altbach (2009) criticizes the fact that the universities are being taken to a work with less autonomy to make decisions and to think, with priorities facing the government and market demands at the expense of traditional academic autonomy. He suggests that society would be better served by a more balanced academic environment in which universities might be more attuned to the wider public interest and traditional values of academic autonomy and independence.

The growth of global markets, the implementation of policies to reduce investment by the state universities, with the strengthening of applied research and technological innovation, asks for increased links between the university and the academics, with the market, and aim to search for external resources. The so-called academic capitalism (Slaughter & Rhoades, 2004) or what Leite (2003), calls the capitalist redesign of the universities is "a kind of institutional performance marked by the commoditization of knowledge, science and technology and the new management that favors private marketing and profit operations on the campuses" (p.5). The idea is that the universities can be transformed (and some already are) in universities and enterprises and be managed as they are, such with a vision of corporate (business view).

Occurs, then the enhancement of the entrepreneur academic, with the ability to seek external resources going to be as or more important than academic reputation. Thus, the academic productivity is then being measured by the number of publications and guidelines completed; the ability to mobilize external resources to finance research activities, the number of foreign publications (internationalization) and other indicators that the literature usually associates with academic productivity. The problematic issue is not the productivity, but the productivity-with its perverse effect named by Trindade (2001) as: "erosion of academic values (...) which is loosened gradually and dangerously, including its privatization by the internal increasing uptake of compensatory resources, as a result of the erosion of wages and the fall in research funding by government agencies" (p.163).

The intensification of teachers' work in higher education goes hand in hand with high productivity and the creation of paths for academic excellence is to become an entrepreneur and have several published works is more important than teaching. Academic publishing have become tasks in series, like pieces that flow down the mats an assembly line. The product is all that counts, not its reception. (Waters, 2006, p.42). In sustenance of this idea we point out the new production requirements, which express changes in the field of employment of university professors, for example, in the evaluation of post-graduate courses, with shorter cycle times and extend the working hours of advisors and researchers with strong pressures to publish in indexed journals, not to mention the bureaucratic demands of production statistics and reports and the strengthening of bureaucratic controls imposed by the state to academic life, often stifling the academic work, the search for funds to increase the visibility of the program graduate or department. There are references on the impact of changes arising from policies in the guidelines that the university adopt has consequences both in terms of ideals and the practices of research work, on time, promoting an acceleration of work, loss of autonomy over managing their time, involvement in short-term jobs and a growing pressure in terms of time.

With regard to the reconfiguration of the academic profession the direction is to redefine the set of functions and roles of university teachers, based on other parameters; redefinition of the academic career with an orientation toward adaptability to new demands, new realities and a university model and design of academic work in line with the political, economic, social, technological, demanded to the university, o affected what has been expected from the university and influencing its organization, structure and dynamics of their work.

CONCLUSION

The findings of this study about the multiple dimensions of academic life are proving to be consistent with a situation of growing complexity and increased workload, lack of resources, pressures to enhance research scores publishing more and more, as well as outside interference in academic work. Contradictorily teachers expressed their satisfaction with their profession even under the impact of policies and only 6.8% would never opt for an academic career. Although those pressures pressure they remain motivated by their work.

The teachers come with margins of relative autonomy that enables them to cope with the constraints of current policies and requirements and there is leeway for the exercise of academic work with certain limitations, but with quality (51%). For others there is no loss of autonomy and they remain in control of their time, intellectual production and the process of teaching. Yet others point out that there is a significant reduction in autonomy, in both research and teaching, due to the reduced margin of independent action that teachers today have to develop their work (21%).

However teachers experience dilemmas. The main dilemma is related to academic values, ethical and political commitments of the academic profession or further adjusts the exercise of their work to deal with challenges, changes and adapt (54%).

They adopt, however, the following conduct to the requirements and challenges posed by higher education policies: using strategies to avoid losing control of the work or to regain that control, trying to reinterpret the policies and requirements and adopt a strategic behavior in relation to them to "stay in control" their work and articulate viable ways (39%); use ways to escape the traps, or "neutralize" the impact of pressures seeking niches (32%); use strategies to deal with situations and trying to prevent damage and preserve focus on aspects of work that have meaning, then use survival strategies (22%) and only 6% indicate they have struggled to cope with increasing demands for greater productivity by increasing the workload and competition, feeling under pressure or "sinking" as they are not able to cope with these demands and pressures. Results are consistent with studies of Trowler (1998) who point out that academics are not passive agents of policies and therefore can reject the hypothesis that the massification of higher education leads to de-professionalization and proletarianization of academic profession.

We conclude with the words of Trowler (1998, p.55) as saying: "academics are clever people. Rebellion and innovation are strong and their forte .They frequently stand on strategic implementation locations on the staircase".

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282 - Investigating Lecturers' Social Representations of University Assessment Policies: The Case of the "Enade" in Brazil

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Abstract: This study discusses data collected from 50 university lecturers of different educational fields on their views regarding a national assessment policy in universities named Enade. Based at the theory of social representations, the objective is to understand subjects' conceptions of assessment and assessment policies and observe their impact on teaching. Two projective methods of data collection were used: the word association test and the production of a written message. The responses to the world association test were treated by the Software EVOC. The written messages were analysed according to the content analysis. The results indicate that representations contain elements that were contradictory. Some subjects associated Enade with its normative and political character, others with its formative one. This study contributes to the ongoing debate on government assessment policies and its implication to teaching.

Keywords: enade, assessment policy, social representations, teaching practice

INTRODUCTION

The subject of national assessment policies has been gaining space in the academic debate due to its potential for improving the quality of higher education in Brazil and elsewhere. As Martins (2010) have demonstrated, teaching and learning processes as well as the management of universities can benefit from a program of assessment that evaluates and regulates the provision of higher education. In Brazil, national assessments come at a time of great expansion of higher education. The author points out that from 1996 to 2009 the number of private institutions increased from 211 to 2069, while the number of state institutions increased only from 211 to 245. As a result, almost two thirds of graduate students were, in 2009, attending courses at private institutions.

As a consequence of this expansion, issues regarding quantity as well as quality of education are at the forefront of the academic debate (Ristoff & Giolo, 2006; Verhine, Dantas & Soares, 2006; Brito, 2008). In this process of expansion, a national evaluation program was thought to guarantee a qualified higher education system and to facilitate regulatory actions.

The relevance of the issue of institutional assessment in this particular moment can be found in the constitution of the Sinaes (National Higher Education Evaluation System – Federal Law 10.861, April 14th, 2004), put into practice after a long debate with segments of the education community. Take part in the Sinaes three assessment instruments, applied in distinct moments: an assessment of the courses through instruments and proceedings that include *in loco* visits by an external commission; an assessment of the institution by an auto-evaluation process, coordinated by an internal commission and by an external commission designated by the Inep (National Institution of Educational Study and Research); an assessment of students performances and achievements named the Enade (National Students Performance Exam). The Enade proposes to evaluate undergraduate learning processes and academic performances and achievements in relation to knowledge and competences predicted by the DCN (National Curriculum Directives) for each graduation course. It also evaluates students professional competence and skills and their knowledge of the current facts in Brazil and around the world. In order to do that the exam is applied to graduates at the first academic year and to those concluding the course. A complex set of calculations using these scores generates an index which is thought to indicate the level of progress attained during the course. The results of Enade count in the overall assessment of the university, having an effect on its ranking.

The Sinaes has in its directives a commitment to the formative character of assessments, to the integration of internal with external assessment processes and to the recognition of the diversity of the higher education system. It has also maintained that teaching and managing staff, students and representatives of segments of civil society will all participate in its processes and that all data will be made public.

Although this national evaluation program has many qualities and potentials, segments of the education community have been pointing out some of its fragilities. The critics emphasize that, in a general sense, they tend to legitimate universal knowledge, excluding from curriculum knowledge that reflects the ways of

living of communities (Garcia, 2010). Students have also been demonstrating their views against the Enade and it has been detected some resistance to participate in it (Leitão, et al. 2010).

At the core of the debate seems to be the difficulty faced by the academic community to translate policy directives into practice and to deal with the conflicts that can emerge out of this process. As we have seen, this translation is not a straight forward process since it is dependent on people's perceptions and understandings of assessment policies, their procedures and objectives. With Dias Sobrinho (2005, 2010) we can see an analysis of the reason why education reforms fail to succeed. According to him, the education community, especially teachers, feel distant from proposals that were usually made by politicians. They do not take part in the debate neither internalize their concepts. As a result, teachers see these policies as having little effect.

THE STUDY

In order to understanding how assessment policies are perceived and understood by university teachers this study aims to look at their social representations of assessment and Enade, and observe their impact on teaching practices. It finds in the theory of social representations, idealized by Serge Moscovici (2008), the theoretical and methodological support for its development. Since representations are thought to guide people's attitudes towards a subject, it is important to investigate lecturers' views on assessment, as a means to understand their positions towards it and the use they make of it on teaching. The aim is to identify the elements that constitute social representations of assessment and of Enade and observe how they determine attitudes towards this national assessment program.

In his seminal work, Moscovici (1978) was primarily concerned with how scientific knowledge was communicated and disseminated in society and how it was transformed into common sense. Contrary to the wide thinking that scientific knowledge has more value than folk knowledge, Moscovici shows how they are in fact closely interrelated at the point of coexistence. He demonstrates the power of this interrelation stating that when folk knowledge is successful, they "enlarge science by transforming it into a new common sense" (Moscovici, 2001, p. 12). Therefore, for him, social representations are about folk knowledge, common sense and know-how and that this modality of knowledge is in fact knowledge on which important decisions are based at.

But how is this common sense produced? Firstly, it is not a result of individual thinking, but a production of "*thinking societies*" (Moscovici, 2001, p. 12). The author points out that this production takes place in all forms of groups and communities such as clubs, public spaces and associations. These representations are acquired during the normal course of our lives, without specific training and through dialogue. It is in this sense that representations are thought to be "*discursified thinking*", that is, they involve language and conversations (Moscovici, 2001, p. 29).

As Moscovici has demonstrated, the reason why we make representations is to transform the "new" into something familiar. Once in contact with new individuals, ideas, cultures or objects we produce representations of them, that is, we give them a name and associate them with images "so as to feel at ease with it" (Moscovici, 2001, p. 20). According to him, representations are reconstructions of the "new" within a context of believes, norms, notions and values in which it has now entered. Fitting the "new" in the already existing notion is an act of classification. Therefore, when we name something, we give it a quality or subscribe it into a category. It becomes, then, easier to talk about the "new" in terms that all members of that community can understand, since the category in which it is subscribed is conventionalized. In the end, representations allow people to understand reality through their own system of references, they bind people together, guide and orient their behavior.

However, if circumstances change, what happens to representations? A number of studies have been developed in order to answer this question. The Theory of the Central Nucleus of representations proposed by Jean Claude Abric explains how representations are constructed and transformed. For Abric (1994), representations have a centre or nucleus, which is its main part. Around this centre, one finds the peripheral elements. The centre is associated with collective memories, being consensual and resistant to changes. There, one can find the elements and attributes that define the representation, organize and give it a stable character. The elements that compose the nucleus express the homogeneity of the social group and guarantee the maintenance of representations.

The peripheral elements, on the other hand, are more sensitive to the immediate context and to individual experiences. They express the heterogeneity of representations, and it is for this reason that they may contain contradictions. Their function is to incorporate new information that is likely to threaten the nucleus, allowing transformations to take place in its elements.

Abric (1994) explains that, if individuals perceive the 'new" situation as reversible, new attitudes may be incorporated in the old causing modifications to the periphery of the representation. However, its centre remains stable and unchanged. If individuals perceive the "new situation" as irreversible, new attitudes will have greater impact in the centre, changing the representation. The author points out that it is not enough to identify the elements of representations, but to understand how they are interconnected and arranged around the centre.

People's conceptions of Enade and teaching may find resonance in the way they understand assessment processes. Therefore, access their social representations of Enade, that is, understand how it enters a group of already existing categories of assessment by observing how it is classified, named and talked about, can inform the academic community and policy makers about people's attitudes towards the exam.

In order to investigate these representations this study found support in the theory of social representations and on the analysis developed by Abric (1994) on the content and structural arrangement of the elements that constitute the representations. It aims to contribute to the understanding of embedded positions of acceptance and resistance to national assessment policies, reinforcing the ongoing debate on this subject.

Population

This study discusses data collected from 50 university lecturers in Education (Pedagogy), Mathematics, Biological Sciences and Humanities of three private universities in São Paulo. The group was formed by 22 female subjects and 28 male subjects. On average these subjects aged 47 years.

Method

Two projective methods of data collection were used: the free association test and the production of a written message. In the first, subjects were told to evoke five words that came to their minds in response to the following terms: assessment; Enade; Enade and teaching. The responses to the free association test were treated by the Software EVOC (2000) based at Vergés (1992). The free association test is known to facilitate access to the elements that constitute representations and allow the observance of their structural arrangements. Its spontaneous character also facilitates access to words ready available in mind, related to the theme being investigated.

With the written message instrument, a sample of 25 subjects should reply to an email sent by a friend from another university, whose undergraduate students had not participated in the Enade. Subjects were asked to express their views on Enade, because those students wanted to know more about its potentials and fragilities. Subjects were given a model message to follow, with blank spaces to be filled in. In these messages they should specify how they saw the implications of Enade to three distinct agents: university managers, lecturers and students. The written messages were analysed according to the content analysis (Bardin, 1977). This instrument was thought to facilitate the expression of representations, since it enabled subjects to communicate their opinions in a projective manner, by removing themselves from their immediate work context.

RESULTS

The EVOC combines the frequency of evoked words with their sequential order, generating four possible groups, producing a table. The words highly frequent and promptly evoked can be found on the top left quarter of the table. They are thought to contain the nucleus of the representations. The words highly frequent, but not promptly evoked, can be found on the top right quarter of the table. They are thought to display the intermediary elements of representations. The same happens with the words appearing on the left lower quarter of the table. They are the words with low frequency but evoked first in the sequence. The ones with low frequency and not promptly evoked are kept in the lower right quarter. The responses to the world association test following the term "assessment" generated four groups (see table 1).

Table 1: EVOC – term "assessment"

Frequency	Mean order of evocation	
	Fewer than 2,5	More than 2,5
Above 5	26 test	10 knowledge 20 score
From 5 to 8	5 checking	5 be afraid 5 value 6 development 8 learning

The word "test" probably constitutes the main element or the nucleus of the representation, indicating that it is the most crystallized and stable concept of assessment or attribute given to it. The upper right and the lower left quarters contain the words that may constitute the intermediary elements of the representation. These words tend to confirm the elements found in the nucleus. In fact, the word "score" is related to the word "test", in the sense that it corresponds to someone's performances in a test. In the lower right quarter it was found the words conveying individuals' feelings and experiences related to assessments. The expression "be afraid" may indicate a negative experience with assessment, nevertheless, the words "learning" and "development", which were also in the same group, have a different meaning. They convey assessment's formative feature. As Abric (1994) pointed out, the elements at the periphery may contain contradictory elements since they express individuals' own experiences in relation to the theme being represented.

The responses to the world association test following the term "Enade" produced the following table (see table 2).

Table 2: EVOC – term "Enade"

Frequency and Mean order of evocation		
	Fewer than 2,5	More than 2,5
Above 6	6 bad 7 not organized 9 student	7 criteria 8 score 12 official
From 3 to 4	3 fragile 3 statistics 3 development 4 lie	4 marketing 4 quality 4 standardize

In the upper left quarter the word "student" indicates the main agent of this assessment program, followed by the words "not organized" and "bad". They would constitute the nucleus of the representation of Enade, indicating a critical position towards the exam. In the upper right quarter, the word "official" may indicate Enade's normative and political character, while in the lower left quarter it is possible to see the attributes "fragile" and "lie", probably indicating a critical view towards the exam. In a sense, these words support the ideas expressed in the first quarter. The word "statistics" may confirm the normative and political character of the exam. In the last quarter, the words marketing and standardize expressed a concern with the use of the exam for marketing, ranking and competition among institutions, once the results of the exam are made public. However, the word "quality" may be related to one of the purposes of assessment programs, which is to guarantee the quality of education being offered by institutions. The word quality contrasts with marketing and standardize, pointing out the co-existence of different views about Enade. It could also demonstrate that the Enade constitutes a reference to the wider public of the quality of the institution.

The responses to the world association test following the term "Enade and teaching" can be seen in table 3 below. In the upper left quarter the word "useless" expresses the idea that the exam has no impact on teaching for these subjects. In the right upper quarter the word "senseless" also indicates a critical view of the exam and the lack of significance for teaching practices. In the lower left quarter the word "confused" together with "quality" may indicate contrasting views about the effects of the exam on teaching. The word confused may show that the objectives of Enade are not clear, while the word quality expresses one of its objectives. The word "relation" may be expressing some correspondence between the exam and teaching. Finally, in the right lower quarter of the table the words "knowledge", "criteria" and "objective" seem to indicate, for few subjects, a concern for the impact of the exam on teaching and the objective of the exam seems to be the main element of concern.

Table 3: EVOC – term "Enade and teaching"

Frequency	Mean order of evocation	
	Fewer than 2,5	More than 2,5
Above 6	6 assessment 13 useless	6 senseless 6 official-politics 7 revision
From 3 to 4	3 confused 3 quality 3 relation	3 knowledge 3 criteria 4 objective

What these results suggest is that, while the representation of assessment is mainly associated with tests and scores, words like knowledge, development and learning, indicate a dialogue between conventions and

individual experiences. This dialogue may imprint new elements to the conventionalized nucleus, accommodating formative attributes to the representation of assessment. With the term Enade, on the other hand, fewer contrasts were observed between conventions and individual experiences, since almost all elements in the table were expressing a critical view of the exam. The same could be said about the third term "Enade and teaching", and subjects did not see any effect of Enade on teaching.

After having observed the structure of representations, the next objective was to look closer at subjects' views of Enade in relation to three university agents. Data obtained with the written messages were organized in three tables of content, each concerned with the implications of Enade to these different agents: university managers (table 4), university lecturers (table 5) and students (table 6). Each table shows how segments of messages were distributed in categories according to the most recurrent themes. Some segments were classified in more than one category.

It was possible to see in table 4 that the topic of Enade and its implications to university managers were more commonly associated with the idea of being an instrument for administrative actions (Cat. 1), involving changes to teaching staff and changes to educational policies: "…it promotes changes of teachers" (subj. 1). It was also common the idea of Enade having a political and a regulatory character (Cat. 2): "Punish, classify and sometimes unqualify" (subj. 12); "imply conformity to convictions of those that have State power" (subj. 8). In category 3, we find references to the use of the exams for marketing purposes: "Usually serve to advertise the institution in the media" (subj. 16); "represents financial success" (subj. 17). Responses classified in category 4 emphasized the fact that the Enade shows the state of affairs, how things are at the present moment: "serve as an index" (subj. 1); "shows a reality" (subj. 15). In category 5, it was found references to its implications to the assessment of both teachers and students: "Assess students directly and teachers indirectly" (subj. 29). Lastly, category 6 grouped ideas that associated Enade with an instrument to measure the quality of education and a means to evaluate educational practices: "serve as means for necessary changes in his course" (subj. 2); "serve as corrections of pedagogical aims and objectives" (subj. 5).

Table 4: Implications of Enade for institution management (total of 29 occurrences)

	Cat 1: Administrative changes	Cat. 2 Negative aspects	Cat 3: Marketing	Cat. 4 Reality	Cat. 5: Assess teacher, student	Cat. 6: Pedagogic changes
managers	7 (24.13%)	7 (24.13%)	5 (17.24%)	4 (13.79%)	4 (13.79%)	2 (6.89%)

The most frequent category in table 5 (implications of Enade for lecturers), was category 1 where it was found references to the fact that the Enade offers a feedback of what was taught, of students development and needs, suggests points to be reinforced and what changes should be made: "Feedback of what was touched during the course" (subj. 2); "signalize changes and improvements of pedagogical practices and learning content" (subj. 5). Category 2 associated the results of Enade with lecturers' teaching competence: "represents an indirect measure of competence" (subj. 11). Category 3 classified responses that were critical of Enade suggesting that it had little implications to teaching and to students' development: "Hasn't changed anything" (subj. 22); "Doesn't help us dealing with anxieties and expectations in relation to the course and profession" (subj. 21). In category 4 we found sentences expressing a concern with the adaptation of classes and curricula to fit the exigencies of the exam: "Demands preparation for the exam, which does not translate into the needs of the class" (subj. 12), and in category 5, the idea of the teacher being in an intermediary position: "Intermediary in the process" (subj. 20).

Table 5: Implications of Enade for university lecturers (total of 26 occurrences)

	Cat. 1 Feedback	Cat. 2 Teacher competence	Cat. 3 Negative aspects	Cat. 4 Adapt to the exam	Cat. 5 Teachers as intermediaries
lecturers	10 (38.46%)	7 (26.92%)	5 (19.23%)	3 (11.53)	1 (3.84%)

It was possible to see in table 6 (implications of Enade for students), two contrasting ideas. In category 1, subjects expressed their views that the Enade evaluates students' learning and development: "evaluates them technically" (subj. 29); "assess learning" (subj. 13); "academic self-evaluation" (subj. 5). In category 2, on the other hand, a similar

number of subjects stated that the Enade had little or no value to students, emphasizing its political aim: "waste of time" (subj. 12); "Exam does not reflect learning" (subj. 21); "Instrument for regulative and extra-curricular purposes" (subj. 11). Category 3 pointed to its implications to the image of the institution once its results became widely available: "indicates the result of the university" (subj. 25); "projects the image of the university" (subj. 18); "Allows comparisons to be made" (subj. 26). In category 4, subjects were concerned with the impact of the Enade to their job prospects: "The score may result in being or not accepted in the job market" (subj. 27).

Table 6: Implications of Enade for university students (total of 26 occurrences)

	Cat. 1 students learning	Cat. 2 No value to students;	Cat. 3 university quality and image	Cat. 4 future work (career)
students	9 (34.61%)	9 (34.61%)	6 (23.07%)	2 (7.69%)

It was possible to see that for subjects, Enade assumes different attributes depending on the agent being considered. It was an instrument for administrative and regulatory actions for university managers and a feedback of what was taught and learned for lecturers. As far as students were concerned, Enade could show their learning progress for one third of subjects. For the other third, Enade had no value.

CONCLUSION

The objective of this research was to identify the representations of Enade and try to understand subjects' attitudes towards this national assessment program. Since representations reconstruct the new within a set of existing believes (Moscovici, 2001), the aim was to observe how the representation of Enade, which is a relatively new program, is being accommodated and reconstructed within a set of believes that subjects already have about national assessment programs. The identification of the elements that compose the representation of assessment would contribute to the understanding of attitudes of acceptance or resistance of Enade.

It was possible to conclude with the free association test, in relation to the term "assessment", that although subjects associate it with a test, which has a punctual characteristic, learning and development are words that refer to a process and have a formative character. In this sense, these peripheral elements probably indicate a new attribute to assessment and a possible attitude of acceptance of assessments.

In relation to the term "Enade", "bad" and "not organized" were very much associated with other elements linked to State and politics. The words "official" and "statistics" support this association. Compared with representations of assessment seen earlier, there seems to be a strong rejection of the exam itself, emphasizing its normative character instead of its formative one.

As far as the term "Enade and teaching" was concerned, subjects strongly rejected any connections between them. This is an interesting result since learning should be associated with teaching and Enade is supposed to reflect learning. The link between Enade and teaching has not been established here. Nevertheless, in the message instrument, subjects apparently seem to point to positive implications of Enade to teachers and teaching. The word "feedback" may indicate this implication. When removed from their immediate work context, subjects seem to have a more positive image of Enade. This result probably indicates that representations are being formed and in this process it is possible to find contradictions in attitudes of resistance and acceptance.

These results can inform policy makers about the need to act so that teachers are informed about the significance of national assessments and that they are seen as important agents in assessment processes, guaranteeing active forms of participation in them. The translation of policy directives into practice could be facilitated if the distance between proposals and university agents were shorten.

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304 - Monitoring Student Progress System - A Portuguese Discussion Proposal

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Abstract: Progress Monitoring is a method that measures and evaluates a student academic performance. This method can be applied to an individual student or entire class. To implement this method targets to be achieved by the student or class, are established following students' scores which are compared regularly. Based on these ratings changes in the method of study to improve student outcomes are made. This system is common in UK, as Anticipatory Classifier System and Pastoral Systems.

In this paper we propose to make the analysis for a Progress Monitor Systems discussing the ethical and legal constrains in Portuguese system. We discuss also the technological, functional and back-office requirements to implement a prototype progress monitoring system.

Keywords: Anticipatory Classifier System, Pastoral System, Portuguese Education System, Data Warehouse

INTRODUCTION

This paper describes the initial study to implement a *Progress Monitoring System* (PMS) in the *Agrupamento de Escolas Afonso de Paiva – Castelo Branco.* PMS is a general model that defines quantitative objectives to the student and keeps up with them, monitoring his development.

Nowadays the Students Evaluation System Records are still restricted to register both, qualitative and quantitative, students' grades. In the last few years the Portuguese Education Ministry advanced to the treatment of this information, elaborating reports which are afterward sent to schools. The analysis of this system does not answer the following research questions: "Is it possible to predict a student's long term grade?" and "Will student school performance increase with the definition of goals?" Due to these questions, in which ways can the organization adopt practices that provides the improvement of students learning skills. This paper shows the developed work: beginning by defining what a PMS is and what the pre-requisites are to implement the model in a Portuguese public school. Afterwards there will be made a brief analysis of the research model used and the reasons for its choice to this research project, ending with the presentation of a conceptual model.

WHAT IS THE PROGRESS MONITORING SYSTEM

The Progress Monitoring System aims improving student academic results. To achieve this goal the student must be aware of the goals, be stimulated and embedded in defining them to evolve and increase their abilities. There are two different concepts that can be applied to this model: *Proximal Developmental Zone* (Vygotsky, 2006) and *Progress Monitoring* (Monitoring, 2010).

Vygotsky's work (Vygotsky, 2006), include some concepts that have become unavoidable in the learning development area. One of the most important one is the *Proximal Developmental Zone*, that reports to the difference between what a child can do by herself and that what in spite of not being able to do it by herself, is able to learn and do with the help of a more experienced person (an adult, an older or more advanced learning child, for instance). The *Proximal Developmental Zone* is therefore all that a child can acquire in intellectual terms when given the suitable educational support.

Progress Monitoring (Monitoring, 2010) is a method that measures and evaluates the academic results and the implemented actions. This method can be applied to an individual student or to a class, starting with the definition of goals for a student or class. During the process, students' grades are compared on a regular basis. Based on these evaluations, some changes are introduced in the study method in order to improve students' results. The major benefits of this system are:

- Fast knowledge acquisition by receiving more direct instructions;
- More privileged information;
- Students' progress documentation to improvement proposals;

- More communication efficiency with the students family and others about the progresses made.

The student's progress monitorized must result from an articulated work between parents, teachers, students and psychology services, so that everyone takes full responsibility in achieving the defined goals.

The time in the analysis must be considered, due to several factors that can occur to second and third level students, like: the entrance in a teenager period; the curricular changes when entering the seventh grade and also some psychological factors such as the passage from concrete thought to an abstract one. This application may also identify some failures, not only in the curricular path determined by the school but also in the intermediate curriculum.

WHICH COUNTRIES USE THESE MODELS

The use of the information regarding the use of students' academic path in defining both individual and group goals already exist in some Anglo-Saxon countries. Therefore we present a more detailed study relaying in the English model, according to the following reasons:
- Both cultural and social proximity;
- A consolidated system analysis;
- Presence in Portuguese schools of a British matrix.

It's our belief that constrains and limitations that might be associated to the implementation of this model will be easier to detect and solve.

From the analysis made to the English model we emphasize some particular aspects that we consider to be relevant to this project, such as:
- The transition is made essentially by ages and not by approval;
- The govern finances the families in their choice of schools;
- There are *Local Education Authorities*, tied to the counties, which administer all level schools.

The educational system in England is organized as follows:
- Primary phase - pre-school education, in ages between 2 and 5 years old, divided in playgroups and nursery schools;
- Compulsory education - begins in the age of 5. The average age in transition to a secondary school is 11 years old (the compulsory ends at the age of 16, although many students remain in this phase after this age);
- Secondary phase - Sixth form colleges.

In 1988 a national curriculum was introduced in British schools with the purpose of spreading, balancing and improving the school program bringing more coherence to the school system. The curriculum defines what the students must study, what must be taught and the standard goals to achieve. This element is considered the most relevant for our study. The English national curriculum is divided into 4 Key Stages (KS) containing 3 core subjects: English, Mathematics and Science and 9 "non-core foundation subjects" (Agency, 2010). The KS are related with the ages - one of the great differences between the English system and the Portuguese one. The KS1 goes until seven years old; KS2 from seven to eleven years old; KS3 from eleven to fourteen (pre GCSE) and KS4 from fourteen to sixteen years old (GCSE preparation and professional qualifications equivalences).

The more common age for students to be transferred from state primary to state secondary schools in the United Kingdom is at the age of eleven years old, where no type of exam has to be done. To be admitted in the independent state schools, one has to pass a Common Entrance Examination, at the ages of eleven, twelve or thirteen years old (Agency, 2010).The introduction of a national curriculum has made possible the implementation of Standard Assessment Tasks (SATs), where students are evaluated in several stages during the compulsory school. The SATs are used to evaluate the national results from the outside, complementing the teachers and the school inside evaluation. After the first 3 Key Stages, in between seven and fourteen years old, students are evaluated in languages, mathematics and science through tests, tasks and the teachers' evaluations national wide. The results are then published for each student, each school as the national averages for comparison purposes. By the end of Key Stage 4 (sixteen years), the General Certificate of Secondary Education (GCSE) exams are the main evaluation resources. The GCSE's are the standard qualifications for practically all students in the United Kingdom. The new A level, obtained from a 2 year studies period, between seventeen and nineteen years old, is entirely based in a modular logic, in which

students can complete modulus as they advance in their studies instead of making a final exam (Agency, 2010).

Due to the description made above of the English Education System, we now point out some important facts, such as:

- Students and mainly their families are free to choose their school;
- The students curriculum is established according to a sample of core subjects and some optional ones which allows students to have an enormous flexibility in the education range;
- Student's evaluation is made basically according to the GCSE.

These factors lead us to a wide range in terms of education offers and to a school culture that involves and relates students, families, teachers and all the community. This enrolment leads schools to modern practices such as tutoring services and a much used program named Pastoral System (Agency, 2010). This program, functioning in several schools, has the following characteristics:

- Elevating students expectations;
- Long term preparation;
- Involving all the community;
- Goals definition for each evaluated subject.

Applying a Pastoral System implies two aspects: A first one, linked to a more pedagogic of the institution organization and a second one, more technical and tied up to the implementation of a computer information system. We now present an example of both.

PASTORAL SYSTEM CHARACTERISTICS

A pastoral System is a model that implicates all the education community in the student academic results. It's a system of responsibilities and tasks divided within the members of the community. Students are given a Tutor that accompanies and follows them during their academic path. The following graphs show some already implemented.

Figure 1: Pedagogical Coordination Team (Plunkett)

Figure 2: Monitoring Team (Plunkett)

Head of Year or Learning Manager: Responsible for a team; Accountable for large group of pupils; Discipline; Pupil welfare; Liaising with parents; Linking with other agencies and support.

Group tutor: Responsible for group; Pupil welfare; Discipline Liaising with parents and Head of Year; Monitoring individuals development, emotionally and academically; Motivating and inspiring pupils as a positive role model.

Goals: Establishing defying goals; defining non-predictable goal; aims; achieved with hard work, positive attitude and whiling to learn; evaluation record and goals comparison; records at the beginning and end of the school year; reporting to parents.

In the English market there are computer applications that in a wider or restricted way record data from pastoral system starting from goals bases to achieve. Afterword applications are presented and their main characteristics are related with PMS.

RtIProgress Monitoring System: Program that measures the evolution and documents the student's academic progress during a time period.

Characteristics: Record and monitor (permanent computer data records); SMART goals; Behavior Success Plans and Manifestations; Compare Test Scores (Classes, Grade Levels); Import Student and Staff data; Import State / District Test Scores; Export Test Data; Monitor ascending or descending, subjective or objective goals; Create individualized and specialized goals and District/Site Level Testing Utilize Curriculum-Based Measurement and Scientifically Based Research; Interventions;

School Software Company com (Company)

Characteristics: online behaviour tracking system Supporting Students- behaviour tracking allows selecting the most appropriate interventions for an individual, building an action plan and monitoring its impact. Detailed and objective information is also vital if schools are to involve all the relevant stakeholders in the process of effective student support; Staff Development- all members of staff can analyse behaviour, select appropriate interventions and then monitor their impact.

Advanced Level Performance System (Alps)

The Advanced Level Performance System (Alps) is a nationally used A level, AS level and BTEC National analysis and training package for delivering quality improvement in schools and colleges.

Characteristics: Complete service from analysis to training; Tool for improvement; Spreads good practice for long-term; Practical training; Easy to submit data; Dedicated helpline service; Aspirational systems.

EduTrack: (Ltd.) Software for student progress tracking and reporting to parents

Characteristics: Real time access to assessment data and reports for staff, students and parents; **A**nalyse student assessment data and identify underachievement or lack of progress; e.g.; Monitor students' progress against targets and instantly measure distance travelled; Measure the progress of groups and individual students between two points in time; Compare the performance of a specified group of students in different subjects; Perform value added or whole school/college grade distribution analyses.

 Learning Plus UK -Level 2 & 3 Tracking

Level 2 and 3 tracking tool for the use of the members of the Berkshire Plus and London Plus projects. The software allows to track and monitor the performance of students 16-19 taking Level 2 and 3 qualifications, including A2 and AS levels, GCSE Maths and English re-sits, BTEC First Diploma qualifications, OCR Nationals and the Certificate in Childcare Education (CCE). Data is input for each student and an average GCSE score is produced which is used to generate a minimum target grade. The target grade can be set at different percentiles to allow for aspirational target setting (e.g. at 50th, 60th, 70th, 80th, 90th percentile). Student progress is monitored so that early intervention and support can be implemented if they are not on course to achieve their target grades. The software also gives a value added score. The software also looks at both students who have achieved their qualifications and those who either did not succeed or withdrew from courses.(UK, 2011).

The use of these applications does not emerge isolated, in the analyzed cases this information become available according to the following steps:

- On a first meeting between students, parents and psychology and guidance services the students' curricular data of the student is made. On this meeting the students academic path is analyzed, identifying which data must be processed in the application.
- Next step is introducing data in the application; this one generates an odd in getting a certain level. Based on the obtained data, the psychology and guidance services, creates a set of goals. These goals are not predictions are calculated, from the obtained grades from students between KS2 and KS4. The purpose is that the goals can be achieved with hard work, positive attitude and whiling to learn.

Example:

My odd in achieving each grade is:

- A*   **11,8%**
- A   **22,4%**
- B   **28,8%**
- C   **28,2%**
- D   **7,3%**
- E   **1,2%**

My minimum grade is **B**

My goal grade is **A**

After this stage a work plan is created, that contains not only the tasks to be developed by the several process members (student, Parents, Teachers, Psychology and Guidance Services and School). Regular meetings are also programmed with all members during the evaluation cycle.

Portuguese Case

Regarding the existing applications existing in Portugal and according to the certificated software list given by the education department, available in their site, to register and analyze the students' curricular data, we cannot find in non of them neither in their whole modules that perform these kind of operations. These applications only register personal and curricular data not making any kind of statistic evaluation whatsoever.

RESEARCH METHODOLOGY

To implement such a system presupposes the school community <u>participation</u>. In this way, we intend to develop a prototype in a pilot school to identify not only its technological but also organizational requisites. With this prototype we want to indentify if it suits the organization and the educational process.

The project is in its initial stage; therefore the adopted research methodology is action-research, in which the aim is to check out the adequacy of the monitoring student progress system to a pilot school.

To Kemmis and McTaggart(1988), to apply action-research means to plan, observe, act and thoroughly, in what we do in our daily experience. Just like its name implies, the action-research looks forward to make changes (action) and comprehension (research). The consideration of these two dimensions, changes and comprehension, can give an important contribute in the elaboration of the research project. The purpose in this study is that the program fits and has good results. Therefore, all members of the school community must be involved in a way to understand the demanded result. In this case the action-research method has become the most suitable for the project in course.

One of the advantages of this process refers to the literature review. In action-research case reading is much more directed to project results. It's necessary to consciously find relevant works, which contribute to information analysis. The result will be a literature review established by relevance and not by subjects or contents.

Besides that, this process allows changes in the project. If the information's points towards goals reviews, new aims, strategies or action methodologies, that may be really important to the contestants and the future actions to be developed.

The first question to be done may be the following one: What can be made to improve the student's academic results? In this way we intend to: Improve the implicated practice through its comprehension of the education practice; the condition where practice is produced; involve and guarantee that all members of the process take part in it; to insure the participative process organization in a way that all parts can produce effects; to allow that all members commit with the change.

In action-research, one can substantially improve work accuracy by combining the information collecting, the comprehension and literature review. In this case, it's important to obtain information from the following matters: What are the student's goals? Is it possible to quantify these goals? Which were the main advantages in defining measurable goal? And disadvantages? Which school term could be our methodology object? At what age should one initiate this methodology? Which psychological social and ethical could one use in this methodology? Are Portuguese students ready to deal whit this king of system? And what about the school community? From where can immerge some kind of resistance to this type of methodology? In which areas the goal definition could have greater importance to improve student's results? In what way one can one make these data available so that the support services can be improved in detecting students difficulties? Implementing this system is possible with this transition regimen or should it be changed to an evaluation

system externally regulated? What evolution student's data have during the study term? How do the several members of the education process participate in it? What is the main purpose of the several educations? One way to answer this questions is mainly based on interviews with various players in the educational process, in consultation with relevant legislation, not only students but also the protection of personal data in general, the existing data collection at school origin the systems computer or on paper registration. Where are some ways to collect information: Summaries of meetings, notes made by the researcher; interviews with staff involved with the project, reviews project actors; documents prepared earlier; applicable legislation and model cases application. To avoid the effects of excessive subjectivity, these techniques were combined to collect information with other, traditionally more objective questionnaires and semi-structured interviews.

It was necessary to consider the degree of participation of the staff involved in the project. There are person who cannot be excluding in an action-research, are called stakeholders. For every decision and action, the stakeholder is someone who can be influenced or may influence that decision or action. According to Uhlmann(1995) their participation is fundamental: They are familiar with the situation and can clearly identify the main elements; know the story, they can say what was done and what may be culturally problematic, are able to assess appropriateness of possible solutions to certain problems, continued in the group or community after completion of the action-research; Your relationship will contribute to the implementation of actions.

In this project we can identify as stakeholders, the Group Director-Implements all of the strategic guidelines of the school; Pedagogical - defines the educational goals of the school, coordinator of tutors – Coordinates the activities of the various classroom teachers and by this means the connection to Carers, Psychology and Guidance Services (Psychologist) - Key element in setting targets for his knowledge of the school population;

This project identifies the following groups or individuals: Ministry of Education - Sets the national education policy, sets general goals for students to study, validate and certify applications that use data curriculum for pupils; National Commission for Data Protection - validates and records the database containing individual data, the Group Director - Performs the directives issued by the Ministry of Education and the Pedagogical Council, a key part in implementing the model to bring together expertise and resources for its implementation; Pedagogical – Sets the educational goals of the Group with reference to the guidelines of the Ministry of Education and validate the teaching methods and resources for the feasibility of the actions of the model; Psychology and Guidance Services (Psychologist) - Responsible for monitoring all students, a key not only the definition of the model to implement due to their psycho-social knowledge as "know-how in education policy, in implementing its role redouble its importance not only in setting educational goals and in evaluating the implementation of those measures; Coordinator Director Classroom teacher - assures the link between educational bodies and the classroom teachers, and essential in the transmission of information between decision makers and performers; Class Director - Ensure the link between the school and the Guardian, and its fundamental role and not only in presenting the model as well as in monitoring their implementation; Teachers - Your participation is critical in implementing the model as these ensure that the acquisition of knowledge of students; Administrative Services - They must ensure the registration of all documentation the model; Carer - Your involvement is essential to achieve the objectives, should be heard, informed, involved and accountable in all the process to also take ownership of it; Student - As a last resort, are the main actor, the whole model works around him and to him the motivation to maximize their school motto and the whole model.

This method is based on a set of assumptions and in terms of definition, both in terms of implementation that we will mention: In terms of defining the model we have the following assumptions: Existence of computerized student test scores; access students' grades in the current information systems; Authorization steering Group to carry out the feasibility study of the model, there are no legal impediments that impede in any way in whole or in part any phase of the model, the level of implementation of the model have the following assumptions: Concordance of student and the Guardian; Anonymity of student curriculum data in the definition of Base profiles; Involvement of Psychology and Guidance Services, teachers, classroom teachers and Administrative Services in the model.

The implementation of the Progress Monitoring System can raise a number of issues which follows: Use of personal data, Use of the students; Provision and use of data electronically; Setting targets for students; Register of goals in computer system; Plans for cognitive improvement; The issues mentioned relate to legal restrictions, ethical, professional and social. The familiar situations were seized with the following measures: Consultation with applicable law; Information request various entities that oversee the areas covered; definition of anonymity in the query the database with profiles of students; Application for authorization and communication systems will, Direction of the grouping and presentation of the draft to the Council of

Teaching Group; Consultation with various stakeholders within the education sector. In this context data were collected through interviews with various actors directly linked to the Community Education, Director, Psychologist and other Teachers Group.

All these measures do not cover all the issues raised, nor eliminate the possibility of issues that impede the implementation of Progress Monitoring System, however this method of action-research has the advantage of refocusing the investigation in the case of a situation these occur, do not fully prevented the ongoing project.

WORK PROPOSAL

To research and implementing a prototype, this has involved consulting a wide range of sources of information: Ministry of Education, National Commission for Data Protection; ASSOFT - Portuguese Association of Software; legislation on data protection legislation and specific Students. We also consulted other bodies in the educational process (Director of the Grouping, Teacher, Psychologist in the Department of Psychology and Guidance, Sector Unions and Companies that supply software to the Clipboard) Interviews with Director of the Grouping, Teacher, Psychologist and Psychology Service Orientation which led to a working basis that underpins the model.

The fact that the Progress Monitoring System is not just another information system raises some preliminary questions. The modeling system should be divided into two parts: First stage of defining the system requirements must answer the following questions: What is the period of assessment to be analyzed? In which disciplines are the subject of implementation? The extraction, transformation and load (ETL) processes from the Program Student Management to the data warehousing (DW) support for the Progress Monitoring System? Implementation Phase of the system.

These phases should be divided by steps not necessarily sequential. Each phase includes not only the software involved, but all the accompanying administrative teaching method of the action.
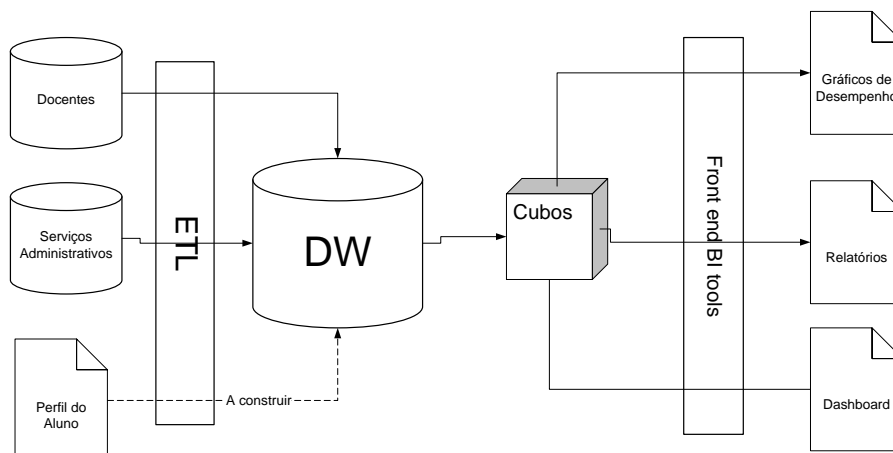

Figure 3: Architecture

Thus are defined the following steps:

Creation of DW - identification of sources of information with the results of students who completed secondary education as defined assessment period. This process needs to fetch data or automatically with an API (Application Programming Interface) and through the process that ETL all the grades of students who completed secondary education in the analysis. Thus the DW will have the following facts and dimensions indicated in the following figure, representing a multi-dimensional star model:
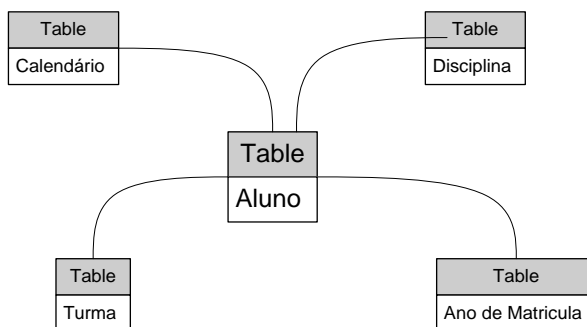

Figure 4: Fact Table / Dimension

In the implementation phase that DW should be loaded every period in each academic year, where a group of students to cycle to school under review, so that the DW reflects not only the latest changes in education policy, but also socioeconomic.

Set goals of students. This is one of the front-end of the DW, data marts that use the notes to match the student will be built functions to calculate the odds of getting marks on the basis of the profile created in the background Key Performance Indicators (KPI´s). Dashboard should be created which should indicate the chances of note and note minimum order. The calculation of these notes should be discussed between the parties involved. A proposal may be the minimum score is the median score of students who had the same starting note, the note target the note immediately above.

As for the pedagogical model following the process we have the following steps: Meeting of the Psychology Department and Orientation with the student - at this stage the Department of Psychology and Guidance collects all information it deems relevant to establish the starting point that is the note to be introduced as an indicator for DW. The Psychological Service and Guidance introduces the data in the Progress Monitoring System. At this point is assigned a tutor for the Student. The role of the tutor is of paramount importance because it will be the link between the system and the Student, whose function is to move information between Student Guardian Service, Psychology and Guidance, Class Director and Student Teachers. To allow for a good development work each Tutor must have no more than five students, the Department of Psychology and Guidance meets with the Student, Career and assessor- this meeting is agreed between all the targets set, encounters along the process among all stakeholders and the student with the tutor and the Department of Psychology and Guidance. Alerts are also quantified; Encounters with the Student Psychological Service and Guidance and Tutor – should set the schedule, which the working method to implement; alert type to implement – Manual or Auto – Manual rests with the Psychological Service and Guidance the Tutor, auto export is required for academic term management program for students of the register of Student Progress; extraordinary meeting whenever there is a warning –Developing a Plan of cognitive improvement.

Information to be recorded in the Register of Student Progress: Student Data; Initial Goals, Outcomes, Measures Implemented: Plans, Meetings, and Contacts.

The implementation model of the system as shown in Figure 3, with regard to the aspect of computer are as follows: Using the architecture DW (Kimball *et al*., 2008), initially the data recorded by the Teachers and Administrative Services Program Management curriculum Students will be pooled resulting in data warehouse. This process of extract, transform and load information at this stage groups the data by student, maintaining the anonymity of the same. DW will be implemented on a system of hubs that allows the extraction of data indicating the goals of the students. The information will be available in reports, charts and Dashboard's performance. In the second phase will create an application that allows the insertion of the goals of the students and monitor the progress of comparative results. At this stage the method of access must be controlled through the use of login and password information and constraining features of DW.

CONCLUSION

The Progress Monitoring System is more than a computer application, is a global model that aims to promote the educational success of students through the involvement of human, educational, technical and administrative. The Progress Monitoring System appreciates the merits and stimulates excellence, promoting and instilling motivation in the student blaming him for his educational success. This paper identified a few systems in the United Kingdom, where the system is already used for several years.

For an implementation in the Portuguese system, several organizations were consulted in view of the ethical and legal issues in the development of a prototype. Thus, we propose DW architecture, in order to take advantage of existing information sources in a pilot school. Through the ETL process will load a DW from which will be defined data marts for analysis and application of calculation formulas that allow the definition of the objectives pursued with the PMS. For the front-end we will provide dashboard presenting with the results obtained. In summary, the intended work focuses on developing a model close to the business intelligence business model.

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310 - Professional Hierarchy, Vocation and Higher Education

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Abstract: Considering the salary advantages and the increase of social prestige earned by high school graduates, maybe we could understand the expansion of enrollments in the last decade as an expression of society's democratization. However, actual implementation of a process of democratization in higher education involves other requirements, such as greater independence between the social background of those included in the system and their choice of careers. This is because although the higher education certificates represent social and economic distinction, between them there is great variability in relation to their social and economic returns in a hierarchy of professions. This is our research focus, taking into consideration the various challenges the process of expansion of education is facing nowadays. Its accessibility would be expressing a greater freedom of choice of careers? Taking the Brazilian case historically has been crystallized that the choice of a career has little relationship to the notion of "vocation", but the social conditions that shaped the choice. The definition for a university course could be described, primarily as a result of social constraints experienced by the student. Thus, we fail to provide youth the experience of vocational carrying out and certainly wasted talents that never came to be known and recognized. So we are interested in knowing, given the current process of expansion of higher education: in Brazil, how this situation has behaved? To answer that question, we propose an investigation of some undergraduate courses position in relation to the socioeconomic profile of the graduates in a time series, using socioeconomic data from national students from six courses, selected according to their degree of social status: three high prestige and three low prestige. In Brazil, are considered highly prestigious, among others, careers in Medicine, Law and Engineering. To these careers are opposed, for example, careers in teaching like Literature, Mathematics and Biology. We will investigate: 1 - What is the graduates' socioeconomic profile of those courses? 2 – In a time series, there are perceptible changes in these profiles? 3 - What policies can be designed in order to promote the democratization of access and permanence to the different careers? The objective is to evaluate the effectiveness of policies implemented in recent years towards the democratization of higher education according to the hierarchy problem of careers. It is also our objective in an international forum, to compare the findings for Brazil with the situation in other countries that are living a expansion process. We believe that these policies should be analyzed to discuss if we are facing a simulacrum of democratizing higher education, strengthening social positions at a time when, by contrast, social inequality may be being decreased. After all, we're thinking about the future, which should not be stuck in the past but taking with him valuable lessons to avoid history repeating itself as farce

Keywords: Professional hierarchy, Higher education, Social mobility

INTRODUCTION

In Brazil, the title "doctor"[141] incorporates several elements of distinction, based on the constitution of Brazilian history, on salary structure or on particular aspects of our social structure. As an object of desire and reverence, education explains between 30% and 50% of salary inequality in Brazil. It affects the poor distribution of wealth for two reasons: the marked educational inequality of the workforce, and the high rate of return to education, measured by the salary increase from an additional year of study (Psacharopoulos & Patrinos, 2004).

In relation to this point, a survey conducted in 71 countries ranked our country ninth in the greatest rewards for schooling. This return rate has been decreasing in all education levels since 1976, except for higher education, where it increased, on average, from 14.7% to 18.7% per year of study.

That forecast is worldly confirmed by the 2007 OECD Annual Report on Education (Portal, 2007). The document emphasizes that the increased proportion of people with higher education did not represent a reduction in salary, as they earn at least 25% more than high-school graduates in all OECD countries. Moreover, it shows that the unemployment rate of university graduates is seven percentage points inferior to

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[141] Contrary to the rule under which the title "doctor" is used just for those who received the doctorate, in Brazil it extends to professions and social layers.

that of students who finished just the second year of high school, and five points inferior to that of high-school graduates. We cannot conclude those with a university degree carry out functions that are within their competences. However, the report confirms that the advantages of their position were not reduced because of higher education massification.

There is a peculiarity about university in Brazilian society: in a study on higher education expansion, Prates (2006) investigates the effects of secondary and tertiary education upon the socio-economic status of individuals in the National Household Sample Surveys (PNAD) of 1973, 1982, 1988, and 1996. Regarding the effects of tertiary education, contrary to what happens with secondary education, he concluded the following:

Not even the access to higher education minimizes the effect of parents' socio-economic status upon one's socio-economic status. Conversely, the possession of a degree certification increases the influence of parents' status over the definition of one's status in the occupational structure. Undoubtedly, according to these data, Brazilian society still not only did not break the effect of the status system upon the occupational status of individuals, but also reinforces the effects of this system upon the occupational status for the segment of the population with higher education (Prates, 2006, p. 18).

The same author (Prates, 2006, p. 15) finds that "the networks of social relations in Brazil are strongly linked to status heritage, and work as a kind of social capital that favors acquisition of the destination status". One of the typically meritocratic and most visible channels of social mobility in any contemporary society is higher education. Surprisingly, in Brazil, it is a factor that reinforces the most oligarchic and stratified face of society, even nowadays, breaking the effect of merit upon occupational mobility.

Stimulated by these conditions, in the mid 1990s, Brazilian university students amounted 5 million[142], an amazing increase in comparison to previous figures.
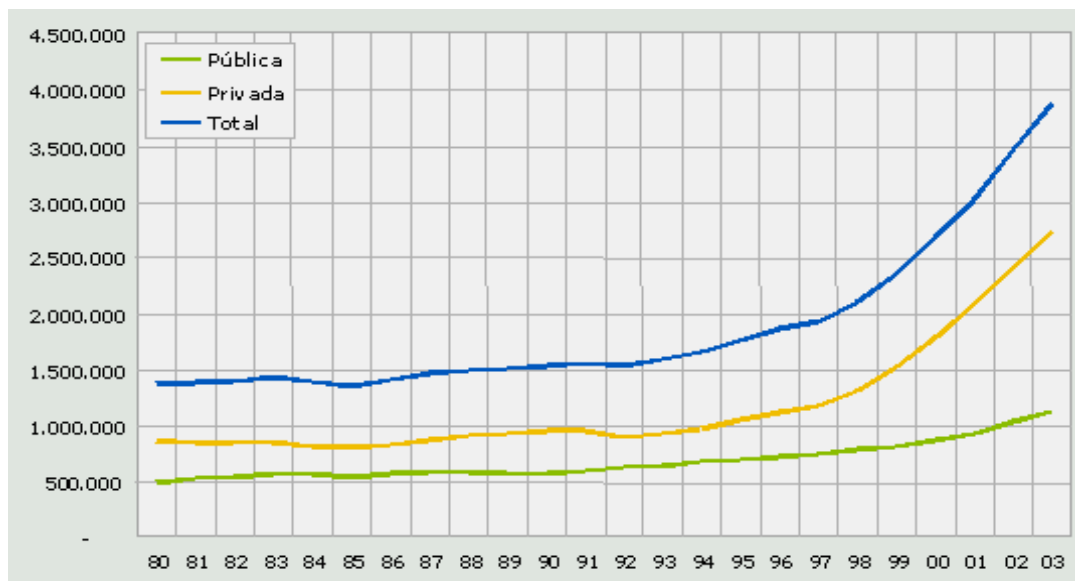
Source: MEC/INEP 2003 Higher Education Census
Graph 1: Evolution of the number of enrollments in higher education – 1980-2003 (in thousands)

This phenomenon owes to a movement for raising the status of education. Its inflection point is the promulgation of the 1988 Constitution. Article 208 subsection V establishes that the State's duties with education will be met through guaranteed access to higher levels of education, research and art creation, according to each person's capacity.

Considering salary advantages and the increased social prestige of higher education graduates, we may understand the increased number of enrollments in the last decade as an expression of society democratization.

However, for the actual democratization of post-secondary instruction, other requirements must be met. For instance: a greater independence between the social origin of those included in the system and career choice. That is because although higher education titles represent social and economic distinction, they vary

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[142] They are 5,115,896 enrollments in on-campus courses, according to the 2009 Census of Higher Education. Available at: www.inep.gov.br. Access on March 11, 2011.

considerably as to social and economic returns, according to a career hierarchy. This hierarchy expresses, in the Brazilian reality, one of the most persistent and inflexible marks of inequality. Thus, if access to higher education could help attain social mobility and recognition, the levels of attainment would vary strongly according to the chosen career. On the other hand, we should discuss whether career is actually chosen or socio-economically imposed.

CAREER AND VOCATION OR CAREER AND SOCIOE-CONOMIC LEVEL?

Martins (2000) highlights the unequal character of higher education in Brazilian society: more than in other countries, strong elitist traits persist. Elitization, in the beginning, was identified with the reduced number of institutions and vacancies. However, the system evolved due to social dynamics, and the population gained increased access to more advanced educational opportunities. That slowly introduced new mechanisms of social discrimination and distinction, especially those related to: public approach versus private approach, university versus isolated institutions, elite education versus mass education, and courses traditionally dominated by socially privileged layers versus courses that absorb a socially heterogeneous public.

As regards the last one, associated with career hierarchy, several studies (Setton, 2002, Schwartzman, 1998; Queiroz, 2004) suggest a career typology in Brazil. The first study considers volume and type of capital found among students of several careers (Setton, 2002). The second classifies types of careers: traditional, modern and recent (Schwartzman, 1998). The third associates the ratio candidate/vacancy at university entrance examinations with labor market supplies (Queiroz, 2004). It is important to highlight that apart from the selected criterion of the hierarchical system, we find, at high education level, the so-called "imperial professions": Medicine, Law and Engineering. And at high school level, careers related to Teaching.

Our survey was designed within this scenario, taking into consideration the several challenges the process of education expansion presently goes through. Might wider access to higher education be expressing a freest career choice, thus stimulating a larger democratization process that encompasses: a) a concomitant vocational expression, and b) a projection of social mobility arising from the chosen career?

The Brazilian panorama

In Brazil, the choice of a career historically little related to "vocation", but to their determining social conditions. The decision on a university course could be described as a result of social restrictions experienced by the student. Thus, we fail to provide young people with the experience of vocational fulfillment, and, undoubtedly, we wasted talents that never came to be known and acknowledged.

About this, at the end of the 1990s, Schwartzman (1998, p. 15) warned:

> Choosing a career in Brazil nowadays has little to do with "vocations" and simple personal preferences, and much to do with personal and social conditions that determine that choice. No government policy on Brazilian higher education may be adopted without considering the implications of this fact.

Actually, beginning with university entrance examinations, which will select those with excellent performance, our country displays a previous degree of selectivity, observed in the heavier concentration of high-income candidates in socially prestigious courses. By contrast, lower-middle class competitors prefer courses of lower social prestige, in which they obtain a vacancy by delivering an average performance. One of these studies (Braga, Peixoto & Bogutchi, 2000) examined 10 years of university entrance tests at UFMG, verifying the following trend: even having obtained a grade high enough to enter a competitive course, if the candidates' socio-economic status were unfavorable, they were enrolled in a less competitive course. When the socio-economic condition was favorable, candidates did not avoid those courses, even getting poor results. The study concludes that "few candidates challenge the non-written hierarchy of courses and careers" (Braga, Peixoto & Bogutchi, 2000, p.21).

It is interesting to know how this situation has behaved in the current process of higher education expansion in Brazil. With this in mind, we propose an investigation about the position of some graduation courses. They will be examined in the socio-economic profile of graduating students on a time series, using national socio-economic data of students from six courses, selected according to the degree of social prestige: three highly prestigious and three little prestigious courses.

This option is due to the desired attention intended for both vocation and social mobility, admitting they will only be observed in the case of a student's greater socio-economic independence from the chosen career. In Brazil, Medicine, Law and Engineering are considered highly prestigious. They oppose to teaching careers, such as Language and Literature, Biology, and Mathematics. These have been the careers selected for the

study, considering the fact that they reflect the three great knowledge areas. We will investigate: 1) the socioeconomic profile of those who finish these courses; 2) in a time series, whether changes in these profiles are perceived; 3) which policies may be thought of to favor the democratization of access and permanence at the different careers.

This work is aimed at assessing the efficacy of policies adopted in the last years to make higher education more democratic in relation to career hierarchy. It is also aimed at, in an international forum, comparing the findings for the Brazilian case with the situation in other countries that are experiencing an expansion process.

THE SURVEY

In order to conduct this study, we made use of micro data from the "Provão"[143] (a test for undergraduate students, which evaluates higher education in Brazil) between 2000 and 2003 – when the six selected careers participated in the exam, providing a sociologically coherent data bank. The time series was not enlarged because in 2004 the system to evaluate higher education changed, with the conduction of another exam4[144]. The "Provão" was taken by all undergraduates, together with a socio-economic questionnaire.

Concerning socio-economic variables, we used the socio-economic questionnaire of the "Provão". From it we detached some indicators that literature considers advantageous in the schooling process: color, parents' titles, income, occupation status, high-school of origin, and marital status (Foracchi, 1997, Martins, 2006, Schwartzman, 2000). The analysis of these indicators' behavior in each career then started to guide the study. We evaluated the situation of the selected careers amongst themselves and in comparison to all the others included in the "Provão" during those years. We called the group of the other careers "General"[145]. Here we present two of those variables in a graph: the student's occupational status and their parents' titles.
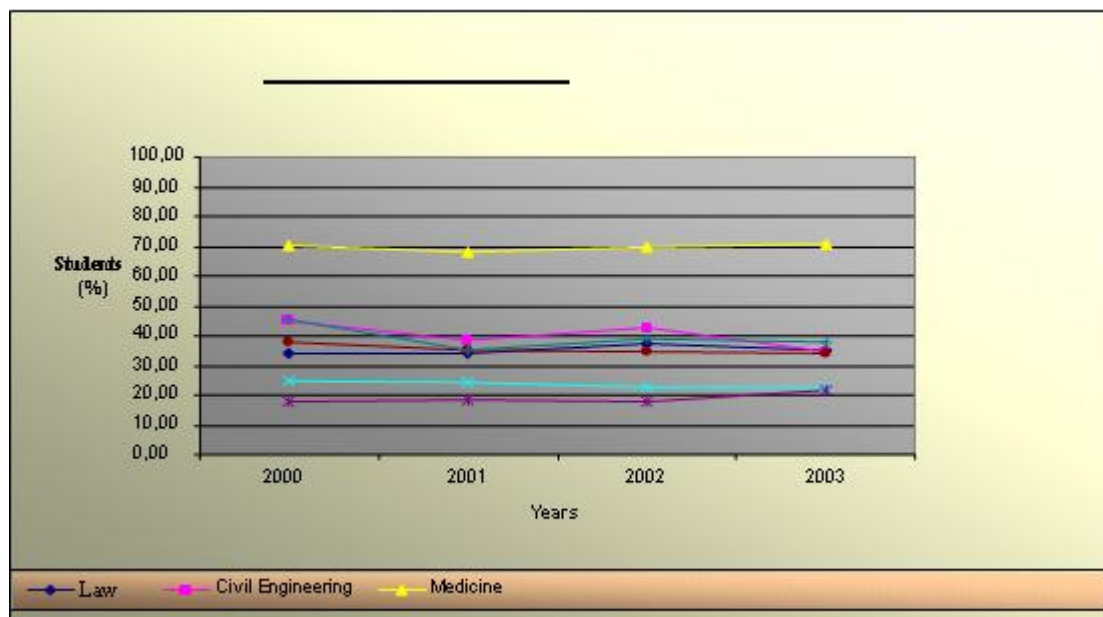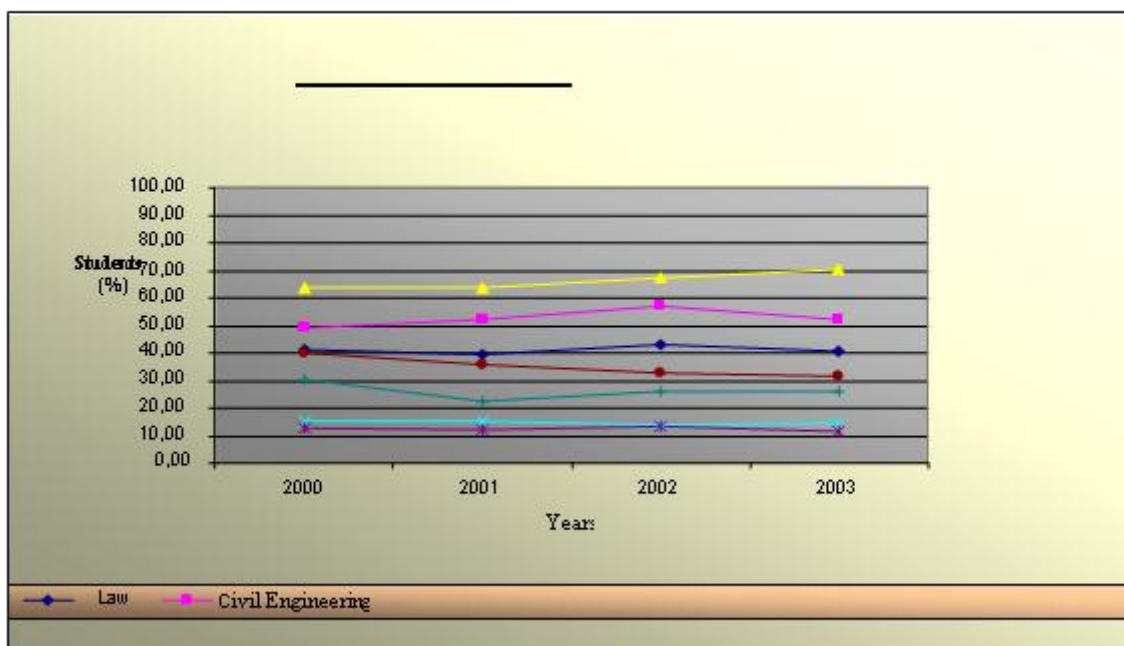

Source: *Micro data from the "Provão" INEP*
Graph 2: Graduating students who took the "Provão" and do not work, by course – 2000-2003

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[143] 3Taken from 1996 to 2003 by all students at the end of graduation. Each year the process included more careers.

[144] The National Exam of Students' Performance (ENADE). The methodology is another. In order to have a four-year series, as the bank of the "Provão" provided, 12 years of ENADE would be necessary, since each course is evaluated each three years.

[145] In 2000, the category "General" comprised the following courses: Management, Agronomy, Biology, Social Communication, Law, Economics, Engineering, Physics, Language and Literature, Mathematics, Medicine, Veterinary Medicine, Dentistry, Psychology, Chemistry. In 2001, all those and also Pharmacy and Pedagogy. In 2002, Architecture, Accountancy, Nursing and History were added. In 2003, all the previous and Speech and Language Pathology, and Geography.

Source: Micro data from the "Provão" INEP
   Graph 3: Graduating students who took the "Provão" and whose father had a higher education degree, by course – 2000-2003

One may immediately notice an opposition between two separate groups: on the one side, the courses related to the teaching area (Biology, Language and Literature, and Mathematics); on the other, the most prestigious careers. Between both groups, there is the "General" line. The graduates of the three first courses are socially unfavored in comparison to all the others. Although we have illustrated this situation with the variables *work* and *parents' school level*, it is repeated with the others: in comparison to all the examined careers, in the teaching careers there are **fewer** students who are white, single, come from private secondary schools (more prestigious than public ones), and have high family income.

Later we examined the indicators' behavior, over the time series, in each of the selected careers. A pattern of stability was observed in all indicators, suggesting no socio-economic profile alterations in the courses. It is important to highlight that the studied years correspond to a moment of higher education expansion, with a more substantial number of enrollments, what could have changed undergraduates' socio-economic profile in the courses.

These empirical national results are based on studies undertaken in the same period or later, using large-scale data or not. For example, Beltrão and Teixeira (2005) disclosed, from census data between 1960 and 2000, a persistent correlation between color and course:

> What we may infer from the Brazilian census data is that the insertion of different color groups in university careers somehow reflects the order of participation by sex: in general, more masculine careers have smaller participation of black and mixed-race people; more feminine careers have larger participation of these groups (…). Some careers are exceptions to this rule, both among the more masculine and among the more feminine. Among the more feminine, the greatest relative insertion of black and mixed-race people occurs in Nursing, Geography and History. Among the more masculine, this greater insertion occurs in Theology and the military careers. It is interesting to notice that neither the careers fit the productive chain, but the market of symbolic goods. Geography and History are careers devoted to teaching, which, therefore, follow the same logic of the market of symbolic goods, with the additional advantage of having a steady clientele – students – as opposed to professions whose clientele need to be built (Beltrão & Teixeira, 2005, p. 175).

In the investigation "Women's trajectory in Brazilian education: 1996-2003", gender is the variable that relates to career option:

> Although gender frontiers have been moved, they still remain. It is true that some territories previously defined as masculine – among them, formal education, especially higher education – were occupied by a growing number of women. Even so, there is a territory very well marked out for women in professions that, being considered feminine, are undistinguished. It is in these professions that most women have searched higher education (Trajetória, 2006, p. 87).

Bastos' (2004) considerations follow the same path, in a study about social mobility among undergraduates of Law, Medicine, Social Sciences and Physics of the Federal University of Rio de Janeiro (UFRJ). Students from less favored social layers tend to prefer professions that bring more immediate economic advantages and are safer options. Nevertheless, this kind of need undermines their expectations regarding the most competitive careers, in which it would be impossible to invest without spending time and money – both scarce for them. The result is, predictably, quite the opposite of the intended, as they end up choosing less competitive and thus less profitable careers. "In other words, they are less prone to run risks; this eventually makes an upward social mobility difficult" (Bastos, 2004, p. 46).

Reports about the ENADE 2006 show that Teaching Training Courses present the highest proportion of black and low-income students, as opposed to Engineering and courses of the health area, also assessed in that year. These presented the lowest amounts of poor and non-white students[146].

> The highest proportion of black and poor students in teaching training courses, and the small presence of them in the areas of medicine and engineering have a strong relation to the degree of difficulty to enter the courses, and eventually affect future income. Medicine and Engineering, where the candidate/vacancy ratio is almost always higher than that of teacher formation, are also the courses to provide the highest financial returns.

Finally, the survey "Black youngsters and public university: context and challenges" (Araújo and Silva, 2007), with students of Pedagogy at the University of São Paulo (USP), for example, revealed that course was not the first option for any of the interviewees: their decision was made exclusively because of the minimum passing score. A student of Teacher Training, questioned about her motivation to choose the course, answered that "her decision was influenced by the fact that competition was less tough in exams for teacher formation than for areas like Medicine or Law" (Góis, 2007, p. C4).

As anyone can see, we are facing a recurrent and persistent circumstance in the social and educational Brazilian structure.

THE FUTURE BEING DELINEATED: "EXCLUDED FROM THE INSIDE"?

In a systematic way, Brazilian tertiary education has been perpetuating social patterns. Discussing the construction of citizenship at a public space with strong hierarchy in social relations as Brazil, Ângela Paiva (Paiva, 2006) considers higher education one of the most effective mechanisms to reproduce social inequality and control: "social reproduction was kept thank to a strong control of access to higher education, emphasizing and repeating our pattern of social inequality".

Data brought evidence that the highly prestigious courses are still territory of the elites. Improving access to them presupposes the adoption of compensation policies. Public universities have shyly taken positive actions, still with no major impacts. Socially less prestigious courses have been the object of major government efforts.

The expansion goal is pursued, based on programs like the Reuni, Prouni and EaD[147], (which have effectively increased the number of enrollments in socially unprestigious courses at public universities) or permitting most scholarships of Prouni and EaD courses to follow the same path. At the same time, the

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[146] 6Mixed-race, black, yellow and Indigenous.

[147] Program to Support Plans of Restructuring and Expansion of Federal Universities (REUNI), Decree 6096/2007. It proposes the gradual increase of the average rate of conclusion in on-campus courses to 90%, and of the ratio between on-campus undergraduate students per teacher to 18. This Plan is aimed at reducing the rate of school dropping, occupying unfilled vacancies and increasing the number of vacancies, especially for the evening courses. Program University for Everyone (PROUNI), Law 11096/2005. Grants full or partial scholarships in private universities. The student who is granted a partial scholarship may have his part financed by FIES. As compensation, the institutions that adhere to the program are offered some taxes exemption. Distance Education (EaD): especially offered in courses of human and social areas, particularly, teacher education programs.

expansion of the higher education system towards unprestigious courses, without despising them, will not provide the necessary social mobility for a higher education coherent with either the objective of decreased social inequality, or with the total recovery of vocation as the basis for career choice.

Obviously, socioeconomic condition remains as the major determining factor of career option. We understand that the current process of higher education expansion has been reproducing the phenomenon of the "excluded from the inside", which Bourdieu (2002) described in relation to the French situation in the 1950s and 1960s. In this case, we would be before a fake democratization of higher education, reinforcing social positions in a moment when social inequalities should have been decreasing.

The Brazilian government has adopted incentive measures for the choice of teaching careers, our main concern, promising, in several official documents, to run a crusade for enhancing the status of teaching. We highlight one of these programs, the Institutional Program of Scholarships for Teaching Initiation (PIBID). It aims at reducing dropping out of these careers, granting scholarships to stimulate teaching. It serves students from Teacher Education Courses in Physics, Chemistry, Biology, Mathematics, Language and Literature, Pedagogy, and Art Education at federal universities, with the government's promise of gradually enlarging its scope. For students of private universities, the government offers the possibility of paying off their fees by working as teachers at public elementary schools.

Such measures are palliative, delayed and exert limited impact upon enabling the paths of vocation, social mobility and teaching to converge, more independently from social origin. More daring and consistent policies must be structured as to effectively change this static scene in which higher education functions, above all, as an instrument for reproducing social positions, making many give up their dreams of vocation and ascent. After all, thinking about the future, we must not be attached to the past, but learn from it, preventing history to repeat itself as a farce.

Take the case of Portugal, with labor laws that address the needs and specific rights of working students. Apart from all the educational policies formulated by the Brazilian government, perhaps this is a situation not yet faced: the need to combine study and work of a great contingent of students. Could this Portuguese experience contribute to effectively improve Brazilian students' conditions to attend higher education?

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316 - Freshmen University Students in Latin America: What Young Students at Universidad Nacional De Córdoba Know, Do And Think About ICT

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Abstract: The paper briefly reviews literature around the "digital native" category as well as a summary of the ongoing debate regarding it, followed by a presentation of the results of a survey of freshmen students at UNC's School of Philosophy and Humanities.

The survey's results cast doubts upon the "digital natives" vs. "digital immigrants" categories that impregnate many an educator's and politician's discourse: they show that freshmen at a Latin American university (UNC) don't quite fit the image of the hyper-connected, network-dwelling, multimedia-producing youths who engage in political activities through virtual communities.

On the other hand, it suggests useful categories to better describe and inquire young people's actual on-line practices, as well as their cultural and ethical valuations, which may help us reflect upon the University's role in transmitting knowledge that is useful for the effective inclusion of students in current and future modes of citizenship and participation.

Keywords: University, ICT, youth, on-line practices

INTRODUCTION

This report is part of the two-year project "Teaching at the University for the Knowledge Society: ICT's role in the curriculum design processes," carried out by RED UNISIC148.

One of the project's main objectives was to understand how technologies become knowledge that needs to be taught, how they are incorporated into university curricula, in which character, at which curricular decision-making level their inclusion is promoted, how these prescriptions are enacted. Our approach focused on technologies not just as tools for teaching, but also as undergraduate subject matter linked to current transformations in knowledge production and distribution modes.

Among the second-year objectives of the project were: to analyze the role of Information and Communications Technologies (ICT) in university curriculum from the student's perspective, to develop a debate around the "digital native" concept taking into account different aspects such as age, social and cultural background, and the differences in access to ICT in each of the participating university's contexts, and to elaborate re-usable research tools for these different contexts (questionnaires-interviews). This report revolves around the partial results achieved at Universidad Nacional de Córdoba, Argentina (UNC) pertaining the debate on the concept of "digital natives".

Universidad Nacional de Córdoba (UNC) is a macro-university (Didriksson, 2002), with over 100,000 students and about 8,500 teaching staff. It is the hub of scientific activity in the region, with 98 research centres, over 1000 projects carried out by nearly 3,000 researchers, over 250 scholarships and 50 PhD programs. A 2006 study (Gewerc, 2007) found that UNC is "loosely-coupled:" faculties were weakly articulated, with structures and functions that often overlap. Gewerc and her team found access to ICT for teachers and students to be poor, with little or no training in education technology, while existing technology remained under-exploited. Although teaching staff claimed to use digital resources significantly, most usage was text-based rather than multimedia or interactive (Edelstein, Pacheco, Armando, Giordanengo & Uanini, 2009).

UNC is organized into 12 faculties dedicated to teaching, research and community activities in different subject areas. Face-to-face teaching prevails within the organizational structure of the *cathedra*: a hierarchical team with divisions of tasks and responsibilities linked to teaching.

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148   Composed of Universidad de Santiago de Compostela, Spain (USC), Universidad Nacional de Córdoba, Argentina (UNC), Universidad de San Francisco Xavier, Bolivia (USFX), Universidad Joan Misael Saracho, Bolivia (UJMS) and Universidad de la Frontera, Chile (UFRO), research coordinated by Dr. Adriana Gewerc and funded by AECID. http://unisic.usc.es/

The present work's structure is divided in three sections: in the first one, we summarize some current debates around the concept of "digital natives", making explicit the theoretical and methodological decisions underpinning our study.

The second section describes the results of a survey of all freshmen students of UNC's School of Humanities and Philosophy, taken through a comprehensive on-line questionnaire.

The third section introduces our conclusions and suggests further discussion topics, taking into account information from interviews taken at later stages of the project.

The "Digital Native" concept under the spotlight of youth's practices: Theoretical approach and researched aspects

A fair share of literature on youth and new technologies emphasizes their character as "digital natives." Different authors gave different labels for this category: "digital natives" (Prensky, 2001), "Net generation" (Tapscott, 1998) and "millenials" (Howe and Strauss, 2003) are but a few of the proposed names for this stipulated generation of people who are intuitively familiar with digital media and rely on ICT for their everyday activities. They are described as living lives immersed in technology, "surrounded by and using computers, video games, digital music players, video cams, cell phones, and all the other toys and tools of the digital age" (Prensky, 2001, p.1).

Proponents of the concept contrast young people's apparently inborn ability to deal with digital media to their teacher's difficulties and resistance to change, and put an emphasis on informal learning, as opposed to classroom learning, which they portray as inadequate for modern society.

Different authors have criticized these claims, as well as the consequences of taking them at face value when making decisions about the inclusion of ICT in education.

Bennett et al., (2008) have made a point of questioning the theoretical soundness of those premises, as well as the lack of empirical evidence supporting them. Surveys aimed at gauging the knowledges, attitudes and beliefs of young people about technology, such as those conducted by Livingstone and Bober (2004) and Selwyn (2006), contradict the image depicted by the proponents of the concept.

In (Dussel y Quevedo, 2010), the authors warned about the political and pedagogical consequences of uncritically accepting the "digital native" discourse, and the risks educators face when adopting this position, because they may see themselves as impotent witnesses of transformations beyond their control:

> "In other words, the notion of «digital natives» usually puts initiative, dynamism, and even responsibility for the dynamics generated by new media in the hands of the youth, and tends to exculpate and brush aside what adults can do to promote richer, more relevant and more challenging uses of these technologies […] We believe that the debate about new technologies and their impact on the education system should originate on the responsibility of public policies, education systems and adults for the uses and practices that arise around them." (Dussel y Quevedo, 2010: 12, original in Spanish)

The debate over digital natives thus revolves around on two key issues: (1) whether a distinct generation of "digital natives" indeed exists; and (2) whether education must fundamentally change to meet the needs of these "digital natives" (Bennett, 2008).

One way to question the first of these claims is through further research on youth and their relationship with digital technologies, seeking better and more comprehensive information on the practices they develop, the knowledge they build as well as their values and attitudes on the subject.

Towards this goal, we build upon descriptions of the cultural consumption of young people in Argentina and Latin America (Toer, Martínez Sameck, Chávez Molina, 2003; Godoy Rodriguez, 2009), as well as research on how students experience the university (Carli, 2007; 2008).

Godoy Rodríguez (2009) applied the ICT Skills Index to university students in Barina (Venezuela), and presented his results in a case study. ICTSI is a standardized European instrument, aimed at measuring the student's self-reported experience levels in the use if digital technology. A comparison of his results with those obtained in Europe allows him to assert that Barinese university students' instrumental ICT skills are on par with those of European students. His findings provide empirical support to the idea that the "Digital Divide" gets narrower when students begin their university studies. This suggests that whatever divide exists between Barina's students and those of developed countries, it's more likely to be an educational divide than one related to access to digital technology.

Inspiration for our questionnaires was provided by a comparative study performed by Toer and his team, who surveyed University of Buenos Aires freshmen's cultural consumption. They designed a questionnaire

that, while custom-made to fit the cultural environment of the subjects, remained comparable to a similar study the University of California at Los Angeles (UCLA) has been conducting on US higher education freshmen for the last three decades.

Many authors point out that a growing body of research on youth culture has developed recently, but it only ventures in inquiries about cultural groups that participate in practices that are notable for being spectacular or exotic (Buckingham, 2008; Herring, 2008) either in their mode of execution or in their results. This tendency to ignore the more banal uses of technology, and to dedicate studies to the exceptional cases seems to call for a change of perspective in research. The challenge consists in building an outlook on the experiences of youth and university from the point of view of everyday life and apparently trivial minutiae.

In the context of University education, this is an analytical approach that doesn't ask about the organization in itself, but rather starts questioning about the student's own experience. According to Carli (2007), this enables us to desecrate our homogeneous view of students, and to reconstruct the stage of university experiences. This perspective postulates that institutions that ignore certain cultural codes and practices of the young people who study in them need to re-characterize their student populations.

We also take into account studies that do focus on the most innovative new media practices young people engage in, with the aim of characterizing what the "new" element in them is. In this sense, the definition of "New Literacies" proposed by Lankshear and Knobel is of particular interest.

> "Socially recognized ways of generating, communicating and negotiating meaningful content through the medium of encoded texts within contexts of participation in Discourses." (Lankshear and Knobel, 2007:2)

The authors speak of socially recognized ways in the sense of "practices," as tasks oriented towards social goals. Practices always include the interplay between technologies, knowledge and skills. Such a literacy is a set of organized practices that make use of a system of symbols together with technology to produce and negotiate meaningful content and to participate in social environments.

The distinctive feature of the "new literacies" approach is, then, the desire to better understand how people codify, receive and negotiate meaning in the current technological context. According to Coiro et al. (2008), new technologies for information and communication and new visions for their use require us to bring new potentials to literacy tasks that take place within these technologies. New literacies are central to full civic, economic and personal participation in a world community.

With regards to the knowledge that pertains to these new literacies, Lankshear and Knobel (2008) propose digital remix as a new writing mode that is characteristic of young people. The idea of remix includes the issue of appropriation and mixing of existing cultural contents, the multi-modality of the mixed matter and the collective character of these constructions.

Another feature of these new literacies would be participatory culture. Jenkins (2009) postulates affiliations, expressions (the production of new creative forms), collaborative problem solving and circulations (shaping the flow of media, such as podcasting and blogging) as forms of participatory culture.

Authors such as Ito (2010) have researched into how new media are being taken up by youth practices and agendas, and how these practices change the dynamics of youth-adult negotiations over literacy, learning, and authoritative knowledge.

In the same line of work, James (2009) focuses on the investigation of the ethical contours of the new digital media and the creation of interventions to promote ethical thinking and, ideally, conduct.

These precedents allowed us to structure our study around the concept of experience (Carli, 2008), investigating the everyday practices of all students, while at the same time recognizing the wide range of uses, conceptions and practices of young people with new media, even the most extraordinary. Our survey was conceived to consider five main dimensions: 1) socio-demographical variables, 2) chosen career (reason for the selection, expectations towards the future), 3) cultural consumption and extra-curricular activities, 4) access to information and communication technologies and 5) values and attitudes in connection with ICT.

The socio-demographical dimension include variable such as gender, age, marital status, education of the parents, work activities (if present) and school/academic provenance of the student. Analyzing this dimension requires, at the least, considering the recent transformations in Argentina's social fabric, and its impact in higher education institutions. This transformation, which has taken place in our country since the '90s has extended to a new structure in the social composition of universities. In this framework, sociologists have mentioned the descent of middle class and the emergence of the "new poor" as those who didn't originate in the lower classes, but rather from the impoverished middle class. Universities are no strangers to

this circumstance, and have become heterogeneous spaces shared by students from different social origins (lower, middle and impoverished middle class, as well as middle and higher classes).

Questions about the chosen career and expectations around it are open-ended, and attempt to broadly investigate how students picture the study of their chosen subject matter, its associated profession and its job perspectives.

For the access and use dimension, the questionnaire attempts to gather information about the use of ICT, taking into account the possibility of material access as well as the practices that students develop with them. Questions try to assess the availability of computers at home, the modality and location of Internet access, the degree of autonomy when browsing the web, and the frequency of use of specific devices.

In order to evaluate the features of cultural and technological consumption and the preeminence of consumption vs. production of cultural objects through digital media, we ask about the frequency with which the subject performs specific activities or uses specific technologies. The answers to these questions also provide hints about the level of proficiency of the subject, through the evaluation of the skills required for each activity. We also inquire into the most popular kinds of language and textual modalities, both in learning and extra-curricular activities involving ICT.

On the issue of learning modes and values associated with the use of digital media and Internet, the questionnaire asks about how students evaluate technology and on-line activities, and how they learned to engage in them. Questions approach issues such as whether they received formal education on the subject, whether they are aware of Free Software, perceptions about how on-line activities affect democracy, privacy, relations to other people, etc., following James' (2009) argument that five key ethical issues need to be addressed: new media identity, privacy, ownership and authorship, credibility and participation.

What young students at Universidad Nacional de Córdoba's School of Philosophy and Humanities know, do and think about ICT

The questionnaire described in the previous section was answered by all 1,126 freshman students of the School of Philosophy, except for those of the Art department, which enjoys a special status and a fair amount of independence due to the fact that it's in the process of becoming its own School. The data was correlated with those obtained in 2009 through a survey on "Quality of Life and Health Status of UNC's Student Body", which was answered by students from different academic units, and serves as a baseline against which to compare our specific group of students.

Female, young and mostly single

The survey shows that the majority of School of Philosophy and Humanities freshmen at UNC are female (62.5%), between 18 and 23 years (53,3%) and single. The School has nine departments: History, Philosophy, Literature, Anthropology, Education, Library Science, Geography, Archival Science and Arts. The present study encompasses all of them except for Arts, and the demographics vary strongly from department to department: while Philosophy and Literature students are mainly young, relatively well-to-do and have a stronger male presence, Archival Studies attracts more working-class women and has a larger age average.

Half the students at UNC have parents with complete tertiary or universitary studies, which is consistent with our results: 78.6% of parents of our students have complete secondary studies, while 49.6% have completed graduate studies at a higher education institution. At the lower end of the spectrum, our students show a more favorable situation (7.6% of parents with none or just primary instruction) than the university average (14%). When we concentrate in the mothers, we find that 83.7% of them has graduated from secondary school, while 35.9% have obtained an university degree.

For the most part, physical access to technology isn't a problem

In general terms, School of Philosophy freshmen's physical access to technological resources is slightly above the average for UNC students: 86.9% of them have access to a computer at home (UNC: 84.5%). A more detailed analysis, however, reveals a more complex scenario: only 62.6% have a computer for personal use (as opposed to sharing it with the rest of the family), and just 27% has a mobile computer. Although 78.5% of students has access to the Internet from home, 29% of them do connect through narrow-band dialup lines.

Both access to hardware and connectivity correlate mainly with career choice and social provenance, we found no significant correlation with age or sex, aside from a very light trend for older students to have better access.

Diverse uses: mainly for learning purposes

Frequency analysis of access to particular devices as well as participation in certain activities on the Internet reveals that looking up information, enjoying music, communicating with peers and doing homework are the most common uses of digital technology. Participating in communities, gaming, image processing and video editing are only marginally present. This suggests that learning-related are more prevalent than entertainment uses or other uses not related to school.

Looking at the frequency of "very often/often" answers, we can rank computer uses as summarized in Table 1 and Table 2.

Breaking up these uses along the lines of career choice, age, and sex reveal variations that deserve a more detailed analysis than can be done within the scope of this work. The most frequent uses, however, do not show any significant variations among age groups: career choice once again seems to be more closely correlated to frequency of each use than age. Sex, on the other hand, shows significant variation only on specific activities, such as gaming.

Diverse uses: prevalence of alphabetic over multimodal text

Table 2: Frequent uses of computers

	Very often / Often	Seldom / Never	Missing	Total
Send/receive e-mail	82,70%	13,30%	4,00%	100,00%
Study, do homework	81,80%	14,20%	4,00%	100,00%
Write	73,40%	22,60%	4,00%	100,00%
Listen to music	68,40%	27,60%	4,00%	100,00%
Keep in touch with friends	48,80%	47,20%	4,00%	100,00%
Look up bibliographical information	59,50%	36,50%	4,00%	100,00%
Download music, movies, files	50,40%	45,60%	4,00%	100,00%
Prepare presentations	35,40%	60,60%	4,00%	100,00%
Record numerical data / perform calculations	27,00%	69,00%	4,00%	100,00%
Edit images and video	31,40%	64,60%	4,00%	100,00%
Edit music	16,90%	79,10%	4,00%	100,00%
Draw or design	10,00%	86,00%	4,00%	100,00%

The data from the tables 3 and 4 show clearly that activities based on alphabetic text, such as writing, looking up information, doing homework, sending and receiving e-mail are more frequent than those that involve image, sound, and video editing or data processing, which are among the tasks the majority of freshmen students never tackle. The analysis of these frequencies points at a predominance of alphabetically-coded textual representations (essentially, reading written text). This suggests that photo and video remix activities such as those described in Lankshear and Knobel (2008) are not widespread.

Table 3: Frequent uses of the Internet

	Very often / Often	Seldom / Never	Missing	Total
Look up information	90,80%	5,30%	3,90%	100,00%
Download music, movies, files	82,10%	12,50%	5,40%	100,00%
Visit specific sites	77,30%	18,80%	3,90%	100,00%
Study, do homework	57,00%	37,60%	5,40%	100,00%
Search for useful works for school	56,80%	37,90%	5,30%	100,00%
Read newspapers/magazines	51,00%	43,60%	5,40%	100,00%
Chat	43,30%	51,30%	5,40%	100,00%
Social networking	35,00%	59,60%	5,40%	100,00%
Publish photos, video, music	23,70%	70,90%	5,40%	100,00%
Participate in fora	13,20%	81,40%	5,40%	100,00%
Gaming	11,50%	83,10%	5,40%	100,00%

Among non-alphabetic texts, watching videos and listening to streaming music are fairly popular activities which remain confined to the extracurricular space, since Humanities education still privileges written text as its preferred vehicle of analysis and study.

Diverse uses: prevalence of consumption over production
The data also challenge the notion that young people are predominantly producers of works for the net: participation in fora, keeping a blog or publishing images, music or videos are very rare, in contrast to consumption activities such as looking up information, downloading media, reading magazines and newspapers. Here again we can see a predominance of consumption activities over production, and the virtual absence of any activities that can be conceived as participative culture (Jenkins, 2009).

Optimism about Internet's social role, on the possibilities for learning, the value of information and the risks of addiction
The questionnaire asked participants to rate the degree to which they agreed or disagreed with a number of propositions such as "Internet promotes social equality" or "Internet is a threat to my privacy."

Table 4: Beliefs about the Internet

	Agree / Strongly agree	Disagree / Strongly disagree	Missing	Total
Broadens possibilities for communications	91,00%	3,60%	5,40%	100,00%
Promotes learning	91,00%	3,60%	5,40%	100,00%
Provides participatory tools	84,00%	10,60%	5,40%	100,00%
Is essential to modern life	78,40%	16,20%	5,40%	100,00%
Is useful for meeting people	77,00%	17,60%	5,40%	100,00%
Creates addiction and dependence	72,60%	22,00%	5,40%	100,00%
Offers a lot of low-quality information	71,30%	23,30%	5,40%	100,00%
Makes learning better	66,50%	28,10%	5,40%	100,00%
Is a threat to my privacy	58,00%	36,60%	5,40%	100,00%
Broaden social inequalities	52,90%	41,70%	5,40%	100,00%
Promotes social equality	51,30%	43,30%	5,40%	100,00%

These results show optimism with regards to the net's potential for communication, social participation and meeting people, as well as more concern about addiction and dependence than about erosion of privacy. The positive perception of the Internet as tool for learning stands in contrast with the widespread view that the quality of information found there is not on par with its quantity.

Self-taught, better knowledge of technical than of political issues
The majority of students (59%) taught themselves the basic skills needed to surf the net, and 60.7% of respondents don't think they need help to use the Internet for their studies.
These answers can be put in contrast with those related with the issue of Free Sofwtare: 59.8% of respondents don't know what Free Software is. Some comments by students on this issue focus on technical explanations without mentioning the social value and political position of the Free Software movement.

CONCLUSIONS
This study was built upon the concept of experience (Carli, 2008), inquiring about the everyday practices of all our freshman students while recognnizing the wide range of uses, conceptions and practices of young people, including the most extraordinary.
In order to be able to describe our students in terms of socio-demographical characteristics as well as with respect to access and use of ICT, we conducted a survey that recognized them as primarily female, young, single, second-generation higher education graduates. Most don't work, and many of them have selected the career as a second choice after a previous university experience, although these indicators vary strongly among careers. They have access to computers and the Internet, on which they primarily do e-mail and search for information. They are optimistic about the value of the net in individual uses and learning, but skeptical of its contribution to a more egalitarian social order.

These young people's practices are divided between learning-related and extra-curricular activities. Alphabetically-coded text dominates both kinds of activities, although non-alphabetic texts are slightly more frequent in extra-curricular activities than in curricular ones.

In the same vein, a comparison between consumption- and production-related activities shows a strong bias towards the former. These two last realizations allow us to point out that even young people with better physical access to information technology than the university average are far from the proposed characterization of the "digital native".

On the other hand, interviews conducted for later stages of the project indicate that it is often teachers who demand the use of certain technologies from students and who include them in on-line participation modes.

These results, which are beyond the scope of this article, show that students are surprised to be confronted, in their very first year of study, with a learning proposal that includes teaching technologies and demands of them to develop certain skills in order to partake in the process.

Our results are consistent with the idea, stated by Bennet et al. (2008), that the debate about "digital natives", rather than being empirically and theoretically informed, can be likened to an academic form of a 'moral panic.'

> The time has come for a considered and disinterested examination of the assumptions underpinning claims about digital natives such that researchable issues can be identified and dispassionately investigated. This is not to say that young people are not engaged and interested in technology and that technology might not support effective learning. It is to call for considered and rigorous investigation that includes the perspectives of young people and their teachers, and genuinely seeks to understand the situation before proclaiming the need for widespread change. (Bennett et al., 2008, p.784)

Our data, and that of fellow researchers doing empirical studies, suggest that young people's relationship with technology is not as uniform as the "digital native" characterization implies. Their skills, knowledges and practices vary strongly, and we found no evidence of them preferring any radically new way of learning, nor of holding views or attitudes that make them fundamentally different for the rest of the population. Our data suggests that practices do not vary strongly with age, and that while access is an important element of acquiring the necessary skills, it is not unevenly distributed among age groups.

If anything, the results from our survey show that the strongest influence in the practices and uses of technology is exerted not by sex or the year of birth, but by the individual's own interests as expressed in their career choice. This variation probably merits further study, to gain knowledge that may help us meet students with expectations that their match reality better than a blanket assumption that they will be able to intuitively figure out technological artifacts.

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320 - Academic Dishonesty- Understanding How Undergraduate Students Think and Act

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Abstract: The purpose of this study is to explore and understand the justifications given by students to the existence of dishonest behavior and understand the extent to which the justifications given might influence denouncing and cheating behavior. 1277 undergraduate students of two Portuguese Public Universities were surveyed about their own cheating behavior, their propensity to denounce and the "neutralizing attitudes". Results indicated that the likelihood of copying is greater when the purpose is "helping a friend", "when the courses are more difficult", "to get higher marks/grades", and because "peers accept and tend to see copying practices as normal". As predicted, "neutralizing attitudes" was positively correlated with one's own cheating behavior and negatively correlated with reporting. Results support the notion that context emerges as a very important influence in the decision to cheat. The environment-peer pressure and the normalized attitudes towards academic dishonesty are the main influences on the propensity to cheat.

Key Words: Academic dishonesty; Cheating; Plagiarism

INTRODUCTION

The wealth and global competitiveness of a country stands in the quality of its education system. Academic dishonesty undermines the quality of education and it´s against the education system´s major aims - to create responsible and respectful citizens. The normalization of academic dishonest behaviors may have an influence on those who will be the future decision makers of the country. Thus, students' beliefs and practices about academic integrity are likely to influence individual and business ethics values.

The interest in ethical behavior in general and misconduct in particular has increased in the recent years mainly due to the publication of ethical scandals in the academia but also in the industry context. Academic misconduct is not new – indeed it has been extensively studied in the literature (McCabe & Trevino 1993, McCabe & Trevino, 1997, McCabe et al., 2002). The incidence of the phenomenon, and the indications that is increasing over time, seems to be justified by the fact that cheating is "normal" among students (Rettinger & Kramer, 2009).

However, the problem of cheating at schools seems to be more serious now. The most recent studies show that the number of student cheating has increased rapidly during the last decades (Drake, 1941; Hetherington & Feldman, 1964; Baird, 1980; Jendreck, 1989; Smyth & Davis, 2004; McCabe, 2005), their attitude toward cheating have changed, as well as ways they cheat. The question is what has led to such expansion of academic dishonesty? According to some researchers, the most influencing factor was the fast technological progress, and the development and popularization of the Internet (Lathrop & Foss**,** 2000), which have enabled students to cheat with ease in ways that were hard to imagine several years ago.

Understanding how students think actually and what are the main influences in their decision to commit an academic dishonest behavior may allow higher education institutions to discourage such behavior, as ensuring the academic integrity at different education levels.

Knowing the valid reasons considered by students to cheating behavior help to rationalize some behaviors. Dishonest behavior may include "submitting a paper done by someone else, "not collaborating in a team assignment ","copying on tests/exams from someone else", "using unapproved materials on a test/exam", "allowing someone to copy in a test", "plagiarizing a paper – whole or partially, using the internet", "writing a paper for another student". Denouncing an incident of cheating or plagiarism includes denouncing "a friend," "a stranger", "if anonymity were guaranteed" and "if there was a code of honor". Those who copy tend to consider cheating as an acceptable behavior and tend to describe it as a cause of external factors.

In this sense, the purpose of this study is to understand the justifications given by students to the existence of dishonest behavior and understand the extent to which the justifications given can influence denouncing and copying behavior.

LITERATURE REVIEW

The idea that dishonest behavior is common among undergraduate students has been well documented in the literature (McCabe & Trevino 1993, McCabe & Trevino, 1997, McCabe et al., 2002) and has focused on its causes and effects (Kisamore et al., 2007). The interest in ethical behavior in general and academic dishonesty in particular has increased in recent years mainly as a result of publicizing of scandals in academia and business as well.

Academic dishonesty is not a new phenomenon, indeed it has been extensively studied in the academic context and empirical evidence indicates that is changing and increasing in recent years. Drake noted that 23% of the students copied in 1941, Hetherington and Feldman pointed out to a rate of 64% in 1964 and Baird, in 1980, recorded an incidence of 76%, in 1989 Jendreck estimated a rate of around 40/60%. And in 2004, Smyth and Davis pointed out to a rate of 74%. The study by McCabe (2005) also recorded high rates of cheating, of around 71%., demonstrating that the phenomenon is more serious in business schools.

The literature on cheating in the U.S. can be divided in two separate approaches: the individual differences approach that relates the individual variables with the incidence of dishonest behavior, and the contextual approach that analyze the importance of situational or contextual factors as predictors of cheating.

Whitley (1998) cataloged the individual differences into five dimensions: demographic characteristics, attitudes toward cheating, personality variables, and situational factors. McCabe and Trevino (1997) found that few studies on academic integrity had been conducted in more than one campus and had examined individual and contextual factors (Davis et al., 1992; McCabe et al., 2002; McCabe & Trevino, 1997). The studies that have focused on the individual differences approach have used variables such as sex, age, academic achievement, level of parental education and participation in extra-curricular activities.

Recent studies suggest that male students copy more than female, worse academic results students copy more than students with good results, the lowest parents educational level is associated with cheating, and students involved in extra-curricular activities such as fraternities /sororities and intercollegiate athletics devote less effort to study and more to dishonest behavior (McCabe & Trevino, 1997).

On the other hand, contextual factors that have been mentioned as an influence on cheating include honor codes, students' perceptions of peers' behavior, students' perceptions of faculty's academic integrity policies, students´ perceptions of the effectiveness of these policies, students´ perceptions of the likelihood of being reported, and students' perceptions of the severity of penalties .

How students think and act

Understanding how students think and what affects their decision to have a dishonest behavior may allow academic institutions to reduce its incidence. To discourage such conduct, academic institutions can ensure more honest behavior in different educational levels. Those who copy can find justifications for the fraud they committed and thereby mitigate the cognitive dissonance of their behavior. Literature indicates that neutralizing attitudes are often correlated with cheating (Haines et al., 1986; Pulvers & Diekhoff, 1999). Neutralizing attitudes are not considered a sufficient cause for cheating but could help to rationalize certain behaviors. According to Murdock and Stephens (2007), who copies tend to consider their behavior acceptable when they can describe it as a cause of external factors. Watching others to copy, knowing that others copy regularly and that others do not take the matter too seriously may facilitate the neutralization of those attitudes.

The study of Davis et al. (1992) helps to understand an inconsistency between students´ beliefs and actual behavior. They found that around 90% of students affirmed that copying it is incorrect and that teachers should be concerned if students copied and 76% of those students admitted they copied in the university.

The research of Smyth and Davis (2004) also reflects an inconsistency between attitudes and behavior, where although 92% of students consider the behavior of cheating unethical and 45% indicates that it is a socially acceptable behavior. In this regard, some studies have suggested that while students recognize the seriousness of academic dishonest behaviors many students learn that copying is a common behavior in universities despite the prohibition of political institutions (McCabe et al. 2002; Smyth & Davis 2004).

The model of academic dishonesty proposed by McCabe and Trevino (1993) takes as its premise the concept of social justice in that it suggests that the perception of peers' behavior is the most influential variables of the dishonest conduct of students (McCabe et al., 2002), ie, the observation of fraudulent conduct has an effect of normative support for cheating and social acceptance of such conduct.

Researchers argue that when students believe that others copy and when they believe that their schools do nothing to discourage such behavior this argument may be used to justify their own behavior (McCabe, 1993, McCabe et al., 1999). Another justification can be given based on goal orientation theory which argues that students may be learning-oriented or performance-oriented (Anderman et al. 1998; Dweck 1986;

Rettinger et al. 2005). A performance-motivated student is more motivated to copy, while learning-motivated students are less able to copy (Jordan 2001, Newstead et al. 1996).

METHOD

Participants

1277 undergraduate students of two Portuguese Public Universities were surveyed about their own behavioral intentions to cheat, their propensity to report cheating and their justifications or "neutralizing attitudes". The sample is composed by 64,4% female students and 34,8% male students. Their ages ranged from 17 to 61 with a mean of 20, 45 (SD= 3,82). 30,7% were first year students, 32,3% second year, 32,4% third year, 2,3% fourth year students and, finally, only 1,3% were fifth year students. 9,5% were working students. Entrance Grade Point Average (GPA) was 158,4 (SD=14,23) and course average was 137,4 (SD= 16,26).

Measures

Behavioral intention to cheat – The behavioral intentions to cheat is a 7-item scale (α=0.76) assessing the likelihood of considering misconduct. A five likert scale was considered (1-never; 2- very unlikely; 3- somewhat unlikely; 4 – somewhat likely; 5 – very likely). The list includes items adapted from an on-line survey administered by Millersville University and Kisamore et al. (2007) investigation.

Some examples are "turning in work done by someone else as one´s own", copying from someone else during a test", "using unapproved materials to complete an assignment", "not collaborating in a team assignment", "allowing someone to copy in a test", "plagiarizing a paper, whole or partially, using the internet", "writing a paper for another student".

Reporting Cheating – The reporting cheating scale is a four-item scale (α=0.82) designed to assess how likely students are to report a friend, a stranger, "if anonymity were guaranteed" and "if there was an honor code", whom they observe engaging in academic misconduct. A five likert scale was considered (1-never; 2- very unlikely; 3- somewhat unlikely; 4 – somewhat likely; 5 – Very likely).

Neutralizing attitudes – The neutralizing attitudes scale measure the justifications given by students. Students were asked about the reasons why some of them copy or allow others to copy. The neutralizing scale is a 13-item scale (α=0.73) describing academic misconduct as a cause of external factors. Some examples are " to help a friend", "due to lack of time", "because they feel pressured by colleagues", "because there is not much control by teachers", "because the punishments are less severe", "laziness", "because they want high grades", "when the subjects are very complex", "because colleagues accept and consider such behavior normal", "because does not exist a code of honor", "because everyone copy", "because they are dishonest", "because the assessment is based on memorization". Students were requested to indicate the extent of their agreement with each of the statements using a scale ranging from 5 "strongly agree" to 1 "strongly disagrees".

Demographic Variables: The participants were also asked to report their age, gender (males coded as 1, females coded as 2), Grade point average (GPA) (course average), schooling year (1st, 2nd, 3th, 4th and 5th) and students status (1 - ordinary and 2 - working student).

RESULTS

Approximately 60% of the participants affirmed never to the likelihood of turning in work done by someone else as one's own, and 40% admitted such misconduct. Not collaborating in a team assignment is considered by 31,2% of participants. Only 25,8% of students answer that they have never considered the possibility of copying on a test or exam for someone else. 74,2% admitted to have considered the possibility of copying at least once in a written assessment exercises.

The likelihood of participants' consideration of engaging in academic misconduct reveal that allowing someone to copy in a test is well tolerated (13,4% say never and 86,6% admitted such behavior).

64% of students admitted the possibility of using unauthorized material in the evaluation exercises at least once, and 36% never admitted so. 57,8% said that they have never plagiarized a paper, whole or partially, using the internet and 42,2% admitted they have considered such misconduct. Finally, 37.7% of respondents admitted the possibility of writing a paper for another student.

83,7% of students do not consider the possibility of denouncing a friend while, in the case of a stranger, 62,6% has admitted to do it. If there were anonymity guarantee allow 43,1% of students would consider reporting a fraudulent behavior. If there was a code of honor, 53,6% of students would consider the possibility of reporting an academic misconduct.

Helping a friend is the most appealed explanation given by students to copying or allowing to copy (87,6% agree and strongly agree). 55,3% of students agree or strongly agree that they copy because colleagues accept this behavior as normal.

Other justifications presented are related to the teaching and learning process. 72,2% of students believe that the fraudulent conduct occurs when the subjects are more difficult, or to obtain higher marks/grades (68% agree or strongly agree) or when the assessment exercise is based on memorization (53,9% of students agree or strongly agree). 56,7% of the students points out the lack of time to study as the main reason that justifies the cheating behavior.

For students, cheating is not synonymous of dishonest conduct. Approximately, 50% of respondents disagreed that the act of copying suggests students´ dishonesty. Students demonstrate lack of information to respond to the question about the honor code existence (38.6% refers not having an opinion). Students reject the justification that everyone copies and that they feel pressured by peers (70% of both disagree).

In sum, the likelihood of copying is greater when "helping a friend", or "when the subjects are more difficult", or "to get higher marks/grades", and because "peers accept and tend to see copying practices as normal".

In order to test the dimensionality of "neutralizing attitudes" a Principal Components Analysis with Varimax orthogonal rotation was performed (table 1) according to the *eigenvalue* method (Kim and Mueller, 1978), verifying the confirmation of the Kaiser-Mayer-Olkin (KMO) test and of the Bartlett (*sign.*< 0.001) sphericity test. For each factor, items with loadings above 0.45 (Howell, 1992) are selected. In order to assess the internal consistence of the factors, the *Cronbach alpha*'s value is considered.

Table 1: Factor Analysis with Varimax Rotation of Neutralizing attitudes

Itens	Loadings		
	Indvidual focus	Learning process focus	Environment-peer pressure
"laziness"	**,765**	,213	
"because they are dishonest	**,686**	-,238	,111
"because the punishments are less severe",	**,679**	-,184	,324
"because does not exist a code of honor",	,485	-,119	,481
", "because there is not much control by teachers"	,453	-,116	,444
"when the subjects are very complex",		**,747**	,108
"because they want high grades"	,436	**,627**	
"due to lack of time"	-,228	**,622**	,176
" to help a friend"	-,132	**,550**	,185
"because everyone copy",		,118	**,711**
"because colleagues accept and consider such behavior normal"	,271	,115	**,617**
"Because the assessment is based on memorization".		,240	**,543**
"because they feel pressured by colleagues"	,114	,232	,348

Three factors emerged from the factor analysis. The first factor groups 5 items (with loadings above 0.45) and shows a *Cronbach*'s α of 0.727. This factor refers to an individual focus. The second emerging factor groups 4 items and presents a *Cronbach*'s α of 0.709. The third factor emerged was named environment-peer pressure. One item of this factor was withdrawn, since it was found through the analysis of the internal consistency that it would cause for an increase in its internal consistency.

Correlation analyses were conducted. As shown in Table 2 a justification individual centered is negatively correlated with one's own cheating behavior (r=- 0.156, p<0.01) and positive correlated with reporting (r=0.147; p<0.01). A learning-process justification is positively correlated with one's own cheating behavior (r= 0.260, p<0.01) and negatively correlated with reporting (r=-0.116; p<0.01). An environment-peer pressure justification is positively correlated with one's own cheating behavior (r= 0.129, p<0.01).

Neutralizing attitudes are reasons regarded as valid in order to find justifications to their actions. The results indicate that students who admit reporting peer´s cheating behavior consider that behavior is due to laziness, dishonesty and because the punishments are not severe enough. Students who admit the possibility of one´s own cheating behavior justified it as a result of the learning-process, ie, when the subjects are complex, when

students want higher grades and as a result of lack of time available for study. A context based justification is given by students who have admitted to copy /plagiarize.

Table 2: Descriptive statistics and correlations among variables

Variables	1	2	3	4	5	6	7	8	9
1.Own cheating behavior	(0.76)								
2.Reporting	0.001	(0.82)							
3. Individual focus	-0.156**	0.147**							
4. Learning process focus	0.260**	-0.116**	0.000						
5.Environment-peer	0.129**	-0.037	0.000	0.000					
6.Gender	0.013	0.007	0.012	-0.015	0.033				
7. Age	-0.060*	0.081**	-0.002	-0.116	0.065*	-0.025			
8.Schooling year	-0.012	-0.023	-0.003	0.021	-0.013	0.623**	0.013		
9. Student Status	-0.005	0.023	-0.006	0.016	0.025	0.515**	-0,007	0.502**	
10. ACT score	-0.084*	0.073*	0.096*	-0.056	-0.016	-0.009	-0.080*	-0.039	0.030

*p<0.05; **p<0.01

Note: Gender was coded 1= Male; 2= Female; Students' status was coded 1=ordinary; 2= working student

DISCUSSION AND CONCLUSIONS

The likelihood of participants' consideration of engaging in academic misconduct reveal that allowing someone to copy in a test is well tolerated. Results indicated also that majority of students admitted to have considered the possibility of copying at least once in a test/exam and using unauthorized material in the evaluation exercises. Otherwise, a minority admitted to have plagiarizing a paper, whole or partially, using the internet.

Results indicate that copying in a test or plagiarizing a paper even though they are both dishonest academic behaviors they are at the same time are different in terms of physical and psychological involvement. Privacy is the big difference between copying in a test than plagiarizing a paper. Copying in a test requires public exhibition. The others´ direct scrutiny may have a social desirability effect and in consequence an obedience to social norms. In this sense it can be expected that cheating on tests is more influenced by situational and contextual variables. Results indicate that copying in a test is excused by friendship and the normalization of the act. The students felt that their colleagues accept and consider cheating as normal. Although students understand that cheating is against rules, often look at colleagues and realize that copying is acceptable and can be "peer pressure" to copy (McCabe et al. 1999).

Plagiarism is usually a private activity that is more individual motivated than situational motivated (Rettinger & Kramer 2009). So it could be greater social condemned than cheating on tests. Results revealed that most students consider that copying in a test is more socially accepted. McCabe and Trevino´s model (1993) suggest that a cheating disapproval is associated with a decrease in such behavior. It will be therefore admitted that in contexts where this behavior is acceptable cheating has a higher incidence.

According to Pulvers and Diekhoff (1999) one of the aspects that neutralize cheating behavior is the belief that "everyone copy". In this study only a small part of the students consider that this is a valid justification for fraudulent behavior.

Murdock et al. (2007) concluded that a style of performance-oriented teaching can be considered a neutralization attitude. Results indicated that the likelihood of copying is greater "when the subjects are more difficult ", or "to get higher marks / grades".

Results indicated also that for students, cheating is not due to a really dishonest conduct. This attitude revealed that students tend to consider their behavior acceptable when they can describe it as a cause of external factors and do not ascribe this to justify a lack of integrity or intellectual dishonesty. Otherwise, knowing that others copy regularly and believe that others do not take the matter too seriously may facilitate the neutralization of those attitudes.

In sum, these results support that context emerges as a very important influence in the decision to cheat (more on cheating on a test). This paper concludes that the environment-peer pressure and the normalized attitudes towards academic dishonesty are the main influences on the propensity to cheat.

Neutralizing attitudes are reasons regarded as valid in order to find justifications to their actions. Who report a peer cheating behavior considers that behavior is due to laziness, dishonesty and a lack of punishment. A learning-based justification and a context based justification are given by students who have admitted to copy /plagiarize.

This study represents a step forward to understanding the "justifications" given by students to the academic misconduct; however a confirmatory factor analysis is essential. Taking into account the lack of studies on academic integrity, further research should explore the directions pointed out in this study. It would be pertinent to explore some academic integrity policies.

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APPENDIX
Sample scale Items

Behavioral intention to cheat – I Would report an incident of cheating …
1-never; 2- very unlikely; 3- somewhat unlikely; 4 – somewhat likely; 5 – Very likely

turning in work done by someone else as one´s own
copying from someone else during a test",
"using unapproved materials to complete an assignment
not collaborating in a team assignment
allowing someone to copy in a test
plagiarizing a paper, whole or partially, using the internet
writing a paper for another student

Reporting Cheating – I Would report an incident of cheating …
1-never; 2- very unlikely; 3- somewhat unlikely; 4 – somewhat likely; 5 – Very likely

of a friend,
of a stranger,
if anonymity were guaranteed
if there was an honor code

"Neutralizing attitudes"
 1 "strongly disagrees" 2"Disagree" 3"Neither agrees nor disagrees/No opinion 4"Agree" 5"strongly agree"

To help a friend
Due to lack of time
Because they feel pressured by colleagues
Because there is not much control on the part of teachers
Because the punishments are less severe
Laziness
Because they want high grades
When the subjects are very complex
Because colleagues accept and consider such behavior normal
Because does not exist a code of honor
Because everyone copy
Because they are dishonest
Because the assessment is based on memorization

334 - Mathematics Intervention Programme as a Mediating Tool to Enhance Student Teachers' Learning and Teaching of Mathematics: an Activity Theory Approach

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Abstract: This study was prompted by concerns of mathematics teaching and learning in the South African education system. Contributory factors to this situation were the lack of competent mathematics teachers in the classroom and mathematically *at risk* students entering teacher education programmes. This paper reports on how a mathematics intervention programme (MIP), assisted in shaping *at risk* students' perceptions of their learning and teaching of mathematics. Activity Theory is used as a theoretical underpinning in examining student teachers' perceptions of their learning and teaching of mathematics in the MIP. Qualitative data was collected and analysed using interview transcripts, test scores, and written and graphical reflections of the student teachers experiences. The results confirm that the students' perceptions of their learning and teaching of mathematics had changed and concludes that the MIP had a positive effect on the students' with regard to improving their: attitudes; level of confidence in learning mathematics; teaching strategies and mathematics performance.

Keywords: Activity theory*, at risk* students learning and teaching of mathematics

INTRODUCTION

A serious challenge facing South African universities is to improve throughput rates of students. The Minister of Higher Education and training in South Africa, Blade Nzimande (2010), has appealed to South African universities that whilst access to universities must increase it must also be accompanied by increases in graduation and success rates at all levels of study.

Higher education institutions are thus not only faced with the everyday challenge of excellence in teaching and learning, but also have to engage in student support programmes for those who enter the tertiary institutions bearing scars of apartheid education.

Even though South Africa is now seventeen years into post-apartheid transformation, there is still a large number of students who graduate from high schools ill-prepared for higher education. This is due in part to resource constraints and unqualified or under-qualified teachers. As a result many students who enter higher education are *at risk*[149] of failing due to their poor grounding within the South African school system.

The ill-prepared first year university students, particularly in mathematics and science subjects, are of great concern to the academic fraternity (Surty, 2005). The lack of adequately qualified school teachers has been cited as one of the contributory factors in this regard (Asmal, 2002). According to Crouch and Perry (2003) the number of unqualified (lower than grade 12 certificate plus diploma or degree) teachers in the system is considered to be substantially high. Thus Higher Education Institutions (HEIs) which offer teacher education programmes have an important role to play in addressing this problem.

One of the unfortunate consequences of underqualified teachers is that many South African high school graduates enter teacher education programmes with a poor grasp of mathematical concepts and, in some cases, an associated dislike for the subject. Although these trainee student teachers are exposed to mathematics education at teacher training institutions, many of them graduate and return to the classroom, without having overcome their aversion for the subject (Setati, 2004). As a consequence they contribute to student indifference to the subject and the continuance of the vicious cycle.

Academics involved in mathematics education programmes at teacher education institutions have a responsibility to break this cycle. This requires a variety of interventions, especially at first year level, needs to be designed and implemented to support students. An important factor that needs to be taken into account, when devising intervention programmes for first year students, is their school-based learning experiences.

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[149] In this study at risk is understood to be a student who risks academic failure because his or her skills, knowledge, motivation and academic abilities are significantly below that of a typical student (Maxwell, 1997).

According to Eaton & Kidd (2005) the experiences that these students have during their formative years in the classroom have shown to have a major impact on their behaviour as teachers. Parson (2004) highlighted that in the school system low achievements and repeated failure in mathematics often result in negative attitudes and lowered confidence which in turn lead to mathematics avoidance at tertiary level and increased risk of failure.

One approach to tackle poor performance in mathematics and an aversion of the vicious mathematics cycle would entail intervention strategies which have a positive influence on student teachers' perceptions of learning and teaching mathematics.

The case of one such intervention sets out the broad context in which the research problem of this study was located. Specifically the study investigated how a mathematics intervention programme, was able to shape the student teachers' perceptions of their learning and teaching of mathematics.

CASE STUDY: A MATHEMATICS INTERVENTION PROGRAMME AT A TEACHER EDUCATION INSTITUTION

In an attempt to address the concerns of poor mathematics performance and an aversion for the subject, the academics managing the B Ed programme within the Faculty of Education at a University of Technology in Cape Town implemented a mathematics intervention programme. Four important factors, specifically related to the B Ed, General Education and Training (GET: Grade R to 8) programme that underpinned the implementation of the MIP were as follows:

  i. Mathematics and Numeracy form a fundamental part of the Primary School Curriculum.
  ii. The incoming students' low level of preparation for the introductory mathematics course.
  iii. The rapid increase in student intake and the concomitant change in the diversity of students' academic backgrounds and profiles.
  iv. The high drop-out rate at first year level.

The design of the MIP targeted students who were *at risk* of failing the first year *Introduction to Mathematics* course. The MIP occurred in parallel sessions to the mainstream introductory class and took place twice a week for the full academic year. Each class was forty five minutes in duration. The total hours allocated was 36 hours for the year an additional 10 hours were allocated to accommodate a slower pace of teaching. This afforded the students the opportunity to ask questions and seek assistance. Fundamental to the programme was the small class size, averaging twelve students. The intervention class was optional and was taught by a qualified mathematics specialist.

THE RESEARCH QUESTION

What aspects of the Mathematics Intervention Programme shaped the student teachers' perceptions of their learning and teaching of mathematics?

This paper will focus on the following two sub-questions:

  How has the *MIP classroom environment* influenced the student teachers' perception of their learning and teaching of mathematics?

  How have the *teaching and learning strategies* (mediating tools) used in the MIP influenced their perceptions of their own learning and teaching of mathematics?

LITERATURE REVIEW

The literature reviewed for this study focused on perception studies, intervention programmes, learning and teaching strategies and Activity Theory (AT). Literature dealing with students' perceptions of learning and teaching mathematics included: Tchoshanov, Blake, Della-Pianna, Duval & Sanchez, 2001; Schuck, 1998; Holt-Reynolds, 1994 and Schoenfeld, 1994. Studies which reported on mathematics intervention programmes included Gervasoni, 2005; Doig, McCrea & Rowe, 2003 and Pearn & Merrifield, 1996. Constructivist theory of learning and teaching strategies associated with mathematics took into account the studies done by Cobb, 1994; Collins, Brown & Holum, 1991 and Vygotsky, 1978. Finally attention was given to AT, Engeström's (1987) which formed the central focus as a theoretical and analytical framework for this study. The following section explained AT in more detail so as to understand the context of the study.

Activity Theory (AT)

Activity Theory provided a framework for co-ordinating the constructivist and socio-cultural perspectives in mathematics learning. According to Cobb (1994) activity plays a crucial role in mathematics development and learning from both a constructivist and socio-cultural perspective in mathematics education. These are important perspectives in the research problem environment of this study and therefore AT provided a suitable *lens* through which the research objectives could be achieved. As stated by Hardman (2005) AT does not have predictive power and is best viewed as a heuristic device for identifying, examining and aiming to answer research questions related to human activity.
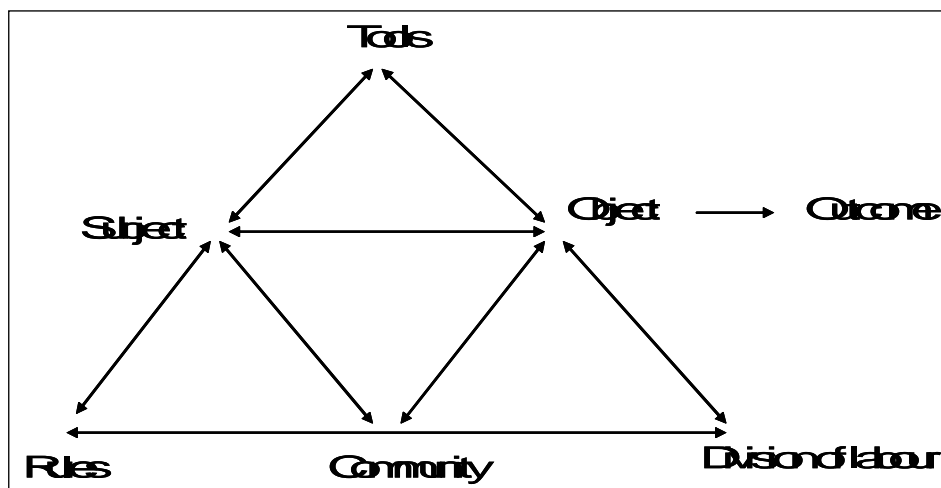
Figure 1: The basic triangular model of AT (Engeström 1987:78)

Activity Theory was derived originally from the work of Soviet cognitive psychologists, especially Vygotsky (1986) and Leont'ev (1978). The well known triangular model (Figure 1) of AT was developed by Engeström (1987, 2001). It has been widely used descriptively and analytically in many parts of the world. The model is composed of interacting components: ***subject, mediating artefacts or tools, object, division of labour, community and rules***. It portrays the inter-relationships between the subject, object, and mediating tools, set in the social context of rules, community, and division of labour.

According to Engeström (1987*)* the analysis is conducted from the point of view of the ***subject***, which could be an individual or group. This component forms the focus of the action. The subject uses mediated means or tools to reach the object. The ***object*** is the central issue to, or which the activity is directed and eventually leads to an outcome as a consequence of the activity. Kuutti (1996) asserts that a ***tool*** can be anything used in the transformation process, including both material tools and tools for thinking. Tools alter the activity and are in turn altered by the activity. Engeström (1987) intended that the ***rules*** component refer to the explicit and implicit regulations, norms and conventions that constrain actions and interactions within the activity system. It defines how subjects must fit into the community. The ***community*** for Engeström (1987) comprises multiple individuals and/or subgroups who share the same overall object and who construct themselves as distinct from other communities. The community component therefore includes the notion that an activity is carried out within a social and cultural context of the environment in which the subjects operate. The ***division of labour*** or *roles* describes how the object of the activity relates to the community. It refers to both the horizontal division of tasks between the members of the community and the vertical division of power and status (Engeström, 1987).

The unit of analysis in AT is the activity system. Russel (2002: 67) states that the activity system is a *flexible* unit of analysis (theoretical lens) which allows the researcher to train their *gaze* in different directions and with different levels of *magnification* to help the researcher answer the questions that *puzzle* them.

An important question that underpins the understanding of AT is *what is activity?* Cole and Engeström (1991) define an activity as a form of doing, which is intentional and directed towards the creation of a physical or mental object. This in turn leads to an outcome. Their model of activity highlights three mutual relationships involved in every activity:

- the relationship between the subject and the object of the activity, which is mediated by tools;
- the relationship between the subject and community, which is mediated by rules; and
- the relationship between object and community, which is mediated by the division of labour.

Cole and Engeström thus see relationships occurring between elements within the activity as crucial to transforming the object into an outcome.

An Overview and Critique of Activity Theory (AT)

Engeström's model of AT has been used as a research framework and a heuristic supporting innovation in a wide array of contexts including education, healthcare and human-computer interaction (Engeström, 1987, 1993 & 2000; Roth, 2004 and Thorne, 2007). According to Thorne AT does not separate understanding (research) from transformation (concrete action), it encourages engaged critical inquiry to enact positive interventions.

However, Roth (2004) argues that there are still many unsolved issues relating to AT. Work conducted by Daydov (1999), lists some of these problems as relating to the nature and role of transformation in activity systems, the relation of collective and individual activity, and the relation of AT to other theories of human conduct.

Other authors have been critical that there are several areas in which AT has still not been applied, For example, Hardman (2005) expresses a concern that while there are numerous examples of the application of AT in interventionist research to analyse a variety of contexts, there are few analyses dealing with the use of AT in exploratory studies at the level of the primary school classroom. She is further critical that though AT is used primarily as an interventionist tool, it struggles to track the emerging object of complex activity systems observationally.

One of the main critiques of AT is that it has been applied within diverse disciplinary settings. Therefore a researcher, who is unfamiliar with multi-disciplines, would find it a challenge to come to terms with the application of AT as it would require a review of studies in such a variety of contexts. On the other hand, the diversity of application of AT could also be viewed positively, in that this is demonstrative of its pliant nature and as such is easily adaptable. Roth and Lee (2007) for example refer to AT as being an accommodating framework, rather than a set of neat propositions. Indeed, this was found to be the case in considering if AT could be applied to this study. Additionally, as a sufficient number of relevant studies in education were identified in the literature surveyed, I believe there was a strong case to support primarily the use of AT as a theoretical underpinning for this study.

RESEARCH METHODOLOGY

The principal research strategy adopted was that of *case-study* research. An interpretivist approach and qualitative methodologies were deployed in this study.

Participants were purposefully selected from amongst 60 first year B Ed student teachers attending the MIP. Semi-structured interviews were then conducted amongst the twelve student teachers and the MIP lecturer between March and May 2007. Prepared interview schedules as well as picture cards [150] were used in the interview.

The interview transcripts formed the primary data source for analysis and provided the means to understand the change in mindsets of the subjects. This data was supplemented with students' test scores as well as illustrative and written reflections of their mathematics experiences that were captured during a separate exercise.

NVivo (a qualitative data analysis software tool) was used to facilitate the process of content analysis. This involved identifying, coding, categorising, classifying and labelling the primary patterns in the data, and then mapping these onto an expanded activity system, viz., an AT model.

The findings were based on analysing the subjects' perceptions of the MIP. These findings were presented within an AT framework and were viewed within the six components of Engeström's activity system.

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[150] During the interview subjects were given eight picture cards, as shown in Figure.3 (page 11), the subjects had to arrange these cards according to the aspect that made the most significant to the least significant contribution to their learning and teaching of mathematics whilst in the MIP.
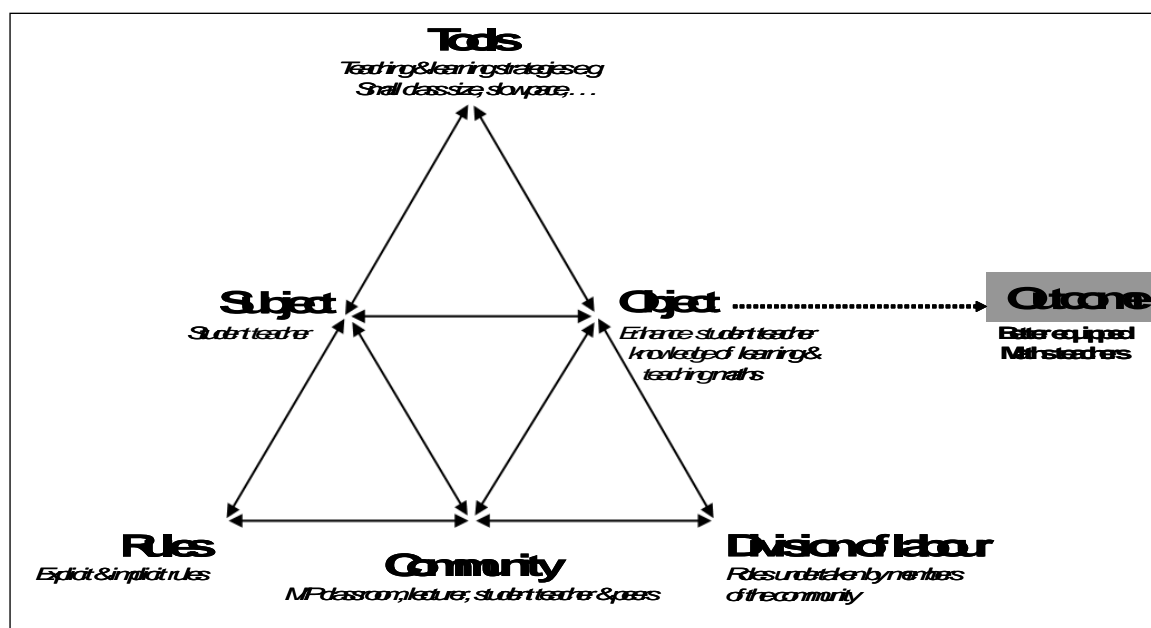
Figure 2: Engeström's Activity System as applied to this study

For the purpose of this study (as defined by Cole and Engeström, 1991) the activity was defined as the student teachers' learning and teaching of mathematics within the MIP learning environment. The upper part of the triangle in Figure 2 (subject, object and mediated tools) was used to examine how the student teacher used the mediated tools to scaffold and build on their own understanding of learning and teaching of mathematics. The lower half of the triangle (rules, community and division of labour) was used to examine how the social environment within the MIP classroom influenced the student teachers' perceptions of learning and teaching mathematics.

Activity Theory thus facilitated a holistic interrogation of the student teachers' learning and teaching of mathematics within the social setting of the MIP classroom. In addition it magnified each component to be examined individually and with equal attention. This enabled me to explore the relationships between the six components of the AT system as they pertained to the research problem. This process produced both rich and sufficiently detailed findings in respect of the research questions and enhanced the quality of the study through ensuring the credibility, transferability and dependability of the findings.

RESEARCH FINDINGS

In answering the research question the findings in this paper are presented according to the following components of the activity system i.e. the subject (student teachers); the mediating tools (teaching and learning techniques); and the community (classroom environment, peers, lecturer). The activities within these areas were examined at both individual and social levels to determine whether the MIP influenced the student teachers' perceptions of their learning and teaching of mathematics (object).

The Subject: Student Teachers

The subjects' demographic information and excerpts from their interview considering their prior school-based mathematical learning experiences, provided an important background.

The following significant observations were identified about the subjects:

- The majority of the subjects in the study were students who returned to the university after an extended period of absence from formal learning. This meant that many of them were not familiar with the *Outcomes Based Education (OBE)*[151] approach to learning mathematics.
- The majority of the subjects did not have the basic mathematical grounding needed for the B Ed mathematics course.

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151   OBE was implemented in 1998 into the South African education system as a curriculum reform intended to replace the old education system of content-based approach to primarily a learner-centred approach that included continuous assessment and outcomes-based education.

- More than half of the subjects were not English first language students. However when questioned about the impact of learning mathematics through the medium of English in the MIP they all indicated that the medium of instruction was not a debilitative factor to their learning of mathematics.
- Remarks with regards to the subjects' prior school-based mathematical learning experiences were indicative that they generally had a negative attitude and a fear of learning mathematics.

The foregoing provided a backdrop of the subjects' experiences and their particular needs in the learning environment of the MIP. The discussions of the findings that follow take into account this profile of the subjects.

Mediating Tools: Teaching and Learning Strategies
A wide variety of teaching and learning strategies were used as mediating tools by the MIP lecturer to improve the subjects' performance. No standardized teaching or learning model was used. However, all teaching strategies used are subsets of various theoretical teaching perspectives. For example modelling, scaffolding and coaching are associated with cognitive apprenticeship instructional model (Collins, Brown & Holum, 1991); group work, small class size and promoting student responsiveness is associated with collaborative learning (Vygotsky, 1978; Bruner, 1996); and learning and interacting with assistance from a more capable peer or lecturer is associated with Vygotsky's (1978) Zone of Proximal Development (ZPD).
The different teaching and learning strategies used were adopted specifically for the needs of the student teachers in the MIP class. The strategies were intended to achieve the following: reduce mathematics anxiety, build confidence, and improve performance and understanding of learning and teaching mathematics. The techniques used aimed at allowing the student teachers to complete tasks with minimum effort, frustration or anxiety and reach levels of performance that they had previously felt was unachievable.

Student Teachers' Perception of Learning and Teaching Strategies
The subjects were asked to identify what learning and teaching strategies were used in the MIP class. What emerged from the analysis was that some strategies that were used by the lecturer were not necessarily identified as learning or teaching strategy by the subjects.

Table1: Teaching & Learning Strategies identified by the students

	Teaching & Learning (T & L) strategies identified by subject (From most identified to least)
1	Small class size
2	Use/making of objects
3	Plenty of examples & repetition
4	Slower pace of work
5	Worksheets
6	Group work
7	Question & answer
8	Overhead projector
9	Homework
10	Board work

The analysis of the interviews suggested learning and teaching strategies that subjects were familiar with were not perceived as mediated tools. For example, very few of the subjects identified homework, board work, the use of the overhead projector and questions and answer techniques as teaching and learning tools. Strategies that were new to the subjects or had an impact on their learning of mathematics were perceived as mediated tools, for example, the use of worksheets, use/ making of objects, group work, plenty of examples and repetition.
A strategy that appeared to be very successful was the small class size. All the subjects interviewed acknowledged that the small class size was effective in their learning of mathematics. This is supported by Gillies (2006) who found that (i) students benefit academically and socially from small group learning; and (ii) students' and teachers' verbal behaviour in small groups was more caring, spontaneous, personal and positive as the teacher and students worked more closely.
Another strategy that was effective was the slower pace of lessons. Many of the subjects appreciated the relaxed pace in which the lessons were conducted and regarded this as beneficial to their own learning. From the small percentage that did not particularly approve of the slower pace of work, half of them used this time

to teach their peers and also work out additional examples. This advanced their teaching and learning of mathematics. However the remaining half expressed boredom and noted at times they felt tempted not to attend class. This underscores the importance of the learning environment being individualisedWith regards to the subjects' teaching of mathematics the data revealed the teaching and learning strategies that were identified to be most effective to the subjects' own understanding of mathematics (Table 1, number 2 to 6) were utilized when they taught mathematics during practice teaching. From the analyses it emerged that many of the subjects mirrored their MIP lecturer's techniques of teaching mathematics. This important observation was indicative of the transference of the learning in the MIP into the external school environment.

The Community: MIP Classroom Environment
The community comprised of the classroom environment, peers, subjects and lecturer. The findings in this section focus on the abovementioned components:

The Classroom Atmosphere
The group-style layout of the desks and chairs created adequate space for movement and interaction with peers and the lecturer. The subjects' responses to the classroom atmosphere were: the MIP class had a relaxed atmosphere; their work and comments in the class were valued, respected and accepted by the lecturer and peers: they also established the class to be a non-judgemental environment; they felt safer in the MIP class and this security encouraged and offered them a better scope to explore innovations and undertake a trial of a wider range of strategies in solving mathematical problems.

Peers in the MIP Classroom
The peers of the subjects facilitated the social interaction in the community. The subjects were involved in exploring, co-operating, sharing and reflecting with their peers. Such involvement brought about security, self confidence and a reduction in anxiety for many of the subjects.
The cooperative working environment in the MIP also allowed the subjects to take on roles such as observer, teacher and facilitator assisting their peers.

The Lecturer
The lecturer's prior teaching experience with *at risk* mathematics students and teachers and being au-fait with the MIP aims positively influenced the interactions in the MIP community. The analysis of the interview data with the subjects and lecturer showed that the lecturer was able to:
- demonstrate insight about teaching and learning strategies;
- reduce mathematics anxiety;
- enhance students' basic mathematical skills and confidence;
- provide a supportive and stimulating learning environment and
- encourage independent decision-making amongst groups or individuals.

The supportive role played by the peers and lecturer constructed an environment that was different from other learning communities outside the MIP environment. It was unique in the sense that the subjects were aware of each others' weak mathematics foundation, they felt they were all in the same 'boat' and needed to support and encourage each other.

Subjects' Perceptions of the MIP

Responses from the picture cards exercise (Figure 3) formed part of the evidence in reporting on the subjects overall perception of the MIP.

Figure 3: Analysis of 'sort cards' exercise

The following five observations were noted by the subjects from the picture cards:

- All acknowledged that the MIP had definitely improved their performance in mathematics. This was collaborated by their test and examination results.
- The majority felt collaborative learning was very effective. .
- A large percentage acknowledged an increase in their confidence and attitude towards learning mathematics and also a shift in their perception of learning mathematics.
- In contrast to the subjects' confidence and motivation to learn mathematics, their response show a lower confidence and attitude to teach the subject. The student teachers felt that they were not ready to teach mathematics even though their marks had improved.
- Finally, in response to the learning of mathematical concepts, a small percentage acknowledged a change in their learning style. The assumption here is that many subjects did not fully understand what was expected of them.

DISCUSSION OF FINDINGS

In answering the research question:

What aspects of the MIP shaped the student teachers' perceptions of their learning and teaching mathematics?

The findings indicated two important aspects of the MIP which promoted a positive outcome in respect of the way in which student teachers' perceived their learning and teaching of mathematics:

i.   classroom environment; and
ii. teaching and learning strategies used in the MIP.

Importantly (i) and (ii) above were not mutually exclusive contributors to the positive outcomes. Rather it was the ongoing *interaction* between the elements of the classroom environment and specific (i.e. not all) teaching and learning strategies applied by the MIP lecturer, which jointly contributed to a change in perception amongst the subjects as reflected in Figure 4 below.
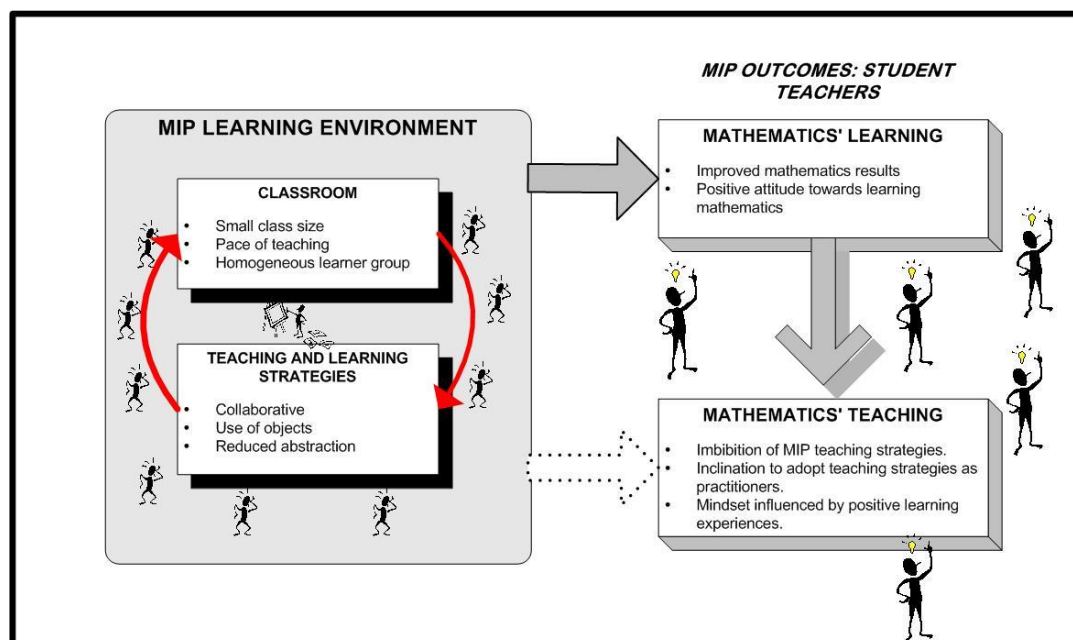
Figure 4: Overview of how the MIP influenced student teachers' learning & teaching of mathematics

MIP: Classroom Environment

A key theme which emerged through the analysis of the student teachers' interviews was the facilitating role of the MIP classroom environment, as shown in Figure 4. Aspects of this environment were emphasized by all interviewees. The small class size, the slower pace of learning and teaching and the homogeneous learner group collectively provided uniqueness to the environment.

Secondly, the findings also point to the university classroom environment as a crucial component in guiding students towards an interactive and constructivist approach in their learning activities. This enhanced a self-awareness of the student teachers' own cognitive abilities which they then applied to the tasks in the MIP.

A third finding highlighted the characteristics of the MIP learning environment as being relaxed, non-threatening and comfortable. This resulted in the students having an elevated sense of confidence to: seek help from the lecturer and peers; try out new ways of solving mathematical problems; and voice their opinions, debate and discuss mathematical issues with the lecturer and peers.

The sense of confidence gained by the student teachers helped them to realize their self-worth, as they felt valued and respected in the MIP learning environment. This in turn resulted in a positive attitude and improved confidence towards learning and teaching mathematics.

Learning and Teaching Strategies

The various learning and teaching strategies used in the MIP class, to scaffold and build on the student teachers' knowledge of learning and teaching mathematics, assisted the diverse group who had varied learning needs. This mediating tool played a critical role in fostering a change in the student teachers' perceptions of learning mathematics. The following teaching and learning strategies (see Figure 4) were identified as the major contributors to the student teachers' learning of mathematics:

- collaborative work;
- use of concrete objects;
- use of real-life examples and
- repetition of mathematical concepts

An introspection of the above indicates that those strategies which were most beneficial to the student teachers' own learning experience emphasised social interaction. However, the various teaching and learning strategies used in the MIP did not have the same impact on all the *at risk* student teachers. Two distinct results that can be deduced from the tool-mediated activity were firstly, all the student teachers were optimistic in acknowledging their improved results. Secondly, the findings indicate that the teaching and learning tools that student teachers considered to be effective for their own learning of mathematics were also recognised as those that they would be inclined to adopt as mathematics teaching practitioners.

Finally, it may be concluded, that the classroom environment and strategies used in the MIP (refer Figure 4), were beneficial to the student teachers in two ways:

- they were able to engage in mathematics learning experiences similar to that of pupils in the school system. This was significant in providing the student teacher with pedagogical knowledge from an "insider" perspective; and
- these elements appear to jointly contribute to the improvement of their content knowledge of mathematics.

Student Teachers' Perceptions of Learning and Teaching Mathematics

Figure 4 underscores a distinction between the student teachers' perceptions of *learning* mathematics and the way they perceived the *teaching* of the subject. The findings indicated that the following factors contributed to the student teachers ability to perceive the learning of mathematics in a positive light:

- small class size;
- lecturer's attitude;
- varied teaching and learning techniques;
- individual attention;
- peer support;
- visible improvement in their mathematics results.

Evidence from the interviews revealed that a majority of the *at risk* student teachers who entered the MIP did so with a negative attitude and a fear of learning mathematics. The importance of both the constructivist teaching and learning strategies used in the MIP and the learning experiences of the student teachers contributed to the positive shift in their perceptions towards their learning and teaching of mathematics. The aforementioned is indicative that positive shifts in students' perception of mathematics are indeed possible albeit within different contexts.

Although a positive shift was noted in this study, there was a difference with regard to the student teachers' *learning* of mathematics and that of *teaching* mathematics. Only fifty percent of the student teachers interviewed conceded that they felt confident enough to teach mathematics lessons in their first year of practice teaching even though their academic results and attitude towards the subject had changed. Many of them remarked that they were not adequately prepared to manage mathematical queries that might arise in the classroom. Hopefully these first year students' confidence levels will grow by the time they graduate and enter the classroom. This important finding highlights an area that requires further exploration as it will be useful to understand why such inadequacies prevailed.

Notwithstanding the lack of confidence to teach mathematics, the findings do indeed reveal that the teaching strategies used in the MIP were imbibed by the students in that they recognized these strategies as techniques that could be used in their own teaching of mathematics during practice teaching and later as professional teachers. This was a significant finding as it demonstrated the MIP had an impact on student teachers' perceptions of their mathematics *teaching*.

CONCLUSION

Overall, the study provided some insight into how interventions can work in elevating the confidence of at risk students in a South African context. In particular, the study highlighted that it is indeed possible to ensure that newly qualified teachers return to schools with positive perceptions of mathematics.. Although the study has not been able to provide evidence of how these students will actually perform as teachers of mathematics, it does however set the stage for further investigation in this regard.

Finally, the findings of this study provided insight as to how the problems related to mathematics teaching and learning, can be overcome. Importantly though it should be noted that the MIP, like various other intervention programmes characterising the South African higher education landscape, are symptoms of the deeper consequences of apartheid education. The injecting of better equipped mathematics teachers into the school system, while important, needs to be located within an overhaul of the school system as a whole so that other problems such as lack of physical infrastructure, large class sizes, and paucity of teaching and learning resources are simultaneously addressed.

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360 - History of the Law in the Curriculum: Analysis of an Experience

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Abstract: Curriculum theories are part of a social and epistemological field. They show up in disputes for the power to select and privilege a certain knowledge over another, and to highlight one specific type of identity and subjectivity that is considered the "ideal" one from a hegemonic point of view. Thus, a curriculum is often the portrait of a determined time and its social, political, historical, cultural demands and many other demands found in the day-to-day life. Starting from the National Guidelines for Curriculum (DCNs) for the Law Graduation Programme, promulgated in 2004, the curriculum now requires the subject History of the Law to be part of the Basic Training Structure, and this aims mainly "to integrate the student in the field, stablishing relations between Law and other knowledge fields, covering, among other, studies that involve basic contents about Anthropology, Political Science, Economy, Ethics, Philosophy, **History**, Psychology and Sociology." (DCNs, art. 5, Section I, our emphasis). Starting from these premises, this paper aims to discuss and analyze the implementation of the subject History of the Law as a mandatory in the curriculum of the Graduate College of the Law. Following the orientations of the DCNs, the training areas, namely, Basic Training, Professional Training and Practical Training, must be included in the Pedagogical Project and in the curriculum of the College, through contents and activities. Therefore, this turns into a re-organization of the curriculum, considering the fact that the DCNs standardize and make the curriculum structure official; putting the actual subject in practice, though, has been crashing with the lack of a clear and objective system, and the professor of the subject has to search after many sources that only might be what a typical content of the subject really should be. The research methodology is the qualitative approach and analysis of content according to Bardin (1977), through the analysis of answers given by students of the Law to a short questionnaire. Some of the students who answered the questionnaire have had the subject in their first semester, and some did not have it because it was still not part of the curriculum when they were in their first semester. They are all from a private university in Rio de Janeiro. The study aims to contribute with the discussion about the formalization of the subject, in a time of globalization and uncertainty, considering, though, that these time provides us with a wider range of knowledge.

Key-words: Law Graduation – History of the Law – Higher Education

Curriculum theories are part of a social and epistemological field. They show up in disputes for the power to select and privilege a certain knowledge over another, and to highlight one specific type of identity and subjectivity that is considered the "ideal" one from a hegemonic point of view.

Starting from these premises, this paper aims to discuss and analyze the implementation of the subject History of the Law as a mandatory in the curriculum of the Graduate College of the Law. The idea of hegemony can be justified by looking it up in the dictionary (Aurélio, [s.d.]) which records that a theory, in its different meanings, is "a set of **not naive** knowledge that shows different degrees of systematization and reliability, and that is supposed to explain, make clear, interpret or **unify** certain phenomenon or events that are offered to the practical activity" (our emphasis).

The non- naivety of a theory creates a system of thought and control over the knowledge. This way, according to Silva (2003), the critical theories suggest a study about the knowledge as an issue of power this being the central issue that marks the split between traditional curriculum theories and the critical and post-critical theories in this field of study.

The studies about curriculum (the chronology presented here in this part of the study is based on the book *Documentos de Identidade* [Silva, 2003]) refer their origin to the book "The Curriculum", written by Bobbitt in 1918 in the United States. Bobbit is part of a generation that sees american education urgency in shaping the purposes and the ways of the people's education: who should graduate? What should be taught? What are the sources for teaching?

In short, Bobbitt was trying to answer what the main and *true* purpose of education was. This answer, in his thinking, had a technical purpose: the school should work as a factory, having specialized manpower according to the required tasks. The author also suggested, in thinking about the school as an industry, that

the results achieved in the teaching-learning process should be precisely measured and controlled. In fact, Silva (id.: 23) emphasizes this point of view when he affirms that "Bobbit's model was clearly made for economy. Its key-word was 'efficiency'".

Bobbitt's proposal brought echoes of Frederick Taylor's company organization model, which had scientific and efficient principles of administration for companies. Therefore, according to Bobbit's technical concept, education could become a scientific process, with beginning, middle and end monitored and controlled in all its aspects.

Bobbitt's model was consolidated with Ralph Tyler's studies, dated 1949. Without leaving the organization and education development perspective behind, Tyler develops a system for Bobbitt's idea in four elementary questions: 1 – Which goals are to be achieved? 2 – Which experiences should be provided in order to achieve these goals? 3 – How should these experiences be organized? 4 – How can we check if the goals were achieved?

Comparing to Bobbitt, Tyler advances when he identifies the sources of goals that should be taken into consideration in the educational process, namely studies about the students, about contemporary life, suggestions of the specialists in different subjects, besides others that were not considered by Bobbitt: Psychology and knowledge of academic subjects.

Previously to Bobbitt and Tyler's publishings about the technocratic model of curriculum, John Dewey writes in 1902 "The child and the Curriculum", book in which he shows his concern for the contruction of democracy. According to Dewey, education happens through practical experience of democratic principles that surround life in society. This way, there is no need of strict control over the "product" of education, considering that experience itself would direct the abilities that were awaken and experienced throughout the educational process.

Due to the social-economic order and politic established until then, it is from the 1960's and 1970's that Bobbitt and Tyler's models begins to get questioned as the only option for organization of school knowledge curriculum. With the upcoming of the movement New Sociology of Education discussed by Michel Young, originally in England, the "re-conceptualization of curriculum" movement gains strength, establishing the source of the critical theories as a new way of thinking the curriculum.

This theories criticize, emphatically, the dominating ways of knowledge and the established educational order, or in other words, the organization and elaboration of curriculum models. By comparing the traditional theories with the critical theories, it is clear, according to Silva (2003: 30), that

> the traditional theories were theories of acceptance, adjustment and adaptation. The critical theories are theories of distrust, questioning and radical transformation. According to the critical theories it is not important to develop techniques on **how to elaborate** the curriculum, but it is important to develop concepts that allow us to comprehend what **the function** of the curriculum is (author's emphasis).

If the traditional theories for the study of curriculum are based, among other characteristics, on technic-pedagogic aspects, such as teaching-learning process, the evaluation, the methodology, etc, in a very rational and extremely controlled way at each stage, on the other hand the critical and post-critical theories focus on the investigation of *how* these aspects are stained by the ideology and power of dominating groups.

Analyzing the orientations of the texts found in the National Guidelines for Curriculum (DCNs), the training areas, namely, Basic Training, Professional Training and Practical Training, must be included in the Pedagogical Project and in the curriculum of the College, through contents and activities that are supposed to be somehow connected.

Therefore, this turns into a re-organization of the curriculum, considering the fact that the DCNs standardize the curriculum and make its structure official; operating the actual subject, though, has been colliding with the lack of a clear and objective system, and the professor of the subject has to search for sources that only might be what a typical content of the subject really is. In the same area, we also see the history of school subjects as reported by Pessanha, Daniel and Menegazzo (2004, p. 27):

> the word subject, as it is known nowadays, is a recent creation (in Portuguese the word is the same as 'discipline'). In France, for instance, it was first recorded after the First World War, but its original idea remains: to discipline, to order, to control. The school subject would be the result of passing on the society's knowledge through a specific *filter*, so that at one point, after some time, it can no longer be related to the original knowledge. To Chervel (1990), the subject is the price paid by the society to culture in order to pass it on from one generation to another (emphasis on the original).

The authors emphasize the fact that the choice for a subject for a curriculum is not a free choice, or even less so disinterested; quite the opposite, such choice is deliberate and

> the epistemological framework of this field of research argues that school subjects are not reflex, vulgarization or pure and simple adaptation of the sciences. **As the history of a subject happens, it is transformed in its core, and these transformations make the analysis of its relation to society difficult**, giving the impression that only the internal factors, or those related to its science reference, were responsible for its history. **Finding the main points of this process, considering the forces and social interests at play in the history of certain subjects can enlighten their contents and their practices aiming to, if necessary, change them in order to meet new needs, instead of reproducing them as if they were neutral and independent** (Pessanha, Daniel & Menegazzo, 2004, p. 27; our emphasis).

Therefore, knowing how the subjects are established becomes a privileged socio-historical analysis field, full of meanings as it is a reflex of social disputes and arrangements.

The subject History of the Law

We take History of the Law here as a subject that meets the item of integration and comprehension of the legal phenomenon, considering the National Guidelines for Curriculum of the Graduate College of the Law (2004).

The fact that society is constantly changing is the source of vast research material for the science. Concerning the Law, a set of guidelines and rules that aim to prevent conflicts and create rules for the purpose of social peace, it is highly important that the graduates in this area seek to observe, interpret and compare past social events aiming improve the guidelines and rules in order to meet the aspiration of people in the present time.

Among other measures adopted by the National Guidelines for Curriculum (DCNs) that met what was stated above, we see that the History of the Law, optional subject until then, comes in order to contribute with the basic training and integrate the College of the Law, enhancing the legal knowledge and bringing the graduate to the category of operator of the Law, who nowadays lacks in the society, if this need is met, it will ensure a continuing training of this worker that is essential to the administration of justice in the Brazilian society. The DCNs (2004), article 5, profess

> the Graduate College of the Law must have, in its Pedagogic Project and in its Curriculum, contents and activities that meet the following interconnected training axis: I – Essential Training, which aims to integrate the student with the field, **stablishing relations of the Law with other knowledge fields, covering among other, studies that involve basic contents about Anthropology, Political Science, Economy, Ethics, Philosophy, History, Psychology and Sociology** (our emphasis).

Therefore, beyond being a mandatory legal measure, the subject History of the Law is a fundamental axis from an interdisciplinary point of view, providing the student with an integration of contents that will be material for a deeper and wider analysis of the legal fact, in the future practice of the students as operators of the Law.

This paper, through a qualitative research presented hereafter, aims to corroborate with the intention of the DCNs, considering that the data collected through the questionnaires will be able to help the receptivity of the History of the Law by the graduates, aiming to re-interpret the sources of the standards of living since the primitive people up to current days, without leaving behind the different societies that surround us, each one of them with its standards, providing a comparison for the improvement of the Law, Law that meets everyone's needs, regardless of their culture of origin.

The choice for the qualitative analysis came from the faculty's interest in the historical events that were introduced through the comparison of the standards of the past with the current standards, and the proof of what happened to the Law, reaffirming the human experiences that brought progress to the group, revealing itself as a compilation of legal facts that worked and perpetuated the life in group.

In order to have an argument to support the fact that we believe that what was said about the lack of interest in studying the History of the Law is relevant, it is necessary to add a comment about teaching History of the Law before the year of 2004, when the subject became mandatory.

Therefore we add that:

[...] studying the History of the Law is not very prestigious among the operators of the Law in Brazil. This subject has been on the curriculum of the Colleges of the Law only after the determination of minimum curriculum for the Colleges of the Law, established through an Ordinance of MEC nº 1886/94 (The ordinance mentioned was repealed by the DCNs – Resolution CNE/CES, n.9, September 29, 2004).

As mentioned above, the History of the Law, even though it was part of the curriculum, it did not awaken the students' interest, either for the lack of adaptations or for how it was taught, unattached from its origin, that is the society, in a historical time when the legalistic dogmatism was forced by the positivist formalism.

Thus, when we face this history made by those who dominated the historical events, namely, the winners, we see that they prioritize the past only, leaving behind the power to modify the learning methods at Law institutions; so it becomes necessary to innovate the teaching of the Law starting from the History too, trying to create opportunities for the Law to develop itself starting from the analysis, interpretation and comparison of the past and the present, aiming to ensure the future through the observation of the sciences that relate to the organization of life in society.

In the same realm, Wolkmer comments:

> we seek now to critically renovate the historiography of the Law, which comes from and happens in the dialectic of the material life and in the concrete social relations. It is about thinking the historicity of the Law – in what concerns to its historical development, its ideas and its institutions – starting from a re-interpretation of the sources of the past, viewing it through interdisciplinarity (economical, social and political) and through a methodological re-organization, in which the legal phenomenon would be described under a demystifying perspective.

As we can see, it becomes necessary to innovate the teaching of the History of the Law, understanding that what is essential in the concept of a orderly life should be included in the teaching at legal institutions, an analysis of the sources and the development of the Law, cultural technology shaped as phenomenon which leads life in society to social peace, mixing subjects, mainly History and Law.

An Answer coming from the questionnaires
This paper used the qualitative approach and analysis of content according to Bardin (1977), through the analysis of answers given by students of the Law to a short questionnaire. Some of the students who answered the questionnaire have had the subject in their first semester, and some did not have it because it was still not part of the curriculum when they were in their first semester.

Our intention was to work with the sample that was analyzed by this study, therefore 34 questionnaires got answered. Students of the Graduate College of the Law answered this questionnaire, and they were from the first, second and eighth semesters. In asking these students to answer the questionnaire, our intent was to establish points of agreement and/or disagreement in what concerns the subject History of the Law, considering that first semester students were attending the subject then, the second semester students had already completed it, and the eighth semester students had not had it in their curriculum at the university.

Next we will present some results and comment on them. The first question intended to probe the reasons why the students had chosen the College of the Law: what reasons led you to the College of the Law?

Chart 1: What reasons led you to the College of the Law?

Options	1st Semester	2nd S.	8th S.	Total
Family Influence	0	1	0	1
Opportunities for future work	2	7	5	**14**
Imposition of the family	0	0	1	1
Status	0	0	0	0
Dream Career	8	1	2	**10**
Chance of Financial Ascension	1	3	2	**6**
Others	Contest	0	Public Contest	2

We can see that the opportunities for future work together with the dream career are choices of both groups, but with a remarkable difference found among the freshmen, that have chose dream career. If we put together the option that states the possibility of professional ascension, it is clear that the students think about the college as a possibility of ascension through job opportunity. It is also noticeable in the options brought by

the students that, as the college goes by, the chances of noticing the job opportunities are higher, if we compare the numbers of this option for the first, second and eighth semesters.

The second question: what are your expectations concerning the College of the Law?, we were also interested in the students' projection about the college.

Chart 2: What are your expectations concerning the College of the Law?

Options	1st	2nd	8th	Total
Though it is long, I count on the financial reward afterwards	1	6	2	9
It does what is required: it gives extensive professional and academic knowledge	5	2	2	9
It is restricted to law	2	0	0	2
It is a college for public contests	5	4	7	**16**
Other	0	0	0	0

The students showed what we can also see in the day-to-day, in showing their expectations when they started this college, both the freshmen as well as the nearly graduates (in general, the College of the Law in Brazilian universities takes 10 semesters), that the College of the Law has been a very common requirement in public contests and even required at private companies.

However, what strikes us, beyond the aspect concerning finances, is the option that indicates the possibility of acquisition of professional and academic knowledge, which will help them to carry out their functions as operators of the Law in their future practice.

The third question aimed to get answers about the students' expectation concerning the course.

Chart 3: In what aspects has the course been meeting your expectations?

Options	1st	2nd	8th	Total
The subjects are interesting and dynamic	5	5	3	**13**
The subjects focus on day-to-day aspects	1	4	4	**9**
The subjects are interlinked and they complement one another	**7**	2	3	**12**
It hasn't been meeting my expectations	0	1	1	2
Other	0	0	0	0

We can observe through their answers that the students point that the subjects are dynamic and interesting, besides being interlinked among themselves; also that the subjects focus on day-to-day topics, which strengthens the idea of an integrated curriculum, as it is required nowadays. There were two students who indicated that the course has not been meeting their expectations, which requires further study in the future about this specific point.

The fourth question intended to understand the projections of the students about the course.

Chart 4: Before joining the College of the Law, you thought you would study:

Options	1st s.	2nd s.	8th s.	Total
Subjects related to the legal practice only	5	7	7	**19**
Subjects related to historical aspects and broader aspects concerning the Law	4	3	2	**9**
Subjects related to the BAR examination	0	2	1	3
Other	History; I didn't think of anything because I knew what I would study	Engeneering	--	3

We observe that their expectations are mostly related to the practice of the Law; however, there are bets on broader aspects related to the Law, including historical aspects.

Chart 5: From your point of view, how is the curriculum of the College of the Law structured?

Options	1st	2nd	8th	Total
All subjects are studied together	6	5	2	**13**
By study centers: Fundamental Training, Professional Training and Practical Training	3	2	4	**9**
By theoric work centers	1	1	0	2
By practice work centers	0	1	2	3
It does not follow an order	0	3	2	5
Other	0	0	0	0

Chart 6: Concerning the subject History of the Law, specifically:

Options	1st	2nd	8th	Total
The subject is interesting and dynamic	2	2	2	6
Subject focus on important topics	1	4	3	8
Subject interlinks and completes other subjects	7	1	3	**11**
Subject helps me to understand other subjects	1	5	3	9
Other	0	0	0	0

Chart 7: Did you think you would study this subject in the College of the Law?

Option	1st	2nd	8th	Total
Yes	7	12	8	27
No	4	0	3	7

Chart 8: You consider the History of the Law

Options	1st	2nd	8th	Total
Important for the training of the lawyer.	11	12	11	34
Not important for the training of the lawyer.	0	0	0	0

FINAL CONSIDERATIONS

The importance of the Law for peace in society is undeniable, especially societies that are in constant change and that lack legislations that come along with the changes. Concerning History of the Law and its being mandatory in the training of lawyers, we can see through this research that the Ministry of Education has rightly met the faculty's expectation when it confirmed the importance of such subject and made it mandatory, in a first instance, in the Graduate College of the Law.

Also, considering the history of school subjects, they are created as the materiality of the representations of ways of thinking what the necessary knowledge is to each training, related to the context in which it is conceived and operated.

As the authors mentioned here state, the choice of which knowledge is "valid", organized as a curricular component, is the result of discussions that happen in the different instances that rule the formal schooling process: legislation, curriculum, the future practice of the profession, among others.

Therefore, studying the subject History of the Law and its official insertion in the curriculum of the College of the Law give us hints to comprehend, more broadly, that nowadays the practice of a profession requires a knowledge that hinges different aspects of the same objects, bringing about a wider range of options for the student, future operator of the Law.

Besides this point of view, the subject makes us understand also how a curricular component gets inserted in the school culture in its materiality, since there is not enough formal material for the professor of this subject to rely on, because it is being gradually built in the teaching practice, on the floor of the school, in its daily routine.

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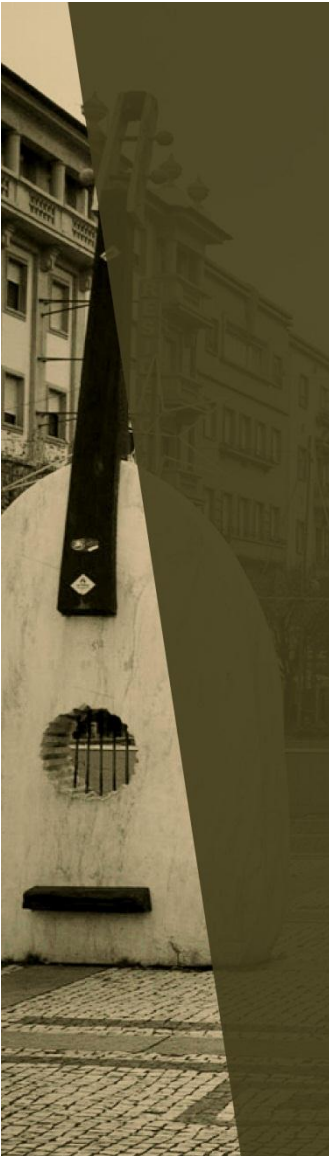
THEME 6
Research, Knowledge and Change

4 - Tracking Beginning Teachers' Orientations of Diversity – Why do they Change?

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Abstract: Diversity is a rapidly growing universal phenomenon that has educators trying to grapple with ways to prepare and support teachers to be responsive to the varying needs of students' learning. While initial teacher education (ITE) programmes globally are making significant strides to ensure that student teachers are provided ample opportunities to critically examine their own beliefs and orientations towards diversity, it is only when they begin actual teaching in schools that the "rubber hits the road". This qualitative study examined the perspectives of seven beginning teachers towards student diversity during the first 6-18 months of their first teaching positions. Findings describe how their attitudes towards student diversity changed under possible influences of school culture. These teachers narrowed their definitions of diversity to focus solely on academic achievement levels, with implications for teacher education and support for beginning teachers to better reflect the multiple dimensions of diversity.

Keywords: Beginning teachers; Diversity; School culture; Initial teacher education

INTRODUCTION

The field of education internationally is explicitly striving to make schools and education available to all children and young persons as the demographic profile of classrooms is becoming increasingly diverse. *No Child Left Behind* (USA)[152], *Every child matters* (UK)[153], and *Ensuring participation, engagement and achievement of all young person* (NZ)[154] are political mandates for schools to provide quality learning opportunities for **all** children and young persons. In New Zealand, where this study was undertaken, it is predicted that by the middle of this century more than two-thirds of children will be non-European (Love & Waitoki, 2007). This changing cultural landscape of New Zealand schools has led to strategies such as *Ka Hikitia*[155] and the *Pasifika Education Plan*[156] being implemented by the education ministry to improve the access, participation and achievement of Māori and Pasifika[157] students. In another pioneering step in its commitment to equity the *New Zealand Disability Strategy*[158] validates the sociological model of disability with an underpinning vision of a fully inclusive society in which **all** people have access to the benefits that society offers.

These political mandates and strategies, statistics and emerging research are clearly signalling, if anything, a radical revamp of initial and in-service teacher education provision, and a more conscious and deliberate shift in ways that schools accommodate the range of diversity to provide a culture that strongly embraces the notion that **all** students can learn. While initial teacher education can provide opportunities for student teachers to critically examine their own dispositions and epistemologies towards diversity, this study identifies the contextual influences that are perceived by beginning teachers to re-organise their beliefs, values and attitudes towards diversity.

DIVERSITY

The phenomenon of diversity, despite its pervasiveness, is both complex and prone to subjective interpretations. The extant literature uses terms such as "multicultural education" and "education for

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[152] No Child Left Behind Act, 2001.

[153] Every Child Matters – The Green Paper. DfES, 2003.

[154] Statement of Intent 2008-2013, Ministry of Education.

[155] New Zealand Ministry of Education strategy to improve the educational outcomes for Māori students.

[156] New Zealand Ministry of Education strategy to improve the educational outcomes for Pasifika students.

[157] A collective terms used in New Zealand for people from five islands in the Pacific - Samoa, Tonga, Tokelau, Niue and Cook islands.

[158] New Zealand Public Health and Disability Act, 2000.

culturally and linguistically different children" to denote diversity. Equally ethnic, social class, and disability groups are becoming increasingly vociferous and resisting marginalisation by mainstream educators and policy makers (Riehl, 2000), thus reminding us that diversity has more dimensions to it than culture and language alone. This complex concept therefore, is used by some educators to highlight and critique the dominant culture and the marginalisation of silent voices, and by some others as a progressive step in education for social justice (Bonal & Rambla, 1999). However ambiguous or complex diversity may be, current and future teachers will need to move beyond superficial awareness to a more critical and sophisticated understanding of the multidimensional nature of diversity to underpin their pedagogical practices. (Adler, 2011; Alton-Lee, 2003; Banks, 2008; Bishop, Berryman, Cavanagh, & Teddy, 2008; Gay, 2010, Fraser, 2008; Grant & Sleeter, 2009; Meyer, Bevan-Brown, Harry, & Sapon-Shevin, 2007).

School culture
It can be safely assumed that schools must have an ethos of care where all students are valued to enable teachers to be responsive to the diverse needs of their students. The ethos or the school culture is the "norms, values, beliefs, traditions and rituals built over time" that builds a set of "informal expectations and values" that in turn shape the ways people in a school "think, work and act" (Peterson & Deal, 1998, p. 28). The underlying values and beliefs often operate subliminally but they underpin all actions of staff and clearly send the message that this is "the way we do it around here" (Nias, Southworth, & Yeomans, 1989). But rapidly changing demography of students has made scholars strongly advocate for challenging existing norms, values and practices in schools that continue to marginalise certain students (Ainscow & Booth, 2000; Bishop et. al., 2008; Grant & Sleeter, 2009). For beginning teachers who are positioned in this changing landscape of classrooms, being responsive to the heterogeneity of students is not only overwhelming but also challenging; as juxtaposed with existing school culture are the individual teachers' beliefs, attitudes and knowledge frameworks that inform the ways in which they respond to diversity (Bonal & Rambla, 1999; Cochran-Smith, 1997; Wideen, Mayer-Smith, & Moon, 1998).
The settling of beginning teachers into the realities of teaching depends on a number of contextual factors that are unique to each school (Kelchtermans, Ballet & Piot, 2009; Kelchtermans & Ballet, 2002; Langdon, 2007). When beginning teachers assume the responsibility of their classrooms, "they become part of a new and different reality" (Cole, 1992, p. 366). It is the stance that staff take in thinking about the students (Fried, 2001) and the wider ethos of schools that have a significant influence on beginning teachers (Wang, Odell, & Schwille, 2008; Williams, Prestage, & Bedward, 2001). Their process of *learning to teach* will change depending on the idiosyncratic practices of the schools that they are in and the nature of professional support they receive (Bergeron, 2008; Education Review Office, 2003; Olson & Osborne, 1991); a period in which they resort to mirror the prevailing discourses of their schools (Parks, 2010).

RATIONALE FOR THE STUDY
Recent research on examining epistemological beliefs of trainees (Adler, 2010; Tanase & Wang, 2010) and their dispositions towards diversity (Mills & Ballantyne 2010; Kidd, Sanchez & Thorp, 2008) have reiterated the importance of developing positive dispositions among student teachers through critical dialogues and relevant field experiences, and empirical research on initial teacher education to prepare teachers to be responsive to diversity has gained substantial momentum (Bishop et.al. 2008; Gay, 2010; Sleeter, 2001& 2009). Over the years there have also been studies that examine the impact of contextual factors on the biographies and pedagogy of novices (Flores, 2007; Flores, 2001 & 2006; Kelchtermans & Ballet, 2002); the nature of professional guidance and peer support within schools (Achinstein & Barrett, 2004; Langdon, 2007; Wang, Strong & Odell, 2004), and the extent of supportive school leaders (Flores, 2004; Langdon, 2001; Riehl, 2000). There has been fewer longitudinal research that followed student teachers into their first year of schooling, some of which identified the extent of tensions and challenges for novices who wanted to teach 'against the grain" (Averill et.al.,2009; Flores, 2007, Kuzmic, 1994, Rust 1994). Nevertheless, empirical studies that examine the day-to-day lived experience of beginning teachers over a period of time are fewer (Patrick, 2003; Sleeter, 2001), as is the literature that explores the impact and influence of school culture on beginning teachers' beliefs and attitudes (Pajares, 1992; Raths, 2001), particularly about diversity in their classrooms. This study contributes to this limited literature with an overall research objective of: *Do schools' cultures, practices and policies influence beginning teachers' beliefs, attitudes and practices in relation to student diversity?*

METHODOLOGY

In the unpacking of the major research objective, the terms "dispositions" and "orientations" were deliberately chosen, particularly as dispositions refer to the tendencies in which people make judgements and act in particular circumstances based on their beliefs (Johnson & Reiman, 2007; Villegas, 2007). "Attitudes" were examined in the context of orientation, which refers to "positioning"[159], as the term better reflects the stance of these beginning teachers. The questions guiding the enquiry were:

1. *What were the initial dispositions and orientations of beginning teachers towards student diversity?*

2. *How did schools' ethos shape the beginning teachers' initial dispositions, orientations to diversity, and their pedagogical practices?*

"The questions we ask of the empirical world frame what we know of it" (Charmaz, 2005, p. 509). The number of conversations and anecdotal comments on "how we do things here" over the years of my working as a teacher and school psychologist formed the basis of my research objective. The study used a grounded theory approach and was located within a constructivist paradigm since the focus was on the meaning-making activity of beginning teachers (Crotty, 1998). Schools with varying profiles were selected from one region in the country. (**Appendix 1).** The seven beginning teachers were from the same ITE, but different cohorts. Five of them were Pākehā[160], one Māori and one immigrant. Their participation in the study ranged from 6-18 months. (**Appendix 2).** Primary sources of data[161] that informs this paper include interviews with beginning teachers, tutor teachers and school principals; observations in classrooms, PRT[162] meetings and Syndicate[163] meetings. Principals were interviewed once at the beginning of the study, the tutor teachers were interviewed at the beginning of the study and at the end if they still continued to be the mentors. The beginning teachers themselves were interviewed periodically – two to six times depending on the length of their participation.

FINDINGS

Trainees enter teaching programmes with their own experiences in learning situation which is repeatedly referred to as *apprenticeship of observations.* The motivation to teach for these participants stemmed from both positive and negative school experiences. These novices were appreciative of their initial teacher education (ITE) programme which had exposed them to cultural and other aspects of diversity. More importantly, the various field placements were seen as providing them with valuable exposure to the ethos and culture of different schools. This "organisational literacy" played a key role in deciding their places of work. Six out of the seven beginning teachers secured jobs in the school that they had their final practicum placement.

Initial Perceptions

The complexity of the phenomenon was evident in the participants'' responses. For most of them though diversity was a 'hard' concept, it was about uniqueness and *individual* differences. They perceived every student to be an individual. Some of their understandings were expressed as follows:

> *Kind of more individualism. Like treating every child as an individual, rather than you are a Māori or you are a Pacific Islander, you are this and you are that.*

> *Diversity to me is a lot of difference, not all the same.*

However, in unpacking their understanding of *individuality* and *uniqueness,* they began to identify various dimensions of diversity such as culture, socio-economic status, gender, age, spirituality and academic learning abilities. There was a deeper understanding articulated by the Māori beginning teacher who talked

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[159] Oxford Dictionary.

[160] New Zealand Europeans (Whites)

[161] World limitations restrict expansion of the entire range of intended data gathering methods and their limitations which will be expanded upon in a future article to be submitted to the ISATT publication of Teaching and Teaching: Theory and Practice.

[162] Beginning teachers are Provisionally Registered by the New Zealand Teachers Council for the first two years of teaching and are assigned tutor teachers(mentors) with whom they have weekly or fortnightly meetings.

[163] Primary schools in NZ are generally organised into junior, middle and senior syndicates. Each syndicate has a leader and between 2-4 teachers and meet regularly.

about the dimension of life experiences which can be totally different although two children were from the same culture:

> *If somebody has got brown skin and have a Māori name, do not throw words of te reo at them because they may not know [the Māori language].*

It was apparent that these beginning teachers had a broad understanding and orientations towards diversity and more awareness of cultural diversity as they stepped into schools of their choice.

Perceptions 12-18 months later

A year and more after stepping into a "new reality" what became apparent was the orientations and dispositions of these beginning teachers towards diversity in terms of their pedagogical practices were focused almost solely on students' academic learning abilities. Knowing their academic capability was seen as a way to get to know and reach out to the students in their classes. They voiced it through comments like:

> *I think I am still trying to figure out how to reach each of them. I think that at the moment it is still the major focus – is trying to figure out where they are with their achievement and how to group them accordingly.*

> *I am really keen use assessment to draw from it. Because I think that is the only thing you have got as a teacher.*

What was distinct a year and more later was the shift in their perceptions of individual differences. Now, individual differences took a uni dimensional focus, the academic learning abilities of students, while other dimensions including culture, seemed rather invisible. The predominance of pedagogy based on ability groupings was further evident during the classroom observation sessions. Beginning teachers were asked prior to each classroom observation which was spread across literacy, numeracy as well as other curriculum areas to identify specific aspects of their classroom practices that were indicative of their responsiveness to diversity in their classrooms. In all instances the researcher (author) was asked to observe ways in which tasks were modified for the top, middle and lower groups.

Influencing factors

To understand the narrowing of their perceptions of diversity, it is necessary to understand their organisational contexts, structures and their ways of working that determine the beginning teachers' professional practices (Kelchtermans & Ballet, 2002, Flores, 2001; Nias et al., 1989).

Perceptions of school leaders

The principals in this study had a range of views on the nature of growing diversity in their schools. They perceived a range of culture, academic learning abilities and socio-economic differences among students. Four out of the five principals acknowledged the growing multicultural nature of their communities; only one perceived the school to be homogenous; but they emphasised disparity among learning differences as an important aspect of diversity. The gaze of practicum was bi-directional as the principals used the placement opportunities to select their future teachers and appointed novices whose dispositions towards learning and teaching aligned with the existing culture of their schools (Langdon, 2001 & 2007).

Tutor teachers (mentors), who play a crucial role in the induction process of beginning teachers also emphasised culture and learning abilities as the key dimensions of diversity that existed in their schools. They were similar in their perceptions to the principals in that they perceived a huge diversity among academic learning abilities of their students. While they were positive about the cultural diversity their focus and concerns were about the steady increase in the number of students having learning difficulties in schools. In one of the schools, parental expectations were perceived to be the reason behind the focus on the sole dimension of academic abilities.

> *Parent expectations here [are] huge. They don't want to see their children making models. They want to see results. They want to see their children reading at their age level or above.*

PEDAGOGICAL PRACTICES

As planning[164] is one of the key aspects of a teacher's role, the beginning teachers were asked how they planned for diversity in their classrooms. From their responses it appeared that they perceived planning to be about a topic rather than specifically planning for the range of diversity of students in their classrooms. One of them was unsure what planning for diversity was about:

> *I do believe that it [diversity] is individual, but I can't plan for all. I didn't even try planning individually. Like in my unit plans and things for maths, I write down what is there and not what I am going to do about it.*

This focus on content made another participant remark:

> *Since I already developed numeracy and literacy plans last year with learning intentions, I will be using the same units this year.*

Observations during unit planning sessions in some syndicate meetings also showed that discussions were more topic and content focused. In terms of planning the actual teaching of the content, the beginning teachers were guided to focus on the academic abilities of students. Observations in PRT[165] meetings also revealed an emphasis and ongoing focus on comparing student performances against normative data which appeared to further strengthen the beginning teachers' focus on academic abilities of students. Thus as a way of managing the complexities of organising and teaching a class of diverse learners, these beginning teachers were inculcated into practices of establishing ability groups especially in the core curriculum areas of maths and literacy.

> *For maths and literacy yes, they are grouped from their assessment.*

> *[They] are grouped on ability in maths and reading.*

Therefore, from early days their pedagogy centred on ability groups which later began permeating their ways of thinking and working. School policies did not influence their pedagogy, as there were no expectations that they would be familiarise themselves about wider school policies on diversity. One of the principals went to the extent of saying: 'To be perfectly blunt they [beginning teachers] shouldn't be bothered about it, at the beginning'.

DISCUSSION

Though they are novices to the teaching profession, beginning teachers are not passive actors that slip into a new role (Kelchtermans & Ballet, 2002); rather, they are inseparable from their personal biographies, knowledge framework, beliefs and attitudes to teaching (Bonal & Rambla, 1999; Flores, 2007; Lortie, 1975; Wideen et al., 1998). Likewise, these beginning teachers' dispositions and orientations towards student diversity were shaped by a variety of experiences – family, education including initial teacher education programmes, their new classrooms and, for some, their work experiences prior to embarking on a teaching career. Among these experiences, the beginning teachers perceived their initial teacher education and associated practicum experiences as being pivotal in shaping and broadening their knowledge of the extent of diversity in schools and classrooms.

When they began teaching these novices perceived diversity as "social categories" rather than as issues central to their pedagogy (Milner, 2005; Paine, 1990) and the dimensions of culture, learning abilities and spirituality were articulated as a global concept of uniqueness. This global notion of diversity seemed to give them a feeling of homogeneity and structure while they were coming to terms with the various demands of being a teacher. With a range of predisposed views and orientations to certain aspects of diversity, these beginning teachers had entered schools with their own priorities and practices. As Flores (2001) observed:

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[164] As part of preparing the unit plans, lesson plans and weekly plans.
[165] Provisional Registered Teacher meetings which were a one-to-one weekly session between the novice and the tutor teacher (mentor).

The transition from student to teacher/trainee entails the recognition of the new institutional role and the awareness of a wide array of complex issues related to the organisational, formal and situational dimensions of teaching. (p.139)

However, a year to 18 months later, a similar theme began to emerge in the perceptions of the five beginning teachers employed in four different schools. It became apparent that the dimension of academic learning dominated their "thinking, knowing, feeling and acting" (Feiman-Nemser, 2008). Very early in their practice groupings according to academic learning abilities formed their frames of reference to adapt the classroom programmes mirroring existing organisational practices (Parks, 2010), carrying and transmitting assumptions and notions of ability as a defining character (dimension) of individuals (Tickle, 2000). As they began to fit in and grow in the role of a teacher, these novices were trying to come to terms with the values and existing practices of their schools and were focused on assimilating sooner than later.

Nevertheless, educational scholars over the years have emphasised the multifaceted profile of diversity in that students are not homogenous but are influenced largely by their life experiences, gender, race, ethnicity and social class background (Alton-Lee, 2003; Banks, 1996; Villegas & Lucas, 2002), and that teachers should be constantly aware of the interplay of these multiple dimensions. Meyer, Bevan-Brown, Park, and Savage (2009) and Meyer et al. (2007) emphasise the fact that students have more than a unitary dimension to their diversity and for teachers to be able to include the differences students bring they must be able to engage in socially critical reflection. However, for these beginning teachers the emphasis on assessments, identification and grouping of students according to their academic learning abilities in their schools reiterated by tutor teachers who are conduits for induction (Cameron, Baker, & Lovett, 2006; Langdon, 2007), tended to reinforce a unitary dimension of diversity and promoting individual differences. The extent of collaboration and time constraints during professional meetings also appeared to be a barrier that hindered reflexive dialogues that examined the underlying orientations of both the beginning teachers and mentors regarding pedagogy for diversity and equity (Achenstein & Athanases, 2005), and restricted to addressing immediate needs and functional competencies (Feiman-Nemser, 2001).

The nature and extent of deep-seated learning that allows beginning teachers to move beyond the stage of coping depends entirely on the culture of the school context (Feiman-Nemser, 2003). The continuous focus on assessments and content planning appeared to narrow the perceptions of diversity as being a uni dimensional phenomenon in terms of pedagogy creating a hierarchy among the multi dimensions of individual differences. One could see the process of acculturation potentially developing a "belief of one right way of doing things" (Penetito, 2010, p 91) and perpetuating "existing beliefs, standards and practices in schools" (Rippon & Martin, 2003. *p. 213).*

IMPLICATIONS

This study, though small, has implications for both ITE and the way beginning teachers are guided in learning to teach. Increasingly ITE programmes are required to place greater emphasis on gauging the beliefs and attitudes of pre service teachers towards diversity (Gay, 2010; Johnson & Reiman, 2007), and incorporating learning situations in initial teacher education programmes that heightens their awareness of diversity (Adler, 2011; Tanase & Wang, 2010). It is imperative that schools must also expose beginning teachers to develop rich, dynamic and deep seated knowledge of learning that stretches beyond normative teaching behaviours to be truly responsive to all students (Flores, 2007; Grant & Sleeter, 2009). Continuing to have a simplistic notion of individualising diversity not only merges two important but opposing constructs of equality and diversity (Bonal & Rambla, 1999) but also does not allow for a more sophisticated understanding that "for each individual student the intersection of social class, ethnicity and gender can markedly influence cultural practices, preferences and prior experiences" (Alton-Lee, 2003, p.5).

CONCLUSION

This study has shown that while initial teacher education can create a broader conceptual understanding of diversity, existing professional practices of schools have an immediate and lasting influence in the acculturation period of novices. In this study these teachers narrowed their definitions of diversity to focus solely on academic achievement levels, rather than orienting their pedagogy with an understanding that learning is inextricable from one's culture, identity and lived experiences. Therefore to be responsive to diversity it is critical that the initial period of learning for novices should be transformational process, a time during which they share and exchange pedagogical expertise through collaborative communities (Flores, 2007), where existing beliefs and attitudes are examined and reconstructed. In New Zealand, the official

curriculum (Ministry of Education, 2007) explicitly outlines the values of embracing diversity and ensuring equity to be "encouraged, modelled and explored" in schools (p. 10). At a time when teaching from a neutral stance to diversity by assigning a simplistic sameness to all students can no longer be acceptable, the "Effective Teaching Profile" (Bishop et al, 2008)[166] and the Registration criteria[167] are two other professional tools to support beginning teachers in New Zealand to better respond to diversity. The quintessence of change lies in a systemic approach.

LIMITATIONS
The fact that the participants were from a single ITE programme and the varying duration of participation were limitations of the study. Understanding the extent of influence of school policies on diversity was not possible as there were no expectations in these schools for the beginning teachers to be familiar with them.

FUTURE RESEARCH
While examining initial dispositions, orientations, beliefs and attitudes are critical, this study has shown that there are factors currently within schools that have more potential to influence in shaping beginning teachers' dispositions and orientations to diversity. The data source for the study were subjective – primarily the perceptions of beginning teachers. It is possible that in the early stages of teaching these beginning teachers echoed their institutional views rather than delving deep into their own thought processes. A longitudinal approach can overcome the conformity of the "survival" period and may lead to better understanding of the developing orientations and ongoing dispositions of novice teachers towards diversity in their classrooms. This is particularly so as the process of learning "the way we do things here" seems to be an accepted norm of learning to teach as voiced by a beginning teacher in the study:

> *I have just kind of been subsumed into the school. I guess I feel very much at home here ---and in making those same kinds of comments that [tutor teacher] would make.*

Another area that requires further in depth research as highlighted in this study is the impact of practicum gaze particularly at a time when teacher educators are urged to train teachers to "teach against the grain".

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[166] See Bishop et al. 2008

[167] A set of criteria that provisionally registered novices should attain to become fully registered teachers. mandated by the Teachers Registration Council, the official body in charge of accrediting teachers. Full document can be accessed through www.teacherscouncil.co.nz

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Appendix 1 -Profiles of schools participating in the study[168]

BT	Schools	Type (Primary)	Teaching staff numbers	No. of students	Decile[169]	Roll profile			
						SN[170]	Māori	Pasifika[171]	Asian
1	Z	Year 1-6	5-10	150-180	10	5-10%	Below 15%	Below 5%	4.1%
2 & 3	M	Year 1-6	20-25	450-500	10	Nearly 50% *	Above 15%	Below 5%	1.5%
4	Y	Year 1-6	5-10	220-280	4	25-30%	Above 15%	Above 10%	13.9%
5	N	Year 1-6	5-10	220-280	7	10-15%	Below 15%	Below 5%	2.0 %
6 & 7	X	Year 1-8	20-25	281-350	8	18-22%	Above 10%	Below 10%	Below 15%

The percentage includes gifted learners

Appendix 2 - Profile of participants

Beginning Teachers	Cultural Background	Year Level	Age range	Qualifications	Prior Work Experience
1	Pakeha	Year 1	20-30	PG	Yes
2	Pākehā	Year 1	20-30	PG	Yes
3	S-E Asian	Years 1 & 2 composite	30+	Graduate	Yes
4	Pakeha	Years I & 2 composite (2007) Years 2 (2008)	20-30	Graduate	No
5	Maori	Year 4 (2007) Year 2 (2008)	30+	Graduate	Yes
6	Pākehā	Year 1	20-30	PG	No
7	Pākehā	Year 7-8	20-30	Graduate	Yes

Timeline of participants' involvement in the study

Participants	Period of participation in the research								
	2006 Term	2007 Terms				2008 Terms			
	4	1	2	3	4	1	2	3	4
BT 1	●———|———|———|———|———|——→						
BT 2		●———	——→						
BT 3		●———	——→						
BT 4		●———	———	———	———	——→			
BT 5		●———	———	———	——→				
BT 6						●———	———	———	——→
BT 7						●———	———	———	——→

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[168] Data were taken from the Ministry of Education Institution profile at commencement of the study in January 2007 & 2008. The table does not include subsequent changes to any of the information presented below.

[169] This is a ranking based mainly on the socio-economic index of the area in which the school is located. This ranking is one of the determinants of Government funding to schools.

[170] SN – Special Needs refers to students who are achieving at a lower academic level than their peers and require additional support to meet their learning needs.

[171] This refers to students who come from islands in the Pacific region. The majority of them are from Samoa, with smaller numbers from Tokelau, Niue, Tonga, Tuvalu and the Cook Islands.

21- Teaching Mathematics Using Inductive Approach Enhances Learning: A case of Grade 11 Classes in Gauteng Province, South Africa

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Abstract: The poor achievement of students in mathematics in general, and particularly in respect of 'linear functions', is attributed to, among others, the traditional way of teaching, which is deductive approach which emphasises symbolism, manipulative skills and rote memorization of facts at the expense of the development of concepts and problem solving abilities. The critical outcomes as outlined in the mathematics curriculum document, promote a balanced view of reality and deep conceptual understanding by requiring development of all learners' problem solving abilities. In this study a pragmatic evaluation in a form of pseudo experiment complemented with a qualitative investigation was used. The participants consisted of 122 Grade 11 learners from two high schools in the Tshwane west region, Gauteng Province. Sixty one (61) students from one school was used as experiment group, while other sixty one (61) students from another school was used as control group. In addition, four students from the experimental group, together with their mathematic teachers were interviewed. The results has shown that inductive teaching improved the learning achievement of the Grade 11 in experimental group with regard to 'linear functions'. In conclusion, we argue that inductive teaching when applied properly would cater for the mathematical learning needs of learners, because it affords them the opportunity to construct a better understanding of function.

Keywords: Teaching mathematics, inductive approach, learning functions

INTRODUCTION

The Third International Mathematics and Science Study (TIMSS), as the largest, most comprehensive and rigorous international comparison of education ever undertaken, is highly significant in the context of mathematics and science education in South Africa. It has provided us with baseline information and benchmarks for future developments in mathematics and science education at national level. Several studies (e.g Makgato & Mji, 2006; Howie, 2003) reported on the poor performance of students in mathematics and science. For example, in a study conducted by Makgato and Mji (2006) it was found that some of the factors associated with poor understanding and low achievement of students in mathematics was related to teaching strategies and content knowledge (CK) of teachers. In that study a one student said the following *"my problem is that the teacher is too fast and I do not understand Maths, I want someone who is patient and does not get angry with me"* . Mapular's concerns could be addressed through the knowledge of the scope and correct teaching strategies (Huckstep, Rowland & Thwaites, 2005). In a study conducted in Mozambique, where deductive approach was used to teach mathematics students could not get clear relationship between concepts (Vos, Devesse, & Rassul Pinto, 2007). As a result, many Mozambican students rehearse mathematics formulas without attaching meaning to them and understanding them conceptually, leading to short-term retention and low achievement (ibid).

The poor achievement in mathematics in general, and particularly in respect of 'linear functions', is attributed to, among others, the traditional way of teaching, which is deductive approach which emphasises symbolism, manipulative skills and rote memorization of facts at the expense of the development of concepts and problem solving abilities (O'Callaghan, 1998). In addition, under-achievement in mathematics occurs when teachers over-indulge in using deductive teaching approaches in their teaching, resulting in little regard for learners' abilities and learning styles, and disallowing them an opportunity to benefit from inductive teaching which proceeds from the particular to the general (Masebe, 2009). Using the traditional teaching of deductive approach, Vos et al (2007) found that students learn to memorise definitions, formulas, algorithms, or procedures needed for the immediate solution of mathematical exercises.

The use of an inductive approach in teaching algebra concepts, of which "function" is central, is in line with the changes in the education system in South Africa. The critical outcomes in general, as outlined in the mathematics curriculum document, and the first critical outcome in particular, promote a balanced view of

reality and deep conceptual understanding by requiring development of all learners' critical thinking powers and their problem solving abilities (DoE, 2003; Van der Horst & McDonald, 1997). O'Callaghan (1998) argues that the essential feature in the construction of mathematical knowledge is the creation of relationships, which is the hallmark of conceptual and relational understanding and problem solving. In the context of the school mathematics curriculum, functions are particularly useful tools in problem solving as they are often used to describe relationships.

This paper report on the influences of using inductive approach as a teaching strategy on the achievement of students in understanding mathematical 'linear function' in grade 11 classes. The teaching and learning of mathematics in South African schools continue to experience grave problems leading to low quality learning and frequent failure (Kanjee, 2004). DoE (2000) indicated a drop in overall percentage in mathematics from a 55,7% pass in 2005 to a 52,2% pass in 2006. Hence, this research seeks to contribute towards finding viable and durable solutions to the problems regarding the performance of students in mathematics. In particular, mismatches between traditional teaching and learning of mathematics are blamed for the problems encountered.

Conceptual framework and different representation of function
The conceptual framework is essentially the attempt by the researcher based on the ideas of Thompson (1985), Kaput (1989) and Fey (1992) as quoted by O'Callaghan (1998:24) to impose a structure and organisation onto the meanings associated with the function concept. The model chosen for this study is one adopted by O'Callaghan (1998). This model identifies and applies four competencies of modelling a function, interpreting a function, translating and reifying a function. This model best describes the conception of a function concept. It must be emphasized that the model accounts for components of knowledge relevant to the function concept and forms a basis of analyses for learners' conceptualization of functions, and is not a prescription of how functions can be learned (O'Callaghan, 1998).

Modelling
Modelling involves the transition from a real-life experience to a mathematical representation of that experience. We recall the situation of the tomatoes vendor. The problem was to identify the best possible way to maximise the profit from the sales of tomatoes to make a decent living. The process entailed the use of variables and a function to form an abstract representation of the quantitative relationships in the vendor's situation (O'Callaghan, 1998). This component further divides into a number of subcomponents depending on the representation system used to model the situation. Modelling real-world situations to help organize the physical world is one of the most common uses of functions. O'Callaghan (1998) concedes that the perception of functions as an appropriate tool in this regard is a *sine qua non* condition for making any sense of the function concept.

For example, Mapula buys a crate of tomatoes from which he gets 10 packets of five (5) in a packet. Find the following:

a) The total number of tomatoes in five (5) crates;

b) The number of crates Mapula buys if he obtains 150 packets.

c) If a crate costs R50 and the monthly rental of the stall is also R50, write the profit per crate of tomatoes as a function of x, where x represents the number of packets of tomatoes sold if each packet sells for R10.

The solutions of the above questions are:

a) The number of tomatoes in five crates $= 5$ crates $\times$ 10packets / crate $\times$ 5 tomatoes / packet = 250 tomatoes.

b) To obtain 150 packets, Mapula will need to buy three (3) crates of tomatoes.

c) The profit per crate is defined as the difference of the selling price per crate and the cost price.

$\therefore$ Profit $= 10x - 50$.

Interpretation

Interpreting is the reverse process to modelling. It gives functions in different representations in terms of real-life applications. Interpreting is the second component of the function model (O'Callaghan, 1998). This component can be partitioned into subcomponents, which would correspond to the three most frequently used representations for functions namely equations, tables, and graphs (O'Callaghan, 1998). O'Callaghan (1998) contends that learners could be confronted with problems that require them to make different types of interpretations of functions or to focus on different aspects of the graph, for example individual points versus global features.

O'Callaghan (1998) argues that learners have trouble with the way they operate with and conceptualise functions. The sources of these difficulties evolve through their developing and integrating structures on both the levels of specific values and overall patterns of behaviour.

Translation

Translation refers to the ability to move from one representation of a function to another. From the above statements the mathematical model may be represented by various systems. The five core representational systems that a function can translate among are contextual, graphical, equations, tabular and language use (O'Callaghan, 1998; Van de Walle, 2004).

Let us suppose that the table 1 below gives the value (V), in rands, of a Hyundai Getz 1.4 GL car for the different number of years (t) after it is purchased.

Table 1: Number of years and the value in rands

Number of years (t)	Value (V) in rands
0	117600
2	95200
4	72800
6	50400
10	?

We use the information in the table to write a symbolic rule expressing V as a function of t, and use the rule to determine what the price of the car will be ten years after its initial purchase.

Reification

Reification defines the creation of a mental object from what was initially perceived as a process or procedure (O'Callaghan, 1998). In simple terms, reification refers to the treatment of something abstract as if it existed as a real and tangible object. This mathematical object possesses the property that one can operate on by other processes such as transformation or composition. Arguably, reification is a truly difficult process that entails a conceptualisation of functions achieved by few learners (O'Callaghan, 1998).

Suppose that Mapula works forty hours a week at a furniture store, earning a R220 weekly salary plus a 3% commission on sales over R5000. Given that Mapula s sales is represented by x, then his commission as a multiple of his sales will be represented by the function $f(x) = 0.03x.$ The other condition placed on Mapula commission is that the sales should be more than R5000. Represented as a function we have $g(x) = x - 5000.$ Mapula's commission as function of his sales (x) is represented by the composition of functions $C = (f \ o \ g)(x) = 0.03x - 150.$ In this example the commission could be attained once the sales have exceeded R5000. The amount of R5000 is the break-even.

Inductive teaching approach

Inductive teaching approach or inquiry-based learning enhances the learner to be able to do things on her or his own. This is precisely the primary purpose of teaching. Inductive teaching encompasses strategies such as problem solving, investigative learning, learning by discovery and cooperative learning. Inductive teaching approach expends inductive reasoning as a process skill. Inductive reasoning is based on the principle of *a posteriori* logic, which proceeds from a particular set of causes or facts of experience to the general law, or principle (Van der Horst & McDonald, 1997). An *a posteriori* logic refers to using facts or observations you know now; to form a judgement about what must have happened before. Felder and Henriques (1995) contend that Inductive reasoning is a reasoning progression that proceeds from particulars (observations, measurements, data) to generalities (rules, laws, theories). An example of an inductive reasoning is the

observation that when one adds two odd numbers the sum is an even number (Moodley, Njisane, & Presmeg, 1992).

For example, consider the following addition of odd numbers:

$1+3=4, \quad 3+5=8, \quad 7+9=16.$

We note that although the numbers 1 and 3, 3 and 5, 7 and 9 are odd, their sums 4, 8 and 16 respectively, are even numbers. Repeating the exercise with larger odd numbers, this is still true. For example, consider the following additions:

$115+117=232, \quad 253+345=588.$

In all the cases, these particular examples suggest the conjecture: "*The sum of any two odd numbers is even*" (Moodley *et al.*1992).

In the inductive reasoning individual examples are used to arrive at the general principles underlying them. Examples that do not fit the idea (non-examples) are helpful in confirming the idea (Huetinck & Munshin, 2004). Conjectures are arrived at after a number of steps or procedures (Felder & Henriques, 1995:7). Inductive reasoning is extensively used in mathematics as a method of proof where primarily it serves the roles of discovery and verification (Felder & Henriques, 1995).

Let us consider an example taken from Learning Outcome 1, Number and Number Relationships in mathematics curriculum (DoE, 2003), where induction is used twofold, for confirmation and as a method of proof. The example first requires the use of reasoning to confirm the formula $\sum_{i=1}^{n} i = \frac{n(n+1)}{2}$, then we apply mathematical induction as a method of proof to prove the statement true for all natural numbers n. The proof using mathematical induction as a method of proof requires three steps that involve proving the statement or proposition true for one natural number, assuming the proposition true for a number of terms or natural numbers, and proving the proposition true for numbers beyond for those assumed true. In this approach induction is used as a method of proof.

RESEARCH METHODS

The population consisted of learners and teachers from Grade 11 classes in the Gauteng Province, Tshwane West Region. The sample consisted of 122 Grade 11 learners from two high schools in the region. The researcher enlisted the services of the Subject Advisory to identify the best performing schools that practise Outcomes-based Education well. Teachers from the identified schools were interviewed to ascertain the assertion that theirs schools are best Outcomes-based Education practising schools, and one out of five schools was randomly selected. From the selected school two Grade 11 classes, one with 32 learners and the other with 29 learners, were assigned as experimental group. Furthermore, with the assistance of Subject Advisory, the researcher identified a school that taught in the traditional way, and again teachers from those schools were interviewed to establish the veracity of the assertion. From this school, two Grade 11 classes, one with 35 learners and the other with 26 learners, were assigned as the control group. For qualitative investigation, four learners who voluntarily accepted to be interviewed from the experimental group, together with their mathematics teacher were interviewed.

The study sought to provide answers to the following problem questions:

- What is the influence of an inductive teaching approach on the conceptualisation of functions in Grade 11?

- What is the influence of an inductive teaching approach on learning achievement with regard to functions in Grade 11?

Data collection and measuring instruments

Quantitative investigation: Self-constructed paper and pencil tests for learners on functions were used. The pre-test (Math Test 1) was based on the required entry competence of Grade 11 learners with regard to the function concept. The post-test (Math Test 2) was based on the work done during the intervention (Masebe, 2009). Items in the post-test were set and assessed according to O'Callaghan's four components of conceptualization of the function idea, namely modelling, translation, interpretation and reification. O'Callaghan's model was chosen because it provided an appropriate description of a function in terms of these four components. In this study a pragmatic evaluation in a form of pseudo experiment complemented with a qualitative investigation was used to establish that the use of inductive approach improved learners performance better than students using deductive approach.

Details of the questions for each of the four categories are summarized as follows:

(i) Modelling (Question 1): Notions of Hire Purchase plan and vending were used to show that word problems on these ideas could be expressed in mathematical statements of linear equations.

(ii) Interpretation (Question 2): A train pulling into a station does not come to an abrupt standstill. It decelerates over time until the final speed is zero. A linear graph with negative slope is used to show this decrease in speed over time.

(iii) Translation (Question 3): Depreciation in the value of a car is assumed linear in this component. A table of depreciation values over time in years are calculated in this question.

(iv) Reification (Question 4): Composition of functions concept is transformed into profit and sales in this component.

Semi-structured interviews were held with four learners and the teacher focusing on their views, experiences and preferences regarding the teaching approach and learning that took place in their respective classes. Learners were interviewed with the aim of reflecting on their experiences and perceptions of the teaching during the intervention period. Interviews were audio taped and typed verbatim. An independent observer was invited to ensure that the process has been successfully completed. Recorded tapes are in the possession of the researcher.

Data analysis
Quantitative analysis: Inferential statistics by means of t-tests, effect sizes and analysis of variance was used to analyse the experimental data (Leedy & Ormrod, 2005). The assistance of the Statistical Consultation Services of the NWU was sought.
Qualitative analysis: The researcher grouped information into segments that reflect various aspects of the experience. Divergent perspectives were identified. The researcher used various meanings identified to develop an overall description of the experience (Leedy & Ormrod, 2005). All data analysed and interpretations were subjected to literature control.

RESULTS

Interpretation Component
Analysis of quantitative data in interpretation component between groups for pre-test results
Table 2 below outlines information on the means of both the experimental and the control groups, p-value for both the experimental and the control groups, t statistic and the effect size and values for other variables for the translation component for both the experimental and the control groups in a pre-test as provided.

Table 2: T-test for groups for interpretation component (Pre-test)

Variable	Group1 = C (Control group) Group2 = E (Experimental group) T-test for Group							
	Mean:C	Std. Dv. C	N:C	t-value: C & E	P C & E	F-ratio Variances C & E	df C & E	P Variances C & E
Interpret Pre-testing	9.50	2.57	61	-0.45	0.27	1.33	120	0.01
	Mean:E	Std. Dv.E	N:E					
	9.70	2.23	61					

d = 0.08

The p-value of approximately 0.01 and the effect size of 0.08 indicate that there is a statistical significant difference but no practically significant difference. We conclude that the differences are not significant between the experimental group and the control with regard to interpret component.
Analysis of quantitative data in interpretation component within groups
We start first by providing analysis for the translation component within the control group. Table 3 below outlines information on the mean, p-value, t statistic and the effect size amongst others, for the 'interpretation' of pre-testing and post-testing.

Table 3: T-test for interpretation component (control group)

Variable	Group = C T-test for Dependent Samples Marked differences are significant at p < 0.05000							
	Mean	Std. Dev.	N	Diff	Std. Dv Diff	t	df	p
Interpret Post-testing	2.66	1.29	61	0.46	1.32	2.718	60	0.008
Interpret Pre-testing	2.19	1.18						

d = 0.36

The p-value is less than 0.05 and the effect size is 0.36. This indicates that the differences are significant.
We now look at the analysis of results of the 'interpretation' component within the experimental group. Table 4 below outlines information on the mean, p-value, t statistic and the effect size amongst others for the 'translation' component within the experimental group for pre-testing and post-testing.

Table 4: T-test for interpretation component (Experimental group)

Variable	Group = E T-test for Dependent Samples Marked differences are significant at p < 0.05000							
	Mean	Std. Dv.	N	Diff	Std. Dv Diff	t	df	p
Interpret Post-testing	3.09	2.20						
Interpret Pre-testing	1.68	1.63	61	1.41	2.74	4.01	60	0.0002

d = 0.64

The p-value < 0.05 and the effect size of 0.64 indicate that the differences are possibly practically significant.

Analysis of quantitative data in interpretation component between groups
Table 5 below outlines information on the means of the experimental group and the control group, and the effect size for the modelling component for post-test between the experimental group and the control groups as provided.

Table 5: Univariate Tests of significance for translation component (Post test)

Group;LS Means Current effect: F(1,119)= 2.5104, p = 0.11575 (Adjusted means)					
Group	Interpret Post: Mean	Interpret Post Std.Err	Interpret Post -95%	Interpret Post +95%	N
C	2.61	0.23	2.15	3.07	61
E	3.13	0.23	2.67	3.59	61

d = 0.29

From the effect size of 0.29, low F value and p > 0.05 we can conclude that the differences are insignificant.

Interviews held with learners

Question 1:   Can you tell any change that you noticed in the way mathematics was taught in your class since you took the pre-test?
Responses to the question revealed that learners indicated that the teacher introduced the lesson on functions, gave examples to clarify the topic and gave them time and space to go and explore more on the topic.
One of the learners said "The teacher introduced the new matter by teaching us, followed by several examples to clarify what she has been teaching. Examples are good because you can understand what is going on".
Two learners preferred that at the start of teaching the concept, a lot of examples be given so that they "understand better". According to them they understood much better if more examples were given, because they could not follow the lesson if they did not have ideas of what is going on.

Question 2:   Did you notice any difference in the way the teacher was teaching or was it just the same?

Responses to the second question indicated that two learners did not pick up any difference while others noted that there was indeed a difference in the teacher's approach to the topic. One learner said, "There was some difference because we were given a lot of examples on the topic and given research to do" and the other one said "There was not much difference to what we are used to, except that she would give us something to research after giving us several examples" .

Question 3: Do you like the way the teacher was teaching in the past three months or so?
There were mixed feelings to the teacher's new approach in response to the third question. Two learners were in favour of it, while other learners were not. This is what one said, "If the teacher continued teaching the way she did, I would benefit, but my peers complained that they could not do a thing without first being guided with examples,"

Question 4: Do you think that the way the teacher was teaching would make you improve your understanding or not?
There were also mixed feelings to the teacher's new approach in response to the fourth question. Two learners were in favour of it, while the other two were not. This is what one said "I do not like the way she was teaching, because if you do not know what is going on, you cannot do the research we are expected to do on the topic. I like it if she teaches"

Question 5: Did you like the way the teacher was teaching or would you prefer the way s/he was teaching before you took the test?
There were mixed feelings to the teacher's new approach in response to the fifth question. Two learners were in favour of it, while other learners were not. One learner said "I would like her to teach, because we do not understand that method, and there are no textbooks with answers to the projects we are supposed to do."

DISCUSSION AND CONCLUSION

Analysis of quantitative data revealed that the differences among components between the experimental group and the control group were generally significant. This was an indication of the success of the experiment, even though the total difference between the two groups in terms of performance was not significant. The performance between the experimental group and the control group was as good as equal. This may be attributed to some of the challenges highlighted by the teacher during the interview and that the experiment was carried out over a limited period of time.

Kieran (1992) identified that learners perceive functions as equations only, and cannot relate solutions of equations to values of corresponding functions in graphical solutions. This explains why learners understand functions from procedural rather than structural perspectives. Learners have a better conception of a function if it is in an equation form of computing one value of a variable based on another. Two learners felt that they needed to be taught first before they can work on exercises on function. The impression is that they find it challenging to transfer a word problem to a mathematical statement in symbols, and this is consistent with literature that learners find it difficult to transfer from graphical to algebraic and vice versa (Kieran, 1992).

Most algebra textbooks define a function as a relation between two sets so that one member of the domain has only one image. This emphasises the structural rather than the procedural view of functions and learners find it hard making sense of it because they are inclined to procedural conception of functions (Kieran, 1992).

Two of the learners interviewed hinted that without being taught first they cannot comprehend concept functions. The impression is that the teacher requested equations of lines, and they work out ordered pairs and translate the ordered pairs to Cartesian graphs.

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41 - Assessing the Quality of Research: Development of a Framework

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Abstract: The present paper aims to discuss a study based on the construction of an assessment framework for monitoring the quality of research in the University of Aveiro, with a special focus on education.

The main specific objectives associated with the study are to identify the key issues involved in research assessment (concepts, dimensions, models, criteria); compare international practices and experiences (review of the international practice); develop a set of contacts involved in the UK's experience to collect good practices and recommendations; design a general reference framework guidelines to evaluate the quality of research with a special focus on the educational research and develop a case study/ intervention at the University of Aveiro, Portugal. This evaluation approaches some of the concerns that the Portuguese research Centres/ Units and Laboratories have at the moment.

Keywords: Quality, Research, Assessment

INTRODUCTION

There is a vast literature on best-practice criteria for scientific assessment and research funding. In fact, this key issue for the enhancement of Science and knowledge is treated very differently in many countries and has been continuously discussed and amended in recent decades (OECD, 2003; European Science Foundation, 2003; European Commission, 2010a;). Changes in the research assessment practices are an important basis for the discussion of the challenges and responses of the science system, its structure, priorities and trends related to the allocation of funds, rankings, performance indicators, rating scales, and other topics focussing on competition, accountability, reputation and institutional performance (Wooding & Grant, 2003; OECD, 2002; European Commission, 2010c).

Putting the emphasis on the researchers' role, many studies address not only the questions associated with their profiles and motivations, career expectations, publication behaviours and incentives, but also the constraints that lead researchers across subjects and disciplines to publish and disseminate their work in different ways (Wooding & Grant, 2003; BERA, 2008; RIN & JISC, 2009; European Commission, 2010b). The literature has also contributed for a wide discussion about the assessment methodologies, namely; the panel selection criteria and peer review as well as the comparability of grades, the flexibility for assessors and the effort of research income and/or bibliometric analysis (Jenkins, 1995; Botte 2007; Brennan & Teichler, 2008; Brew & Lucas, 2009).

In the study field of the quality of research assessment, the oldest system from a scientifically advanced country is the United Kingdom. It started in 1986 with the Research Assessment Exercise (RAE) and has been evaluated and improved since then (Elton, 2002; HEFCE, 2003; Roberts, 2003; HEFCE, SFC, HEFCW, DELNI, 2008). More recently, many consultation periods and a wide discussion have been taking place around the new arrangements for the assessment and funding of research as embodied in the proposals for the Research Excellence Framework (REF) to be fully implemented by 2014 (Bekhradnia, 2009; Grant *et al.*, 2009; Adams & Gurney, 2010; HEFCE, 2010; Otley, 2010)).

Other international systems have, however, addressed the topic of quality of research in other ways according to their research funding policies and research priorities (e.g. Germany, Finland, Japan, United States, Norway, Australia) and many have published comparative studies that contribute for the discussion of good practices and recommendations (European Commission, 2010a; OECD, 2002; Grant *et al.*, 2009). In the Portuguese case, the *Funding Model and Assessment of the Research Units/Centers/ Associated Laboratories* developed by the *Fundação para a Ciência e Tecnologia* (FCT, 2004) is the reference document for a contextualized approach to the subject.

Overall, the dimensions of quality in such a specific area must acknowledge the importance of concepts such as: multidimensional and interdisciplinary dimensions, methodological and theoretical robustness, technological dimension, capacity building and value together with the economic dimension. Moreover, the

urge is to establish collaboration links between research and policy & practice, codification and communication of accredited knowledge to promote the engagement in a co-operative environment set on partnerships and programmes (Humes & Bryce, 2001; OECD, 2002; Pring, 2001).

All these topics have a special emphasis and relevance in what comes to Education, one of the most specific and challenging research fields. In fact, recent changes in the relationship between Education, Research and Society and the constant evolving role of research in knowledge production lead us the need to continuously discuss and adapt the concept of research quality in the educational field (Furlong & Oancea, 2005; McNay, 2003).

SCOPE AND OBJECTIVES

Based on an in-depth study concerning the organization of the research quality assessment systems, mainly in the European context, and in particular on the United Kingdom's system, this research aims to:

- *identify the main issues involved in research assessment*. The first approach is to analyze the views of research quality and attitudes towards different models of research assessment, concerning the major dimensions associated with the role of quality assurance and evaluation systems.

- *compare international practices and experiences*. Based on the understanding of the key concepts associated with Quality, Assessment/ Evaluation, Enhancement/Assurance, the focus is on the development of a review of the international practice (e.g. Germany, Finland, Japan, United States, Norway, Australia) in assessing research. The purpose is to collect experiences, proposals for a good scientific practice and measures to identify the impact and consequences of the research assessment model implementation. In a more detailed and contextualized approach to the United Kingdom's assessment system, the idea is to perform a study about its main characteristics and evolutions throughout the last twenty years in order to collect good practices and recommendations for the Portuguese context .

- *design general reference framework guidelines, based on the good practices and recommendations collected, to evaluate the quality of research with a special focus on the educational research.*

These guidelines are the basis for the creation of an assessment framework for monitoring the quality of research with a special focus on Education in the University of Aveiro. This project opens the possibility for the development of research projects in other scientific fields and using other methodological approaches.

RESEARCH DESIGN

The research design is based on a *two* step process closely interconnected: an exploratory/ diagnostic study and an assessment study.

In the diagnostic study the main aim is to perform a set of contacts with researchers, stakeholders and institutions involved in the UK's experience: Funding bodies (policy), institutions and researchers: Funding Bodies (Members of the UK's RAE panels - 2008); Institution Representative (leading research institutions and "New Universities"(post 1992) and Researchers (Experts in the area of Research Quality Assessment and researchers from the Educational field);

The main instruments for data collection are *semi-directed* interviews to funding bodies, research centres' representatives, quality assessment experts and researchers about their research quality assessment experiences, good practices and recommendations.
 In order to set the categories for the data analysis the interviews are structured in a SWOT – style adapted analysis framework (*Figure 1).*
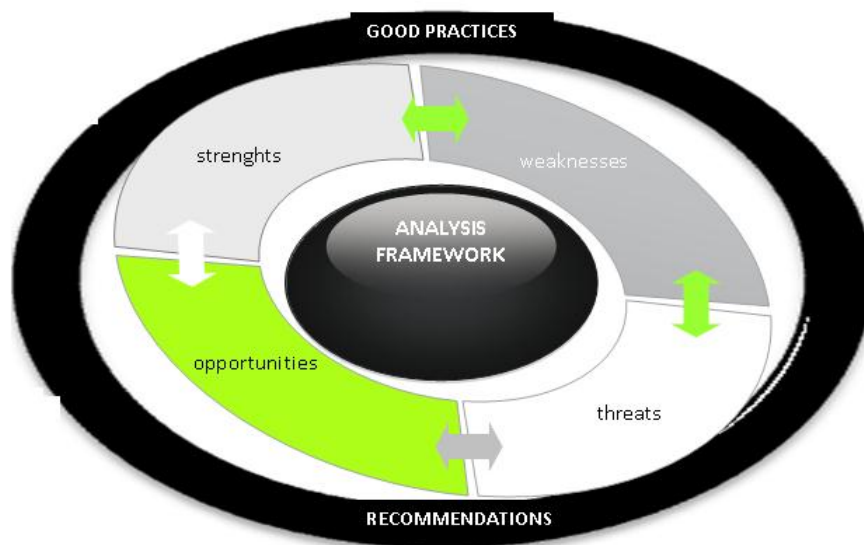
Figure 1: Categories for data analysis

The good practices and recommendations collected allow the presentation of the main guidelines for a reference framework to evaluate the quality of research with a special focus on the educational field.

After this first diagnostic/ exploratory step, there is **an assessment study** based on the development of an internal approach about the research quality in the context of the Department of Education at the University of Aveiro, Portugal. This evaluation approaches some of the concerns that the Portuguese research Centres/ Units and Laboratories have at the moment.

The main aim is to collaborate with the institutional efforts to promote internal quality systems with a special focus on education. In fact, the specific scope of this research field has raised a wide internal discussion about how suitable/adapted the national system to assess the research developed in this area is.

This field work consists on the design/ adaptation of instruments (*surveys, focus group, interviews*) to determine how and why researchers communicate their knowledge, publish and disseminate their findings and perceive their role as education agents and researchers.

OUTCOMES

In terms of contributions to the construction of the framework we can already point out some indicators to be considered in the particular field of education. One aspect that stands out is the relevance of the use of strategies for peer assessment/review based on shared analysis of scientific production (outputs), based on criteria of rigor, relevance and efficiency.

In addition, we point out the need to implement internal measures to promote the quality of research *per se* irrespective of its approach, methodology or positioning. Moreover, given the nature of the scientific area in question, an aspect to consider should be applied and practice-based research itself that may take, especially the way in teaching / research / learning interact and share roles, particularly at the level of postgraduate training.

Another aspect to be integrated into a strategy of promoting quality is related to the development of internal mechanisms of circulation / information management related to scientific production of researchers and to access detailed information about projects in development at the institutional level as well as dissemination of opportunities for internal and / or external collaboration / partnerships.

In this sense, the collaboration between departmental areas of the same institution is a key factor for establishing intra / interdisciplinary partnerships between research groups and a networking tool for the development of research projects with international teams on issues and topics of common interest and interagency and international courses of advanced training.

Finally, we stress the relevance of the internal development of pro-active strategies to support researchers in areas such as scientific writing, methodological approaches, publication behaviours, *bibliometrics*, authorship, referencing, creativity, collaboration and internationalization seeking a common purpose – the promotion of high quality research.

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67 - Traces of Europe: Whether the National Curriculum in Sweden Supports Teaching and Critical Discussion about European Identity

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Abstract: The paper present and discuss how the Swedish national curriculum is used during one work package in a European project. The European project PAM-INA (Perception, Attitude, Movement Identity Needs Action) aims at identifying perceptions/understandings, attitudes/attachments and ways of articulating/experiencing the idea of a European identity among its youth. Whether there is a written curriculum or not, what actually is used as directives in teaching can affect how a European identity is created. During the project school curricula for secondary school in eight countries were compared to examine how the idea of Europe is manifested and expressed. The results showed that the Swedish curriculum leaves much freedom to the students and the teachers to use instruction materials. The curriculum is over arching and contains mainly directives for values that should be given priority, like democracy. There are separate subject syllabi and the analysis showed that concepts like Europe, European citizen or similar were rarely mentioned. The result raises questions about teaching strategies towards a sustainable EU identity construction as well as a critical stance towards such an identity construction.

Keywords: Secondary School, Youth, Curriculum, Europe, Identity

INTRODUCTION

During the late 19th and early 20th century the concept nation became the framework for at least most European countries when the education system was created. In the late 20th century and the early 21st century the concept became more and more challenged and concepts such as international and global became just as important in the education system. Further on, regional concepts like Europe, has had an impact on how educational systems are created. Lastly, regional agreements like such as EU as an organization has had an effect. Even though education systems in countries in the EU are regarded as national, decisions and agreements on a European level have consequences for individuals, just as well as for countries. Also countries not belonging to EU can be affected of the EU decisions.

Those who are working in the education system on different levels also have to reflect upon different aspect of changes in the education systems. The education system is a framework where roles and identities are shaped in youth, but also in adult hood. In some countries in Europe there are possibilities to participate mostly in educational systems that have national directives; in other countries there are possibilities to have private companies with certain profiles in the schools, even though national directives can be overarching.

One way of responding to the challenge of changes on individual, group and system level in education is to be engaged in European projects. In 2009 an initiative was taken from Freiburg University and Ljubljana University to create a study. In total eight countries joined in: Freiburg University in Baden-Wurttemberg in Germany, University of Ljubljana in Slovenia, University of the Aegean in Greece, University of Lyon in France, Pedagogical University of Krakow in Poland, St Mary´s University College in Northern Ireland and Mälardalen University in Sweden. In 2010 the European Commission decided to fund the project called PAM-INA (Perception, Attitude, Movement, Identity Needs Action) aiming at identifying perceptions/understanding, attitudes/attachments and ways of articulating/experiencing European identity among youth in Europe. The project is a Comenius project in the Lifelong Learning Program and lasts between 2010-2012 (PAM-INA 2011)

This paper is about how a study was carried out aiming at identifying to what content on 'Europe', 'European dimension', 'European identity and citizenship' exists in Swedish secondary school curricula in social studies and how these are represented/constructed. Similar studies were carried out in the other seven countries and all national reports can be found on the PAM-INA website (PAM-INA, 2011). The results from the study in Sweden are presented, analyzed and then discussed.

BRIEF DESCRIPTION OF EDUCATIONAL SYSTEM IN SWEDEN

The population in Sweden consists of 9 million people. The national language is Swedish, but several other languages are spoken, partly because nearly one million of Sweden´s total population is immigrants or have at least one immigrant parent. (European Commission, 2010).

In Sweden, all children between the ages of 7-16 must attend school. The municipalities have to offer preschool, primary and lower secondary school and upper secondary school. The aim with compulsory school is to teach basic skills and knowledge that will be useful for further studies and when they act as a member of society (European Commission, 2010).

At age 16 (to age 20) the child can opt to continue to upper secondary school. Upper secondary include national programs and also specially designed programs. Some programs have a more vocational content, others are more theoretical. The aim is to offer a broad general education and prepare for studies at post-secondary level. (European Commission, 2010). Almost 1 000000 pupils attended upper secondary in 2008.

From age 18 young people can participate in higher vocational education. This education is designed in consultation with employers to meet manpower needs (European Commission, 2010). From age 18 young people can also study at folk high school. Otherwise they can study at different institutes, university colleges or universities.

As a summary, a presentation from European Commission (2010, p. 6) is shown below:

Figure 1: Presentation of the Education System in Sweden, European Commission, 2010
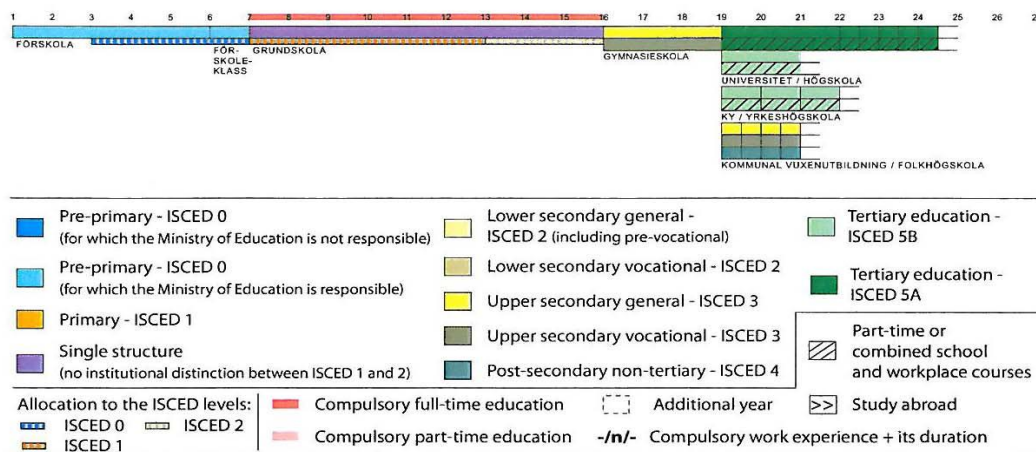
BRIEF INTRODUCTION TO THE OFFICIAL CURRICULUM IN SWEDEN

When the study was carried out Sweden had an educational system with a broad curriculum framework (läroplan) and syllabus (kursplan) for each subject or group of subjects. These directives were presented in separate documents. Both curricula for lower and upper secondary school had a part about values that was the same for lower secondary school and upper secondary school. Table 1 shows a simplified version of the system:

Table 1: Relation between curricula and syllabi in Sweden

Curricula for lower secondary school		Curricula for upper secondary school	
VALUES			
Syllabi for subjects		Syllabi for subjects	

As the study focus on the syllabi there is a need to present how it is designed. In lower secondary school there is a common text for the social sciences: civics, history, geography and history. In addition, there are four separate syllabi; one for each subject. In the common syllabus there is a description of the aim with the subject, goals to strive for, the character of social studies, goals to attain on different levels, and guidance for grading. The respective syllabus is designed in a similar way, the aim with the subject, goals to strive for, the character of the subject, goals to attain and directives for grading.

In upper secondary there are national program (17) and local programs. Some subjects are considered as core subjects. Civics and religion were considered as a core subject for all programs. The amount of time for

civics and religion depend on the chosen program, but the amount was at least one term. In the syllabus for Civics, as an example, there is a description of the aim with the subject, goals to aim for, the character of the subject, goals to attain and directive for grading.

METHOD
Sampling
As similar studies were carried out in eight countries several choices had to be made about how to carry out the data collection. First of all, national curricula/syllabi were chosen as representing political texts. But not all subjects were chosen; it was social studies such as

religion, history, geography and civics. The subjects were only relevant if they were compulsory on lower respectively upper secondary. This choice was made as the combination of social compulsory subject was assumed to give examples of creation of identity.

When the study was carried out a selection of document was made. The documents that were from Sweden used were:

Table 2: Documents used for analysis

Age group	Subject title	Title of Document	Pages	Published by
12-15 Lower secondary school	General	Curriculum for compulsory school	1-18	The Swedish National Agency for Education, 1994
12-15 7th-9th	Geography, religion, history and civics	Syllabi 2000, revised version 2008	1-101	The Swedish National Agency for Education, 2008
16-18 10th-12th	General	Curriculum for non compulsory school	1-19	The Swedish National Agency for Education, 1994
16-18 10th-12th	Civics A Religion A	Social Science Program Goal, Structure and Syllabi	17-21; 147	The Swedish National Agency for Education, 2000
	Civics A	Changes in the Syllabi and Grades for Civics at Upper Secondary and Adult Education	1-4	The Swedish National Agency for Education, 2008

RESULTS AND ANALYSES

Quantitative analysis of references to 'Europe'
A group of terms were decided to represent Europe, for example Europe, EU, and Council of Europe. Whenever the terms were used in the curricula/syllabi a mark was made.

In compulsory school the findings represent the entire compulsory school as it is not divided in the syllabi. Geography and history are taught in Grades 7-9, but only in certain programs in Grades10-12. The subjects Civics and Religion are core subjects that are compulsory. The syllabi for the subjects in upper secondary are divided in A, B, C level. It is Civic A and Religion A which are compulsory.

In summary, in secondary school it is in the syllabi for History where we can see one reference to Europe and one reference to European. In upper secondary it is in the syllabi for Civics that we find two references to EU:

Table 3: Overview of references to 'Europe' in the Social Studies Syllabi in Sweden

	Geography	History	Religion	Civics	**Total**
Europe	0	1	0	0	1
Eurasia	0	0	0	0	0
EU/EEC/EC	0	0	0	2	2
EU institutions	0	0	0	0	0
Council of Europe	0	0	0	0	0
Symbolic markers	0	0	0	0	0
Europeans	0	0	0	0	0
European identity/citizenship	0	0	0	0	0
European (adjective to noun)	0	1	0	0	1
European (individ. Countries)	0	0	0	0	0
Other	0	0	0	0	0
Total	0	2	0	2	**4**

The quantitative analysis indicated that a few references to terms attendant to 'Europe' occurred in the History documents and Civics documents. Comparing between them the terms in question, it can be noted that the references occurred in the categories 'EU', 'Europe' and 'Europeans'.

In Sweden there is a difference between the curricula and syllabi. Just as a comparison, let us study if the curricula for the compulsory school and the curricula for non compulsory school make any references according to our matrix:

Table 4: Analysis of curricula for Compulsory School and Non Compulsory School

Over arching curricula with common values for all subjects	Compulsory school	Non compulsory school	Total
European identity/ citizenship	0	1	1
Total	0	1	**1**

There were no references in the curricula for compulsory school to any of the concepts suggested in the matrix, but in the curricula for the non compulsory school one reference was made to European identity.

Representations of Europe

Secondly, different concepts were decided to use for analysis, such as if there were phrases referring to a spatial-locational entity, an economic entity, a political entity, a historical entity or a social-cultural entity. It is still the results which was already presented; four representations, which constitute the base for the analysis.

In the syllabi for History in Compulsory School there is one reference to 'Europe' and one to 'European'. In the common goals it says that "Essential parts of the subject are thus Swedish and Nordic culture, including Sami and European culture." In the goals for year 9 it says that the pupil should "be able to present important events and be familiar with the personalities, ideas and changes in the historical development of Sweden, the Nordic area and Europe, as well as be able to make comparisons with other countries.". This reference can also be perceived as a reference to Europe as a socio-cultural entity.

In the syllabi for Civics in Upper Secondary School there are two references to 'EU'. In the goals for the course it is described that the pupil should "have knowledge about the function of the political system on local, regional, national en EU-level" (my translation). It also states that the pupil "should understand how to influence political decisions on local, regional, and national level, within EU and internationally." (My translation).

Depending how the referred text above is interpreted the references can be regarded as spatial references to Europe and to an economic entity. When the Nordic area and Europe is mentioned in syllabi for History for Compulsory School, these concepts can be interpreted as spatial references. When EU is mentioned in syllabi for Civics for Upper Secondary School, the concept can be interpreted as an economic entity.

Constructions of European Identity and Citizenship

Lastly, an entirely qualitative analysis was carried out using questions of whether the texts defined or explained something about European citizen or European identity/citizenship. European citizenship was defined as denoting sharing legal-political institutions and values and European identity was defined as denoting ethno cultural characteristics or heritage.

How is then European identity and citizenship defined? The quantitative findings showed that there were four references to "Europe" in the syllabuses for compulsory school. Two of them, from the syllabi for History, could be referred to as regarding European identity. The syllabi for History has chosen culture as an essential part and it says in the syllabi "Essential parts of the subject are thus Swedish and Nordic culture, including Sami and European culture." (The Swedish National Agency, 2008, p. 69) Thereby it is implied that there is a European culture. Usually culture is looked upon as constructing identity so; also implied, European culture can be a pre requisite to a European identity. Further on it says in the syllabi that the pupil should "... be able to present important events and be familiar with the personalities, ideas and changes in the historical development of Sweden, the Nordic area and Europe, as well as be able to make comparisons with other countries." (p. 71). This also underlines both the possibility that there is a common history which can be perceived as a pre requisite for a European identity.

Two of the references are from the syllabi for Civics in upper secondary school. First it is described in the syllabi that the pupil should "have knowledge about the function of the political system on local, regional, national and EU-level" (SFS 2008:10, p. 3-4, my translation). It also states that the pupil "should understand how to influence political decisions on local, regional, and national level, within EU and internationally." (SFS 2008:10, p. 3-4, my translation). When the syllabi were written, in 2000, these criteria were not in the demands for different grades. They were amended in 2008.

If we distinguish between European identity and citizenship and define 'European identity' as the one which denotes ethno cultural characteristics or heritage (including blood bonds, culture, history, heroes, language, religion, customs) that are historically shared by a nation, then the syllabi for History supports creation of identity.

If we further on define 'European citizenship' as the one which denotes a sharing of legal-political institutions and values (e.g. common laws and constitution under a state, values of democracy, freedom, human rights, civil rights, political rights, etc) then the syllabi for Civics supports creation of a European citizen. In the syllabuses the references are not abundant, but the syllabuses have to be combined with plans on municipality level and on school level. The subjects are also influenced by the way the learning material is used, such as text books, websites, TV-programs.

If there are few references to Europe, Europeans and European culture, what are then references to in the overarching curricula? Let´s look at the curricula for the compulsory school. The first part is presenting the fundamental values of the school. It is stated that democracy forms the basis of the national school system (The Swedish National Agency, 2006a, p. 3 ff.). The concept democracy or democratic can be found continuously in the curricula, it is actually mentioned twelve times. Depending on whether democracy is perceived as a way of life or a political choice/system the concept then can be a reference to identity or citizen, maybe both. Also in relation to fundamental values in the curricula references are made to Christian tradition and Western humanism as fostering (p. 3). Instead of making references to the concept 'citizen', the concept 'member' is used in the text. When the task of the school is presented, the task is to promote the development of pupils into responsible persons and members of society (p. 5). The concept member is addressed, not the concept citizen in the overarching curricula for compulsory school.

Let´s continue with the curricula for the non compulsory school. Also here the fundamental values are presented. It is stated that democracy forms the national school system and that Christian tradition and Western humanism are values that foster (The Swedish National Agency, 2006b, p. 3). Compared to the curricula for the compulsory school, there is an addition. It says "The school shall contribute to people developing an identity which can be related to and encompass not just Swedish values but also those that are Nordic, European and global." (p. 4). This reference can be perceived as supporting a European identity. Just as in the curriculum for the compulsory school the concept 'citizen' is not mentioned. Instead the concept 'member' (of society) is mentioned in the overarching curricula for non compulsory school.

DISCUSSION

Europe is included, but in what way?

The aim of a part in the European project APM-INA was to identify whether references to 'Europe', and, if so how, what content they ascribed to representations of 'Europe' as well as a 'European identity and

citizenship' in the social studies secondary school curricula/syllabi in use in public secondary schools in some European countries. The results that were presented here are from Sweden.

The study showed that there were few references to words like 'Europe', 'European dimension' and 'European identity and citizenship' in the national syllabi for social studies in lower and upper secondary school in Sweden. References were although made, the syllabi in History mentioned 'European identity'and that the syllabi in Civic mentioned 'European citizen'.

Even few, the results can be discussed by help of researchers interested in the same area. During centuries Habermas has contributed to a discussion about the possibilities of citizenship and democratic society. Within the discussion about national, regional or global citizenship, he although discusses mostly a national or regional citizenship (Habermas, 1995, p. 271, 278-279; Habermas, 2001, p. 70f, 108f). But, as is seen when we used a definition from him, he made a division between social-cultural (identity) vs. legal-political citizenship (legal). The results showed that the words in the Swedish syllabi could be referred both to social-cultural identity and legal-political citizenship.

When Habermas discusses citizenship he also put deliberation on the agenda. This is an issue that several researchers in Sweden also have done. Englund (1988, 1996, 2000) have presented several critical analyses of how citizen education has been carried out and how dialogue between different groups can be supported, or not. One of his main results are how different agendas'play out when a curriculum is created. The citizen education is challenged by fostering for working life and transferring facts about subjects. For Englund citizen education is not mainly a national or regional (European) issue, but of discussing and practising democracy. The results from Englund´s research can be an explanation why the European identity has not become a priority in Swedish syllabi text; other identities, or rather roles, are also given priority (such as becoming employable).

Frimansson (2001) suggests a more firm approach. He promotes that compulsory school should include civics as it is the duty for the society to impart knowledge of what is ´good´. For Frimansson citizen education is about values. Value issues are also addressed by Afdal (2004). Afdal is discussing how citizen education and moral education is related. As I understand Afdal moral education and civic education are separated, which is not necessarily an advantage. Civic education and moral education can be perceived as a division between facts and values. Today a division between facts and values has led to a situation where civic education is not a critical force, according to Kemp (2004). In his vision a Citizen of the World, not of any state, is the best construction to aim for. As the curricula and the syllabi are separated in Sweden (until 2010, not after July 2011) we mainly find the global citizen and values in the curricula, not in the syllabi.

The dialogue in the class room can include preparation for activities as a citizen or not. Niklasson (2007) discuss where the active citizen can plan and organise civic activities, in the class room or outside the class room, also from a European perspective. In a more practical manner, authors from the Erasmus Academic Network, Children´s Identity Citizenship in Europe (CiCe, 2011) have carried out studies and also constructed material for education about citizenship. Regarding Sweden the results in the study shows that the interest for citizen education is on three levels, national, European and Global. The network is also not exclusively discussing a European level; it also includes a global level and what they call a local level (Cappelle, Crippin and Lundgren 2010). The authors define global education as putting emphasis on providing students with information (my emphasis) about such issues as human rights, the environmental, sustainable development, peace, the multicultural nature of our world, the costs and benefits of economic development, the impact of technology, etc. (p. 3). World citizenship education does not concern collecting information but to start a critical analysis about what can be done and what should be done, thereby being more action oriented (my emphasis). When Sweden is presented by the authors (p. 11) they also come to the conclusion that it is a global citizen, rather than a European that is supported.

On the other hand, even though researchers in Sweden have been mainly concerned with international issues, such as Human rights, we can see a significant difference in how the course plans are formulated. As the course plans are very short, it is important to notice that Europe is mentioned. This change was made just a few years ago. Further on, the course plan is an over arching document, we have not studied all the teaching material that is used for teaching and learning. As the teachers and pupils in Sweden have freedom to choose how to reach the goals, there can be a lot of texts about Europe, or almost none.

What there cannot be is an absence of Europe that is clearly underlined in some of the course plans. In other words it can be interpreted as the syllabi are focused on describing the content of the subject. This description is overarching. What is actually carried out in teaching and learning is a question that is negotiated in the actual situation in the learning environment. That is, the teachers have a responsibility and a possibility to (in co operation with other stakeholders…) to decide not whether, but how much, room the question of identity, and European identity, shall be addressed.

European projects and identity formation

When studies are carried about concerning education systems and especially curricula in eight European countries, selection and choices has to be made. Soon it became obvious that a presentation of each countries education system would be necessary. Further on we noted that the curricula design varied. As a consequence the final design of this study suits certain education systems more than others.

There was a division between curricula and syllabi in Sweden and to handle that a section is written also about how the curricula is overarching (with values) and the (subject) syllabi are separate. On the other hand, even when the curricula were included in the study, not many sign of Europe could be seen. This is due to another difference between the countries. In Sweden the syllabi is very concentrated. In other countries the syllabi (or rather curricula as it seems to be more common to integrate them) are more elaborated. The consequence is that in Sweden teachers (and pupils) have several choices to make when the studies are carried out. On the other hand, when a syllabus is very concentrated, every extra word is important. In this case Europe and EU has been completed in the texts and that is a clear directive to the teachers and pupils, a European 'dimension' has to be included.

A key limitation of this study and similar ones was that it focused on official curricula at one level of education (secondary) and in specific subject areas (History, Geography, Economics, Religious Studies, Civics). If the study would have included language there would have been more references to identity as identity is interpreted as developed in combination with language in a Swedish context.

But the above mentioned aspects are mainly concerning a quantitative aspect. The qualitative analysis with the difference between socio-cultural and legally-political identity formation (maybe role formation) is fruitful, just as well as the analysis using spatial-locational entity, an economic entity, a political entity, a historical entity or a social-cultural entity.

In summary, co operation in European projects can results in fruitful descriptions, analysis and discussions about European dimensions in education systems and identity formation. But it can be noteworthy that there are differences among countries and it can be wise to give room for country specific discussions of how projects are perceived and handled.

CONCLUSION

Within a framework of a European project it was possible to critically discuss the relation between school syllabi and identity formation among youth, especially a European identity. The results from Sweden show that the syllabi give directives that a European 'dimension' should be in the content in social studies. As the directives are overarching, what is actually carried out in the classroom is a question for the actual situation.

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72 - Conceptions of Portuguese Primary School Teachers about Science Education: Their Relevance in Innovative Classroom Activities

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Abstract: Multiple as they may be, all programs designed to promote Scientific Literacy (SL) with an Education for Sustainable Development (ESD) referential and according to Science / Technology / Society (STS) guidelines, include the intention to develop learning and teaching practices that are both innovative and appropriate for contemporary demands. According to several authors, teachers play a decisive role in the quality of education, in the development of favorable attitudes towards the learning of science and in the implementation of curricular reforms. They also agree that the interpretation teachers make of the programs determines their classroom activitie
s and stems from their own conceptions about science education. Therefore, understanding the conceptions teachers form regarding science education can influence and improve teaching practices and the potential success of educational reforms.
We present Portuguese primary school teachers conceptions about science education (obtained during semi-structured interviews) and in relation to: relevance; ESD; SL; STS guidelines.

Keywords: conceptions about science education; Education for Sustainable Development, innovative practical teaching

INTRODUCTION

The declaration of the Decade of Education for Sustainable Development (2005-2014) gives an important role to education in general, and to science education in particular, in helping solve the situation of planetary emergency humanity currently faces. In Education for Sustainable Development (ESD), Scientific Literacy (SL) was established as one of the contributions that stimulate the understanding of current issues and problems so responsible decisions, justified as they may be in the present, will not compromise the future.

It is not easy to explain how formal teaching and learning of science in primary years of schooling can help develop skills where actions can be justified and do not compromise the future of our democratic society, marked by the prevalence of developments in science and technology, occurring at a fast pace, with implications for personal life, society and the planet.

Achieving these goals requires change in several areas: curriculum; assessment; didactic resources; initial and ongoing training of teachers. With this in mind, we state a view of an SL interpretation transposed into a program, contained in the curriculum, whose design is framed with an ESD referential and Science / Technology / Society (STS) guidelines.

According to several authors (Abell, 2007; Nóvoa, 2007; Osborne, Simon & Collins, 2003; Tobin & McRobbie, 1996, between others) teachers interpret programs according to their conceptions about science education and that interpretation determines their classroom activities. They also contend that, in order to change their practices, teachers should understand their own conceptions about science education and the relationships established between thought and action.

Predisposal to change the methods applied in the classrooms is equally necessary, allowing for a free discussion of problems stemming from the implementation of activities that are not included in their usual repertoire.

Understanding conceptions of the teachers about science education can therefore help us promote mechanisms that will permit an innovative programme implementation in the classrooms.

In Portugal compulsive school includes first Cycle Primary School (1st CEB) for children between 6 and 10 years old: 1st, 2nd, 3rd and 4th school years.

Results of international studies show that Portuguese students have, on average, a performance in the field of scientific literacy significantly below the average of OECD countries (OECD, 2010). Some studies have shown that the practices of science teaching in Portuguese schools are still incomplete, both in working methods, both in time that is allocated to (DGIDC, 2011). Recognizing that the experimental teaching of sciences in the primary years of schooling can contribute decisively to the promotion of SL, the generalization of experimental science teaching in primary education, with appropriate evaluation, constitute a priority objective of educational policy in XVII Constitutional Government.

So, the Portuguese Ministry of Education made "...*experimental science education 2,5 hours a week...*" compulsory and created in conjunction with the Higher Education Institutions and 1st CEB schools, the 1st CEB Teacher Training Program for the experimental teaching of science. This program, nationwide, non-compulsory, involved an in-service training of 63 hours (which included 9 hours classroom monitoring) over an academic year (in Portugal, the school provides the beginning and end of the academic year in September and July respectively, with teaching interruptions at Christmas, Carnival and Easter). The programme also provided the laboratory equipment necessary to conduct the activities listed in the experimental training program to the schools of teachers who voluntarily attended.

The authors of the 1st CEB Teacher Training Program for the experimental teaching of science, which took place over four years (2006-2010), developed and provided educational resources for Teacher Trainers and 1st CEB teachers.

Based on the analysis of the discourse these teachers offer we present conceptions of 1st CEB teachers about science education (obtained during semi-structured interviews) and in relation to: i) its relevance; ii) SL; iii) ESD; iv) STS guidelines.

The selected teachers were involved and devoted to their practices, and their skills were approved by peers.

THEORETICAL BACKGROUND

Several problems connected to the teaching of science can explain the lack of interest for this area and the selection of different academic and professional trajectories, as well as poor student results. Osborne and Dilon (2008) state that the European Union "should invest significantly in research and development in assessment in science education. The aim should be to develop items and methods that assess the skills, knowledge and competencies expected of a scientifically literate citizen" (Osborne & Dillon, 2008, p. 9). The European Commission mentions the unsettling decrease of the interest youth develops towards science, which holds serious repercussions for European development and progress: "the long term capacity for innovation that Europe holds and the quality of its research will also decline. Furthermore, among the population in general, the acquisition of skills that are becoming essential in all walks of life, in a society increasingly dependent on the use of knowledge, is also under increasing threat" (p.2). Attaining such goals calls for change in several domains: curricular, evaluation, resources, initial and ongoing teacher training. We selected the program, as part of the curriculum, because we consider it to be fundamental as a basal structure in the process of teaching and learning. Multiple as they may be, all proposals for a program conception oriented towards the promotion of sustainability include the development of SL and the intention of developing ground-breaking practices for the teaching and learning of sciences addressing current demands, since according to several studies children are predisposed to learn science from an early age (Martins *et al*, 2006).

According to UNESCO guidelines, ESD must detain a high quality, be holistic and oriented by democratic values and principles, aiming for the promotion of a responsible citizenship, aware of the planetary emergency situation we currently face, respecting the limits of our Planet and taking responsibility for all living beings. In that sense, it must consider the complexity of interactions established between the environment, society and economy, all of them essential to sustainability. ESD should be considered at all times in science education: in content selection (multi, trans and inter disciplinary); in context selection for emerging concepts; in classroom strategy/activity selection; in scientific and technological comprehension of problems and their impact in the social, environmental, economic and ethical order; in developing certain skills, aptitudes and values (respect, cooperation, solidarity); in reinforcing democratic values and processes of participation (questioning, debating ideas, managing conflicts, voting, dialoging, reaching consensus).

Different SL conceptualization proposals suggest several implications for the formal teaching and learning of science, concerning the knowledge and the skills that promote an active participation in democratic societies, where the increase of scientific and technological developments, as well as their consequences, requires informed interventions that must not compromise the future (DeBoer, 2000; Praia, 2006). It is not easy to

identify a particular set of knowledge and skills that allows us to proclaim that a certain individual is scientifically literate. Considering the complexity of the concept itself, it is not easy to say "what does holding SL mean?" The SL concept is evolutional (considering it depends on social and economic contexts in each particular period of time), extremely broad, historically held and still holds several meanings (Martins, 2004).

By defining SL dimension we intend to designate the set of (re)conceptualizations we consider students should have when concluding their primary school years, in order to develop widely varied skills, aptitudes, attitudes and values that will allow them to live and adequately intervene in a democratic society and to adapt themselves to its vertiginous development rhythm, to the implications of this in their lives, in society and in the planet. This attitude should also allow them to continue their studies in science and stimulate them to continue its learning process all throughout their lives.

Despite the debate and controversy concerning what really is evaluated with the PISA tests, their results assume great relevance in our days and the issues they evaluate are consistent with the goals of science programs developed for primary school years and promoting SL. In this study we assume the definition of PISA for SL: "the capacity to use scientific knowledge, to identify questions and to draw evidence - based conclusions in order to understand and help make decisions about the natural world and human interactions with it" (OECD, 2010). The evaluation performed by these PISA tests falls upon: "Knowledge", "Skills" and "Attitudes", perceived as: i) "Knowledge – understanding the natural world based in scientific knowledge, including both the knowledge of the natural world and the knowledge concerning science itself"; ii) "Skills – includes identifying scientific questions, scientifically explaining phenomena and drawing conclusions based on data"; iii) "Attitudes – reveal interest in science, support scientific investigation and show motivation to act responsibly when dealing with, for instance, natural resources and the environment."

We can globally describe the world in which we live by the interconnections established between the broad range of scientific and technological knowledge, mainly developed from the latter half of the 20th century onwards, and all political, economic, social and environmental changes these interconnections imply. STS guidelines for science education reflect a dialog between different scientific fields, namely between natural sciences and social and human sciences, they highlight the social significance of the knowledge set forth by science and technology which, at the same time, provides a better understanding of the natural world and represents an essential instrument for its transformation (Cachapuz et al, 2008). Guiding the education of science with a humanistic, global and less fragmented point of view, and also potentially preparing students to better understand the World and the interconnections between scientific and technological knowledge in society, has become an asset for the teaching and learning of science (Aikenhead, 2009). Studies carried out in different countries in order to understand the impact of STS guidelines in teaching revealed a common attitude improvement from the students towards science, and showed that the comprehension of scientific ideas development is equivalent to the one observed in traditional approaches (Bennett et al, 2006).

A growing body of research suggests that the conceptions teachers form affect their teaching practices, their classroom judgments and classroom management (Lim & Torr, 2007; Thompson, 1992, Van Driel, Bulte, & Verloop, 2008). A better understanding of the educational conceptions held by teachers is therefore essential in order to influence and improve teaching practices and to guarantee the success of educational reforms. Given the importance of an innovative program in the development of this research, we tried to understand conceptions of Portuguese 1st CEB teachers about science education in relation to the importance they perceive in science education and in the structural dimensions of the program: ESD; SL; STS guidelines for science education in early years.

There is no consensual opinion among scholars concerning the definition of teaching conception (Richardson, 1996). The first studies were published in English during the first years of the 20th century (Thompson, 1992) and they applied the same meaning to "conception", "belief" and "knowledge". For a long time, despite this conceptual confusion, researchers have tried to clarify their terminological discussion concerning the beliefs of teachers and to define profiles in these beliefs. In this current study we assume the teaching conception that Thompson (1992) defines as: "a wider mental structure that includes beliefs, meanings, concepts, propositions, rules and mental images", (p.30).

METHODOLOGY

The methodology applied in this empirical study followed a qualitative approach that allowed us to understand conceptions of Portuguese 1st CEB teachers about science education. We chose a semi-structured interview to collect data that allows us to understand: a) the importance they perceive in science education and in the experimental science teaching component; b) how they believe science education can contribute to EDS; c) what subjects they relate to the EDS concept and how are those subjects approached in the

classroom; d) how they perceive SL, how significant they believe developing SL skills is and what strategies they apply in the classroom in order to achieve it; e) what SL skills they consider a student should have developed when concluding primary school, considering EDS; f) how they perceive STS guidelines for science education and how they are applied in the classroom.

We interviewed 19 experienced 1st CEB teachers, whose value is recognized by their peers (as involved and devoted to their practices), teaching in Portugal during 2010/11.

The results were obtained using the content analysis of interviews. According to Bardin (1997) it intends to "overcome uncertainties" and "enrich its reading" (p.29).

RESULTS
We now present the obtained results, according to each item approached during the interview.

Importance perceived in science education and its experimental component

All interviewed teachers believe it is very important to teach science in primary school years (from 6 years of age), pointing out some of the following reasons (in order of frequency): it is interesting for the children; it satisfies the curiosity of children; it is ever-present in our current lives; it helps children to understand/interpret daily phenomena (or what they see on the TV and in the Internet); it teaches children to think; it enhances interdisciplinarity.

All teachers mentioned that the reason why after September 2006, "*...experimental science education 2,5 hours a week...*" becomes compulsory, was the need to fight a general tendency to perform very few "experiments", and only in the end of the school-year (as proposed in school manuals).

Some of the experimental activities performed prior to 2006 and mentioned by the teachers included seed germination and floating solids in liquid media. The most frequently referred methods for those "experiments" were: i) concerning germination: wrapping the seed in moist cotton, placing it in a glass container, exposed to light, and "watering" and "observing" it; ii)) concerning floating: several objects were placed in a bowl of water and students "had to say if they floated or not". Less frequently, they also mentioned changes in physical states (interpreting window "misting" during winter) and solutions (students verified that sugar and salt "disappear" when mixed with water).

Although they recognize the interest of experimental activities for their students, allowing them to develop transversal skills related to reading, writing, communicating and calculating (and despite being compulsory) they admitted they did not always perform 2,5 hours of experimental activities per week, stating: it is more important to teach them how to write, read and calculate; the current program does not offer guidelines for experimental activities that fulfill the established educational component; they do not feel sufficiently prepared to perform experimental activities; there is no equipment in schools.

Teachers attaining the 1st CEB Teacher Training Program for the experimental teaching of science reported: they feel better prepared to perform experimental activities with their students; they perform more experimental activities; the importance of the laboratorial equipment supplied to the school by this program.

Science education contributes to EDS

All teachers believe that science education can contribute to EDS, as long as "children are alerted to the importance of adopting behaviors that will not compromise the future of our Planet". According to most of them, developing suitable attitudes and behaviors from an early age allows them to grow into "responsible adults".

EDS related subjects and how they are taught in the classroom

The subjects most frequently identified by teachers are: pollution; water and energy scarcity; biodiversity loss ("taking care of animals and plants" to avoid their extinction); and resource finitude. Less frequently they also mentioned local asymmetries (concerning in particular hunger and poverty) and respect for "different" children.

They all think these subjects should be taught in the classroom for every 1st CEB years, and they mention a teacher-moderated debate as the privileged strategy. Involving children in research and field trips, as well as inviting specialists to classroom debates, were also mentioned.

Generally speaking, subjects are brought to the table by students themselves (because they heard about it on the TV news or read about in the Internet), or they result from reading texts proposed by the teacher in Portuguese language classes. However, the celebration of water, alimentation and environment days and the international forest protection year are considered privileged moments to teach subjects related to them, and they are implemented in the *Project Area*.

<u>SL conceptualization, the importance perceived in developing SL skills and preferred classroom strategies</u>

Most teachers think that an SL holder is someone with a "great scientific and technological knowledge". This knowledge was less frequently associated with a responsible citizenship and with the implications of our actions for our Planet, ourselves and others.

All teachers believe that formal education should include the development of SL skills during all 1st CEB school years, and teacher-moderated classroom debates are considered the most promising strategy for any school year. Concerning 3rd and 4th grade children they also include: researching and preparing a presentation for the class; "experimenting"; making flyers and posters. Some of the strategies these teachers mentioned for the development of SL skills include: involving students in the separation of trash for recycling in school (and asking them to do the same at home), giving them guidelines to save water and electric energy, and studying behavioral changes in them through dialogue. Choosing an adequate diet, in an individual health perspective, and involving children in solidarity campaigns (collecting toys and clothes for children in need) were also mentioned. They all believe children play a significant role in influencing their parents to adopt the same behaviors.

All teachers believe that the benefits of scientific and technological development outweigh the setbacks. They most frequently pointed out developments that helped solving environmental issues and led to health and lifestyle improvements as positive aspects. The majority of the participants believe that science and technology only can help us solve the problems we currently face. All of them think it is important to debate both the advantages and disadvantages of such developments.

All teachers blamed the Human Being for the problems we currently face. They most frequently referred to the bad use we make of scientific and technological developments, based on a "poor knowledge or a lack of civism". They all consider the importance of debating positive and negative aspects of scientific and technological developments with their students.

<u>SL skills that a student should have developed when concluding primary school and according to an EDS referential</u>

Almost all teachers contended that students should "be able to make decisions in order to preserve the environment".

<u>STS guidelines for science education and classroom experiments</u>

Only one teacher revealed that his activities "involve science-society-technology interaction and intend to form responsible, critic and active citizens". All other teachers had no knowledge of the STS guidelines for science education, or they knew they existed but did not know what they were exactly.

CONCLUSIONS

The teachers who participated in this empirical study believe that science education is very important during primary school years. Notwithstanding, teaching the Portuguese language and Mathematics is considered more important.

Generally speaking, teachers assign some EDS related subjects to their students and reveal some concern with the development of SL skills. However, no intentional and systematic connections are established between those subjects, resulting in occasional and fragmented approaches. The conceptions these teachers hold of EDS and SL are practical directions.

Concerning EDS, all subjects considered the most relevant by these teachers are essentially environmental (general pollution, water and energy scarcity, and resource finitude). Social and economic components are barely mentioned, and no connections whatsoever are established between all these subjects. There is also no mention of demographic growth and its concomitant demographic pressure or current consumerism levels and respective impacts. Respecting and protecting biodiversity (although theses terms are not applied) are assigned to the students so they can learn how to accept "different" children and "take care of animals and plants", respectively.

Subjects that deal with the impact of science and technology are also assigned to students, frequently related to school and domestic environments and to the comfort they bring to our daily lives. General pollution and environmental degradation are often mentions as its setbacks. They do not mention any influence of science and technology in the increase or decrease of asymmetries and they also do not highlight their importance in identifying and predicting problems.

In short, we can conclude that teachers who participated in this empirical study perceive little value in science education, they recognize scientific and technological knowledge for its intrinsic value but they do not establish any intentional connections between that conceptual body and the development of SL skills.

Similarly, ESD constitutes an occasional and unintentional reference, and teachers do not establish any connections between ESD and scientific and technological knowledge (re)conceptualizations or the development of SL skills. Almost every subject assigned to students and considered relevant relates to that region, to the country and to the environment.

These teachers apply teaching and learning methodologies that do not follow STS guidelines for science education.

The conceptions we found among the teachers who participated in this empirical study, concerning the dimensions of the analysis that we previously defined (the importance they give to science education, ESD, SL and STS guidelines for science education) drew back the emergence of innovative classroom activities.

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140 - Challenges of the Studies 'State of the Art': Research Strategies in Post-Graduation

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Abstract: The studies of state of the art allow systematizing a determined area of knowledge, mapping and acknowledging the productions, identifying dominant and emerging themes and approaches, as well as gaps and unexplored fields opened to research, in a temporal and definite frame. This article presents the directions chosen by the authors in the production of state of the art in each of the themes to be developed in their Ph.D. theses. This research is a result of the authors' reflections – Ph.D. students of the Post-Graduation Program in Education at Universidade Federal de Santa Maria (UFSM), Rio Grande do Sul, Brazil – while producing their studies of the type state of the art. With the results we have discussed the different strategies adopted, the possibilities and challenges of this type of study, focusing on aspects such as the delimitation of a view face to the large number of works conducted and published, the establishment of targets and categories of analysis, the relativity and the incompleteness inherent to research of this type.

Keywords: state of the art, research strategies, researchers' formation.

INTRODUCTION

Works in the area of Education which deal with 'State of the Art' have been considered focus of attention for different researchers (André et al., 1999; Brzezinski & Garrido, 2001) and institutions which promote research. Such an undertaking signals efforts towards understanding how academic scientific works have been produced. It is understood that the advances in production of knowledge necessarily entail this process, as they allow the researchers to know about what is being produced along time.

According to Romanowski and Ens (2006) the interest for research which deal with 'state of the art' stems from the range of these studies in pointing ways which have been followed and aspects which are approached in detriment of others. The realization of these balances makes it possible to contribute with the organization and analysis in order to define a field, an area, besides indicating the potential contributions of the research. The investigative analysis is essential in a time of intense changes associated to the increasing advances in science and technology.

The study of state of the art consists of an important step for the development of any type of investigation. However, this process has revealed extremely complex, given the great amount of works currently produced and published, through several different sources, forms of communication and sharing of research results.

In this perspective, the production of this study raises countless questions: how to circumscribe studies which deal with a specific issue? What search strategies are possible to be used? How to validate the study developed? Is it necessary to consider the totality of productions about the investigated issue? These questions, necessary for the contextualization of the themes involved in the individual research projects, were part of the authors' reflections, Ph.D. students of the Post-Graduation Program in Education at Universidade Federal de Santa Maria (UFSM)[173], while developing their studies regarding state of the art.

We understand as state of the art a mapping which allows a broader view on the issue we intend to research, better situating ourselves on the progress in research in the field studied, revealing the most frequent concepts, as well as those in which there are not further studies. According to Messina (1998):

> A state of the art is a map which allows us to continue the journey; it is also a possibility of perceiving speeches which at first sight present themselves as discontinuous or contradictory. In a

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study of the art there is the possibility of contributing with the theory and the practice in a field of knowledge (p. 1) [174]

In agreement with the definition of this same author, we highlight that the possibility of contributing with theory and practice of a field of knowledge can occur at different levels of detail and depth of investigation, depending on the focus it has.

It is possible to develop the study of state of the art with the purpose of making a review of the scientific literature concerning a given subject in order to support the development of a research. In this course, the final objective is to obtain a general panorama of the knowledge developed in a field, area, issue, authorship and specific concepts, and identify possible gaps in respect to works which were not developed or which are recurrent and consolidated issues. It is possible to say that it characterizes the first level of elaboration of a study on state of the art.

Another way of constituting state of the art, which frequently follows the first level, is to know the detailed studies while establishing criteria of analysis of each complete work. These levels of study for the production of state of the art are characterized by being descriptive and analytical.

CONTEXT OF INVESTIGATIONS

The studies on state of the art which were realized are linked to the project *Learning teaching and formation processes: constructive movements of professorality in basic and higher education* (*Aprendizagem docente e processos formativos: movimentos construtivos da professoralidade na educação básica e superior*), developed by the study group Studies and Research in Teacher Formation and Educational Practices/Basic and Higher Education (Estudos e Pesquisas em Formação de Professores e Práticas Educativas/Ensino Básico e Superior – GPFOPE), registered at CNPq[175] since 2002, with research supported by CNPq, FAPERGS[176] and UFSM. The group leader is Professor Dr. Doris Pires Vargas Bolzan and vice-leader is Professor Dr. Silvia Maria de Aguiar Isaia.

The central focus of the cited project is the learning of teaching and the formation processes of higher education teachers, subdivided in themes which deal with: movements in the formation of higher education teachers in Foreign Language Degree (Fighera, 2010); constructive movements of university *professorality* (Powaczuk, 2008); extension activities in Institutions of Higher Education, formation processes which result from these themes (Santos, 2009); and construction of teachers' intellectual autonomy (Rossetto, 2009). These investigative themes consist of projects for individual theses advised by GPFOPE's leader.

In this perspective, this article presents the directions taken by the authors during the production of state of the art in each of the issues to be developed in their Ph.D. theses. And it also discusses, from the different directions, the adopted strategies; possibilities and challenges which circumscribe the production of this type of study, highlighting the delimitation of the perception face to the great number of works produced and published; the establishment of goals and categories of analysis; and the relativity and incompleteness inherent to researches of this type.

DIRECTIONS FOLLOWED IN THE REALIZATION OF STATE OF THE ART CONCERNING THE THEMES

Encouraged and moved by the challenge of mapping what has already been produced and the gaps still remaining in the field of knowledge which each author intended to research, we have followed different ways in the elaboration of the study of state of the art. In this process, we have elected distinct procedures for research: definition of sites and periods of patrimony considering their relevance and references for the scientific production in the field of education, selection of search descriptors, organization of criteria for the composition of components of state of the art, definition of axes of analysis and patterns of record according to the needs of the individual research. The peculiarity of this work consisted of sharing the challenges which

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[174] Authors' version.

[175] Founded in1951 and until 1971 held the name National Research Council (Conselho Nacional de Pesquisa – CNPq), after this date its designation has become National Council of Technological and Scientific Development (Conselho Nacional de Desenvolvimento Científico e Tecnológico), however, the initial abbreviation has been kept. It is an organization which promotes researches in Brazil and is linked to Science and Technology Ministry (MCT) of the Federal Government and, also, aims at contributing with the formulation of the national policies for science and technology.

[176] Fundação de Amparo à Pesquisa do Estado do Rio Grande do Sul (FAPERGS) is an organization which promotes research at state level founded in 1964, aiming at developing research in all areas of scientific and technological knowledge in Rio Grande do Sul.

each researcher found along the production of their study, as well as the divulgation of search strategies used and the verification that the four works presented lead to a procedure of analysis of materials which indicate recurrences in the analysis system.

1st Research: Study on Higher Education and Teacher Formation in Foreign Language Degrees

This study of the art has aimed at enlarging the possibility of approximation with the reality in research production in Higher Education regarding the issue teacher formation in English Language Teaching Degrees. The definition of the steps for data collection, to say, the selection of materials to be analyzed, has proved a very complex process. The reading of some works with similar objectives (Ferreira, 2002; Romanowski e ENS, 2006) corroborated with the understanding of important aspects on the realization of this type of study. These authors highlight that the analysis of the summaries alone is not sufficient as a component for a state of the art. This has become an obstacle along the development of the study because it is not always possible to find complete publications.

The work's starting point was the curriculum *Lattes* of the researchers in this area, research group coordinators, such as the ones at Universidade Federal de Minas Gerais (UFMG), Universidade Federal do Rio Grande do Sul (UFRGS) and Universidade Estadual de Londrina (UEL), Paraná. There was an attempt to answer what aspects and dimensions are highlighted and privileged in studies of teacher formation in Degrees of English Language (EL). Also, the objective was to promote discussion concerning research on the teaching construction in Higher Education institutions.

This work refers to academic production in Post-Graduation Programs in Education, expressed in Ph.D. theses and Master's dissertations, read in full. Among the analyzed dissertations and theses in this state of the art regarding teacher formation, defended in the last five years, it was conventionalized to classify those which dealt more specifically with issues related to teacher formation for teachers in the English Language Degree. The research widens as theses and dissertations elaborated in Post-Graduation Programs in Linguistics have also been considered material for data collection.

Works presented at ANPEd[177] meetings – from 2005 to 2010 in GT4-Didactics and GT8-Teacher Formation groups – and at ENDIPE[178], 2010, were incorporated to the *corpus* analysis for the development of this study. Conference proceedings in Language Degrees – such as APLISC Annual Meeting (Association of English Teachers of Santa Catarina, SC, Brazil) and the International Congress ALAB (Brazilian Applied Linguistics Association) – of the last five years, have also been regarded as relevant. In the light of these choices of sites and time, the data collection has been developed since the title and abstract of a work until its complete reading, when available.

Thus, three theses and six dissertations were selected; two works from ANPEd meetings, and four works published in ENDIPE's book one[179], being not found any work from book four[180]. Added to these works, ten events in Languages. The total amount of works classified in this issue was 25.

The issue classification was an option for mapping, in a more objective way, the analyzed production. Therefore, this does not make the analyzed works less rich in scope or in the intersection of more than one aspect approached in the research. The subthematization was chosen in order to facilitate later research, being this one of the objectives of a State of the Art. Hence, when belonging to Didactics or Teacher Formation areas, the main point was the teacher formation in Higher Education of English Language teaching Degrees. The work has not been taken into account at any point when it does not deal with the specificity of this formation. It has been verified that there is a large number of research which deal with English Language teacher formation in basic education but not in higher education, therefore, lacking professors (*formador*).

It is evidenced that there is the need for an increase in research on teacher formation which circumscribe issues concerning teaching formation in Higher Education, especially in Post-Graduation Programs in Education, considering that the works found focus on Language events and in Post-Graduation Programs in

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[5] ANPEd (National Association of Post-Graduation in Education) is a Brazilian non-profit association composed by researchers as institutional members, represented by the Post-Graduation Programs in Education – and individual members (researchers, teachers and post-graduation students) with the objective of developing and consolidating the post-graduation teaching and research in Education.

[6] ENDIPE (National Meeting of Didactics and Teaching Practice) is a scientific event in the Education area which assembles researchers and professionals (teachers and undergraduates) that work in Post-Graduation Programs in Education and deal with issues regarding the themes: teacher formation, teaching of the diverse disciplines and curriculum.

[7] Convergence and tensions in the field of teacher formation and work: Foreign Language teaching.

[8] Didactics, teacher formation and teaching work.

Applied Linguistics. It is expected that with a larger number of publications on this issue, there will be relevant contribution for significant changes to happen, improving the quality of Courses of English Language teaching formation, since there is investment in the continued formation of higher education teachers in this area.

2nd Research: Studies on teachers' professional formation and development: university professorality
Research of the type state of the art demands from the researcher a series of decisions related to the procedures to be undertaken. In this process, many challenges interpose the researcher, especially when related to the mapping of themes which encompass their object of investigation, definition of research sources, as well as ways of treating the *corpus* which constitute the state of the art. When describing the chosen directions, it is aimed at bringing to discussion not only the adopted strategies but also the difficulties and aspirations which have arisen along the way.

Sentiments of uneasiness and uncertainty were present along the development of the study. Questionings such as: *where to start*, *how to handle with the totality of knowledge produced*, *how to determine research sources and criteria of analysis* demanded not only the definition but especially the recalling of many of the procedures adopted.

The first challenge has been the **definition and delimitation of the object of investigation** to be presented on the thesis project. The explicitness regarding the central issue of the research to be undertaken, as well as the concepts which are tangent to the problematic of the study are essential for the starting point of the study state of the art. In this sense, the research – aiming at investigating the movements made by professors while in their professorality production – has raised the surrounding issues: their formation and professional development as teachers and University teaching. Consequently, these were the first descriptors defined in the study of state of the art.

The next step was the **definition of search sites.** It seemed as an important and valid strategy, recurrently used by renowned researchers in this type of study, the choice for scientific journals, important events in the area, theses and dissertations database. Therefore, the actions performed in these search sites were a constant challenge to confront the incompleteness of the collection. The number of scientific journals and works produced demanded an endless time for searching and reading. This way, it has been opted for directing the investigation to existing research groups in Brazil which are involved with studies regarding teacher formation, more specifically, the University teacher formation. This investigation was conducted in the research groups' directory available at CAPES[181] website (http://dgp.cnpq.br/diretorioc/).

In this process it has been reached the research groups which are part of South-Brazilian Network of Researchers in Higher Education (Rede Sulbrasileira de Investigadores da Educação Superior – RIES). This network has focused on configuring and promoting studies and research concerning Higher Education, more specifically University Pedagogy, congregating researchers and undergraduates, and also teachers who are interested in this issue, aggregating 54 research groups, thus being it opted for. This choice is reinforced by two aspects: firstly because of the importance of this network for the constitution of the field of University Pedagogy and secondly because of the way it has been divulgating its productions from summary works.

With the research site defined, a **first data mining** has been done with the objective of identifying the main themes of each research group. This research was favored by the existence of a work published by RIES, which has detailed information about the research groups linked to it, making viable the collection of the following data: fifteen (15) groups directed to university teaching and professionalization; seven (07) research groups directed to pedagogical practices and innovation; ten (10) research groups developing researches concerning subjectivities and subjects in the university; eight (08) groups focused on policies and practices in teacher formation; and six (06) research groups directed to national and institutional policies in higher education (Cunha & Broilo, 2008).

In this process were selected, for the **preliminary analysis**, groups focused on university teaching and professionalization (15), pedagogical practices and innovation (07), policies and practices in teacher formation (08). This analysis is supported by the identification of the leader researchers in each group and the reference to their curriculum *Lattes*, identifying the research projects developed and the theses advised in the last five years. In this step, it was necessary to make a subthematization, conventionalizing, in what refers to formation, the search in works which dealt with teacher formation in the context of professional performance, comprising concepts such as in-service formation and continued formation. The learning teaching and professional life cycles of teachers have also been considered guide concepts for the analysis. The selection of four (04) research groups with their respective investigations resulted from this process.

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[181] Coordination for the Improvement of Higher Education Personnel

This stage demanded search in websites, theses databases, journals and contact with some of the leader researchers in order to request information about their research.

Once the *corpus* of state of the art was defined and collected, the **intensification on the process of analysis** has started since the reading of complete works, resulting in the elaboration of a **summary report of each work**. This record comprised different items: the author and the research group, the work title, the research problem, the goals, the procedures of investigation, the authors used, and the research results. This information has been recorded in spreadsheets, such as the following one:

Table 1: Individual Record Sheet

Author – research group	Title/ keywords	Research Problem	Goals	Main concepts used	Approach and investigation procedures	Authors used	Main findings

With the end of these procedures it was initiated the **mainstreaming research findings**, from the elaboration of new record spreadsheets, which gathered from three to four works. This record has ranked first the identification of approach points and agreement among works, concepts, and poorly approached works which suggested a need for development, weaknesses and strong points perceived.

Table 2: Collective Record Sheet

Author – research group	Title/ keywords	Research problem	Goals	Main concepts used	Approach and investigation procedures	Authors used	Main findings
Work A							
Work B							
Work C							
Approach points		Poorly explored concepts and development suggestion			Strong points		Weaknesses

This record model was very important for the **elaboration of the final report**, as it has made possible to find and remodel aspects of the developing thesis project – identifying aspects approached and consolidated in previous research – and to prospect study possibilities for the knowledge field presented. This process has also been essential for the argumentation and defense of the thesis project presented.

3rd Research: Extension Activities in Higher Education Institutions and Continued Formation of Teachers

The research which has inspired this study of state of the art aims at understanding how the dynamics of extension acts in teacher formation processes in basic education is established considering the network relation between university and school. During the elaborative process of the thesis project, the challenge of mapping the academic production relative to studies which involve the acts of university extension[182] in the field of continued formation of basic education teachers has presented as a need, especially when the Ph.D. process started, still in the period of project selection for the Ph.D. program.

Thus, from the study problem, a survey regarding the research approaching this issue has been developed. The purpose was to find and highlight the studies conducted in this area and also ascertain whether the intended research consisted of a theme demanding new research or was an exhausted theme.

In the course of this process, many questions have raised as for example: what strategies should be used in order to develop tracking of already produced research regarding this problem? Given the quantitative amount of academic production in post-graduation programs is it possible to delimit the main research involving the theme studied? Moved by such questions, the research mining referring to the investigated

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[182] According to the National Policy on Extension, agreed by the Public Institutions of Higher Education in Brazil, based on the National Extension Plan originated in National Forum of Extension Pro-rectors (FORPROEX), document which defines the guidelines for university extension in the country, the **University Extension** involves one of the functions in the Brazilian university characterized as a scientific, cultural and educational process that articulates Teaching and Research in an inseparable way and makes viable a closer relation between the university and other social segments. The same document emphasizes that extension actions must be linked to the process of personnel formation and knowledge development.

theme has started. Initially, the work has directed to identifying institutions and organizations with national reputation in the field of Education responsible for the divulgation of researches in this area. This dynamics has been realized through the reading of theses and dissertations summaries and journals. And it was perceived that often the summaries could not manage to provide information referring to the whole research, in other words, the core theme of the study was made explicit but the idea of what the research really was approaching was not clarified. This fact has demanded the complete reading of theses and dissertations. However, this was a complex action because of the great amount of research in the area, and it has given rise to uneasiness due to the delimitation of time available to complete the research.

Given the circumstance, the first step was to restrain the reference sources for data collection. This way, it was opted for searching data in the virtual patrimony of National Association of Post-Graduation in Education – ANPEd, which corresponded to the period of the Annual Meetings (Reuniões Anuais – RA) from 2006 to 2010, respectively from 29th to 33rd RA. The adopted procedures were the following:

The 33rd meeting, in 2010, was chosen as a reference in the definition of Work Groups (Grupos de Trabalho – GT) which had proximity with the theme. In this meeting, the twenty-four work groups[183] were visualized so the theme could be approached by any of the groups, given the scope of the theme. The following procedure was adopted: when the keywords of the abstract indicated any possibility of emphasis on the issue, it was read, and if it also partly regarded the issue interests, then there was a complete reading of the work. The Work Groups which presented proximity with the theme were: State and National Politics (GT05), Teacher Formation (GT08), Higher Education Policy (GT11).

The following step was to map, through the spreadsheet records, all works of oral communications from these three research groups, from the annual meetings of the last five years, adopting the same procedure previously mentioned. This record included the identification of the following items: the Work Group to which the work was linked, the title, the keywords, and the problematization in the abstract. Thus, from the 370 works of oral communications presented in these three groups in the last five ANPEd's annual meetings, six works were related to the theme researched, being analyzed the conceptual elements articulated in the texts.

The exploratory study developed has made possible to outline a panorama of the research produced regarding the theme, a process which signaled the need for searching in other reference spaces which deal with University Extension. This is the challenge which has arisen from the strategies employed.

4th Research: Study of the Art concerning "Teacher Intellectual Autonomy"
This state of the art has aimed at surveying works and posters presented at ANPEd's annual meetings between 2006 and 2010, regarding the theme "teacher intellectual autonomy"[184]. ANPEd has been chosen because it is one of the most important and representative events in the research field of Education in Brazil, being a reference in monitoring scientific production in this area.

Regarding the adopted strategies, a research on ANPEd's website has been developed, in each link of the meetings in the last five years: 29th, 30th, 31st, 32nd and 33rd meetings, separately. The following step was to access GT08, make a record of all oral communications and posters presented each year in a digital document, concomitant with the summary accessed via the Internet. In the digital document, all works (oral communications and posters) were recorded. Subsequently, the works which dealt with the theme "teacher intellectual autonomy" were selected. Together with the abstracts, visualized on the website, the criteria of analysis was to verify whether there was the subject in question in the following parts: title, keywords, and text content; respectively. When the theme was not visible in the title, the keywords were immediately analyzed, where it was possible to identify the presence or absence of what was being searched for. The

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[183] **GT02 – History of Education; GT03 – Social Movements and Education; GT04 – Didactics;** GT05 – State and Educational Politics**,** GT06 – Popular Education**,** GT07 – Children Education (0 to 6 years old)**,** GT08 – Teacher Formation**,** GT09 – Work and Education**,** GT10 - Literacy, reading and writing**,** GT11 – Higher Education Policy**,** GT12 - Curriculum**,** GT13 – Elementary Education**,** GT14 - Sociology of Education**,** GT15 – Special Education**,** GT16 – Education and Communication**,** GT17 - Phylosophy of Education**,** GT18 – Education of Young People and Adults**,** GT19 – Mathematics Education**,** GT20 - Psychology of Education**,** GT21 – Education and Ethnical-racial Relations**,** GT22 – Environmental **Education,** GT23 - Gender, Sexuality and Education**,** GT24 - Education e Art**.**

[184] We understand as **teacher intellectual autonomy** the constant *teacher's learning to learn*; it is the continuous search for knowledge and the (re)construction of knowledge, increasing its possibilities of practical and theoretical actions in a reasoned way, thus contributing to the teachers self-assurance in making decisions face to challenges of the teacher professional routine (GROLLI, 2000; CONTRERAS, 2000).

reading of the abstract content corroborated with the content of the keywords, signaling, though briefly, the conceptual perspective of the referentials selected or adopted by the authors of the analyzed work.

Sometimes, the selected theme was found only in the textual content of the abstract and not in the keywords or the title. It was understood that, when considering the keywords, it is possible to identify the main themes which are approached in the complete works, facilitating the search for issues of interest. However, many works have not presented keywords and, in others the keywords were not sufficiently clear in order to anticipate to the reader the theme of the research. The result of this research of 'state of the art', regarding the theme 'teacher intellectual autonomy", can be visualized in the following table:

Table 3: State of the Art of the Issue "Teacher Intellectual Autonomy"

WORKS OF ANPED NACIONAL - GT 08 "TEACHER FORMATION" ISSUE "TEACHER INTELLECTUAL AUTONOMY"							
ANNUAL MEETINGS		ORAL COMMUNICATION			POSTER		
	No. of works at the meeting	No. of works	No. of works regarding the issue	No. of works which approach the issue	No. of works	No. of works regarding the issue	No. of works which approach the issue
33ª	24	21	0	0	3	0	0
32ª	79	21	0	0	58	0	0
31ª	26	18	0	1	8	0	0
30ª	39	31	0	0	8	0	0
29ª	42	28	0	0	14	0	0
TOTAL	210	119	0	1	91	0	0

This table is presented as a suggestion to show the results of the search procedure and also obtain a broader view of the findings, allowing sketching a panorama, in an attempt to draw a possible representation and understand the present situation in the area concerning "teacher intellectual autonomy".

This way, it is possible to say that from the 210 works presented at GT08, in the last five ANPEd's annual meetings, 119 were oral communications and 91 were posters. From these 119 oral communications, no work approached the theme "teacher intellectual autonomy" and only one approximated with the theme when approaching "teacher autonomy". From the 91 posters analyzed, no work approached the theme and there also were not approximations. Considering these findings, it is possible to draw the conclusion that there still is a significant silence regarding the analyzed theme, which suggests the need for research in the area of teacher formation about the issue "teacher intellectual autonomy".

CONCLUSION

The purpose of this work was to discuss, from different perspectives, the adopted strategies, the possibilities and the challenges which circumscribe the production of state of the art. The research's individual trajectories, here presented, signal choices and systematizations representative of the time of elaboration of each author's thesis project. This search format allows us to point out that the more strategies are used, possibly the more they are going be recurrent. We emphasize that the elaboration process of state of the art remains under construction, considering its inherence to the theses' production.

The intention of sharing the paths followed in order to establish the state of the art has arisen, mostly, from the difficulties found in the process of search systematization, as well as the acknowledgment of the need for stimulation of discussions regarding possible ways for the development of works of this nature. Due to reflections generated during this process, it is possible to infer and to indicate some aspects considered important to be highlighted in state of the art:

- Delimitation of the object of investigation related to the intended research, in other words, the core theme of the thesis and concepts resulting from it.
- The need for the development of an exploratory study with the intention of acknowledging the scope of the territory to be investigated. It makes possible the identification of reference sources, patrimony and search sites.
- The challenge of considering the totality of works produced in the field of Education has become a complex action of search and analysis, given the relativity and incompleteness inherent to research of this type. This has demanded from the researchers the necessity of opting for deeper readings, in detriment of handling a great amount of publications.

- The demand of a more accurate delimitation is substantial for the development of state of the art. Therefore, it is pointed out the importance of the adoption of criteria which will delimit the boundaries of search sites. These criteria need to consider the reference and relevance for the investigated field.
- The selection of works of state of the art can be made through descriptors related to the themes which circumscribe it – the identification of the title, keywords and abstracts. Taking into consideration the fact that, many times, abstracts present weaknesses, leading to mistakes in understanding the issue investigated, it is essential to read the complete work.
- The *corpus* analysis demands a process of immersion in the works collected with the intention of subthematizing to deepen the studies and to draw conclusions.

In a conclusive dimension, the realization of state of the art consists of a fundamental process for the development of a thesis, giving support to the argumentation and the legitimacy of the research to be developed. We have emphasized its potentiality to increase the knowledge concerning the theme of a thesis, stimulating openings to new reflections concerning the object of research. Lastly, it is hoped that the theoretical and methodological questions approached in this text motivate discussions related to production of state of the art.

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143 - Teachers' Knowledges and Practices: Contributions to a Reflection on Autonomy and Success in Higher Education

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Abstract: This paper focuses on training experiences, in undergraduate and postgraduate degrees, aiming at highlighting the teaching and learning process in higher education (HE) as a privileged space for (re)affirmation of academic autonomy and construction of the professional autonomy. The object of research consists of formative experiences developed in University of Porto, University of Aveiro and Federal University of Pernambuco, and is three-fold: (1) factors affecting (un)success of university students through a reflection on the limits and possibilities of HE students, (2) teaching relationship within the scope of undergraduate students' supervision, covering issues related to possibilities of this training initiating dialogues with the autonomous know-how, (3) construction of the teacher professionalism in the initial teachers' training, placing the challenge of shared management of the organization of the teachers' pedagogical work. Thus, this work constitutes a dialogue between different interwoven experiences, aiming at understanding teachers' knowledges and practices, as well as students' experiences, reaffirming the privileged nature of HE.

Keywords: Academic success, autonomous educational relationship, higher education teaching.

INTRODUCTION

Over the past few years, an increasing complexity has taken place in the relationship between students and the Higher Education Institutions (HEIs) that they attend. On the one side of this relationship are the students who, as older and more mature students, in comparison to their peers in the formal educational system, have needs, requirements, expectations, that is, specific characteristics that distinguish them from the other students. On the side of the HEIs, there is an environment of increasing competition, resulting from massification and marketization of higher education (HE) and demographic stagnation, and consequent over-sizing of the educational offer. In this new competitive environment, HEIs are facing many challenges, and one of the most important is the need to know how to deal, keep satisfied and graduate students who now have a quite different socio-demographic profile from the one they had just a few years ago, and a much more diverse population with a high level of demand has emerged in recent years (Navarro, Iglesias & Torres, 2005). The average graduation rate, among the 24 OECD countries, was, in 2008, 38%, with the rate being 45% in Portugal (OECD, 2010). Thus, it is critical that HEIs develop and implement measures and strategies to increase retention rates of students, that is, they face the challenge not only of meeting the objective of recruiting the largest possible number of students, but also of being able to keep them in the institution and graduate them, and a knowledge and a clear understanding of the factors that influence student performance is crucial for defining the orientation of these strategies (Murtaugh, Burns & Schuster, 1999).

Within this theoretical framework, we present, in exploratory terms, the practice and knowledge of teachers and the relationship in the processes of supervision and mentoring of undergraduate and post graduate students in Portugal and Brazil. We, therefore, define an experience of autonomous and educational relationship in Portugal, and focus on the recognition of the importance of shared management of the organization of the teaching pedagogical work in HE, examined from an experience in Brazil. In an empirical illustration, the aim is to unveil factors that enable us reflecting on students' autonomy and success and, ultimately, to bring an understanding that is informed by the everyday and that may be extended to a greater understanding of the requirement of teachers' knowledge in HE.

STUDENT SUCCESS IN HE: DEFINING STUDENT SUCCESS

The literature on the topic of student success in HE reveals a considerable number of definitions of the concept. Kuh *et al.* (2006) state that the most commonly incorporated elements in the definition of this concept are quantifiable indicators, such as enrolment rates in HE, grades, persistence in the transition from first to sophomore year, number of years that students take to complete their degree, and finally obtaining the degree, the latter indicator being the "most definitive measure" to assess students' success of (*ibid.*: 5). Thus, students' success may be defined through the use of traditional measures of academic achievement, such as ratings in HE access exams and grades achieved throughout the academic path, which represent students' progress towards attaining the academic degree. However, measuring the degree of students' success only on the basis of quantifiable indicators can be reductionist and exclude important aspects of the student's life that are not subject to quantification, by failing to provide relevant information in terms of students' intellectual and personal development, seen as results of their academic experience (Cheng, 2001). In this line of thought, and still according to Kuh *et al.* (2006), there is an extensive array of other indicators, which have a qualitative and more subjective nature, that may prove that a student had, or had not, success in HE, which consist primarily on desired outcomes that have benefits to both the student and society. Academic success is, thus, a broad concept that, at first sight, involves the commitment of the student to obtain grades that enable him/her to carry on to the following academic year, but more than that, it implies a sense of fulfilment and achievement of important personal and/or collective goals, that is, it involves the student as a whole and goes beyond the cognitive or academic success *per se* (Hunter, 2006).

In short, if this polysemic concept is, for some, seen as the most important of all measures of institutional effectiveness, which reflects the quantity and quality of educational experiences attained by students during their pathway in HE, for others this concept, given its ambiguity, simply cannot be measured (Alfred *et al.*, 2007). Therefore, academic success can be defined as a composite and complex process that involves the interaction of a myriad factors related, on the one hand, to the institution and, secondly, to the student's personal features (Mills et al., 2009).

FACTORS AFFECTING PERFORMANCE AND SUCCESS OF HE STUDENTS

A wide range of theories and conceptual models attempting to explain HE students' behaviour of persistence or dropout may be found in literature. These theories consider HE students' success as the persistence and achievement in educational terms, that is, a student is successful when he/she attains the desired degree or diploma that proves that he/she successfully completed his/her studies (Kuh *et al.*, 2006). The conceptualizations that have been made about factors influencing students' performance and success may be grouped as follows:

Sociological perspectives

According to the theories framed by the sociological perspective, when the student joins the HEI, he/she brings along individual characteristics that will interact with the characteristics of the institution he/she joins, and this relationship will influence and determine both his/her performance and results in academic terms and his/her decision of either remaining in the institution or dropping out of it. When a student joins the HEI, he/she carries a set of individual characteristics, such as family background, individual attributes and previous educational experiences. This set of characteristics influences not only the student's academic performance, but also his/her commitment to his/her objectives and to the institution itself. These attributes, when interacting with the structural characteristics and standards of the institution, will lead to different levels of interaction and integration of individuals in the institutional environment (Tinto, 1975; Terenzini & Pascarella, 1980), and the low level or absence of this interaction will hinder the establishment of formal patterns of social interaction (Spady, 1971), increasing the likelihood of student's failure and subsequent dropout from the of the HEI.

Organizational or institutional perspectives

The organizational perspectives highlight institutional structures and processes of the HEI that may affect students' success. The theoretical models that are framed by these perspectives (Bean, 1980; Berger & Braxton, 1998; Terenzini & Reason, 2010; Swail, Redd & Perna, 2003, among others) argue that it is necessary to consider the background characteristics of the student and his/her interactions with the environment of the HEI. Once within the institution, the student interacts with it, perceiving the objective measures, such as ratings, and the subjective measures, such as the practical value of academic training and the quality of the institution. These variables will influence the degree of student's satisfaction with the institution. The higher the level of satisfaction, the higher the level of institutional commitment, this being a

key factor in the likelihood that the student will remain or leave the institution (Bean, 1980). Thus, the ways students perceive and experience the organizational attributes of HEIs they attend are a potential source of influence on their integration into the academic universe, and students' integration in the HEI is potentially influenced by how they experience the organizational attributes (Berger & Braxton, 1998).

Psychological perspectives

These perspectives advocate that the student's personality traits help or hinder his/her perseverance when facing HE challenges. Thus, students with a better developed self-concept are more self-confident about their chances of success, while students with low self-confidence have increased odds of giving up when faced with setbacks and difficulties in their academic career. Moreover, these perspectives also argue that students who have an internal locus of control believe they can successfully overcome the obstacles, while students with an external locus of control believe that their fate is sealed, and hence, they will not succeed regardless how hard they strive, and they ultimately, in most cases, give up. It is especially in their freshmen year that young people assess and compare their previous experiences and expectations regarding the HEI's academic and social community. If these expectations are not met, there is an "early disenchantment" (Braxton, Vesper & Hossler, 1995: 596) with these communities, which can lead to more limited interactions and a difficult integration into them. In addition to this lack or difficulty of the academic and social integration, it is unlikely that these students make commitments later on, both with the institution and with the goal of completing their studies. Thus, the more committed students are, either with the institution, or with the goal of completing their studies, the greater the degree of importance they attach to the pursuit of their expectations for HE. The involvement of students has also, according to Astin (1975; 1984; 1999), a leading role in their loyalty towards the institution attended. These types of involvement include academic involvement, involvement with teachers and involvement with peers, among others, fostering increased learning and decreasing the likelihood of dropping out. Additionally, the coping behaviours are used by Eaton and Bean (1995) to try to explain the factors influencing the student's decision to remain or to leave the institution. Coping behaviours are mechanisms, described as behavioural choices, that the individual uses to cope with stress and to adapt to a new environment. Concerning specifically HE students, the coping behaviour is the way the student adjusts to the difficulties, at the academic and social levels, that he/she faces when he/she joins HE. Adapting to this new environment, which results in the student's social and academic integration, will determine his/her intention to remain or leave the institution. In short, by seeking integration into the new institutional environment, students go through various psychological processes; successful students achieve a positive self-efficacy, have less stress, increase their effectiveness and have an internal locus of control. Each of these processes enhances the student's motivation, causes for his/her academic and social integration and increases the odds that he/she remains in the institution and attains success.

Cultural perspectives

From the cultural standpoint, the interactions between the various individuals composing a group influence the institutional environment in which this group is integrated. Particularly with regard to the HE arena, the interactions that occur between the various institutional actors change, on the one hand, students and, secondly, the institutional environment. According to this, the issue of dropout is, first of all, a socio-cultural phenomenon, that is, when individuals decide to leave the institution, that decision is also shaped by cultural forces. These perspectives are based on a set of propositions about the early school leavers, namely the fact that the student's culture of origin is a mediator of the importance attributed to the fact of having an academic degree, the importance of knowing the student's home culture in order to realize the student's ability to integrate the institution's culture and, finally, the fact that the probability of persistence is greater the shorter the distance between the student's home culture and the HEIs' culture (Kuh & Love, 2000).

Economic perspectives

According to these perspectives, students weight the benefits and costs of attending HE and of participating in numerous activities that it offers them. Thus, if the student calculates that the cost of an activity (e.g. studying abroad for a certain period of time) is greater than the return on the investment, there will be increased odds that he/she does not seize this opportunity. Ultimately, this balance in terms of the overall student experience in HE may lead, depending on the result, to the dropout from the system. Costs, within this context, stand for economic spending with fees and expenses with food and lodging, among others; benefits mean the representations that students have on future earnings and other non-tangible dividends, as the increase in intellectual capital and a higher quality of life. The financial support takes a leading role here; in fact, studies show (Cabrera, Nora & Castaneda, 1992) that students' satisfaction with financial support to

their academic path may reduce their concerns about the economic aspects, enabling them, thus, to spend more efforts and energy in their personal academic and intellectual tasks. Hence, financial support is important not only because it equalizes opportunities between students of high and low incomes, but also because it facilitates the integration of students in the academic and social spheres of the institution and their commitment to remain in the HEI.

AUTONOMOUS AND EDUCATIONAL RELATIONSHIP IN HE

This text intends to accomplish a sustained narrative about the teaching relationship in HE within the scope of the under-graduations and supervision of graduation students[185]. Our issue concerns the analysis of prospects related to the possibilities that this training triggers dialogues of autonomous know-how on students. It is about understanding the possibilities that arise in the face of a training that is focused on relational perspectives and of communication with students, in what ways may the teaching knowledges influence, or not, students' autonomy and decisions, both concerning other key relationships with knowledge, and as relationship to be established between teacher and student.

We believe in a supervision and in a principle of work with students based on autonomy and participative or collaborative leadership that puts the emphasis on the group, the team and its enthusiasm (each and all are and can be leaders), shaping, this way, a team of thought that allow us to be leaders of our pathways and their interaction. We commonly use an ethic of strong and emotional relational principle that results in an *Autonomous and Educational Relationship* which expressed and expresses at all levels of contents building, work and research. It is fulfilled in strengthening the autonomy needed by strong relations. It is these strong ties that bound us, which have established and are established, that link and intertwine into an ethical dynamic of knowledges and affections between teacher and students. In fact, we have emphasized this learning because today's orientation is indebted to the experience as a supervisor, where we could enjoy both scientific rigor and care that allowed following with confidence and in autonomy. There is a feeling of gratitude and courage in the testimony that surely reflects a communicative and relational involvement.

In the present paper, we will stress an orientation that sometimes accompanies and sometimes troubles students and to whom it permanently adds more doubts. This supervision and mentoring are based on the development of a relationship of mutual openness and trust, yet true to critical goals in an exercise of autonomy, analysis and clear curiosity. And in this sense, thus, we basically move towards this relationship supervisor/supervised, of a shared, debated and choicely vision on these issues, so we walk together in the spirit of "*at the meeting*, she distributed wisdom and guided anxieties, doubts and made me see light. She revealed, in her role, the true ability to be more teacher." (MLF6[186]).

The work of supervision and analysis becomes a labour of will, of want, and of reinforcement of (other) knowledges. From this point of view, it is a demanding task that calls for a new relationship with knowledge that presupposes desire of understanding knowledge, "This relationship of openness and enlargement fascinated me, because teaching and learning requires interaction, as one only learns and teaches if one enjoys interacting" (LC4).

An "Educational Relationship", as they say (GAI5), begins, a relationship that is defined as a magic and affectionate one, yet demanding in its form of relational co-accountability experienced (felt), in a communicative and emancipatory involvement.

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[185] For this, we use the experience of 12 years teaching and working in a curricular unit entitled Human Communication and Relationship, where we were given the opportunity to work and develop the contents with approximately 300 undergraduate students in Educational Sciences and more recently with Master students – in Education, Health, Science, Astronomy, Nursing Service and Teachers Continuing Training – totaling approximately 400 students. In this universe, we also account for Master (14) and PhD (5) supervisions, as well as the completion of monitoring and training of seven Masters in Educational Sciences and the participation in more than 20 panels of Masters exams, both in the University of Porto and in the University of Minho. With this diversity of experiences of supervision and mentoring to groups of students, we wish to illustrate the teaching relationship and, more specifically, the specificity of the narrative and relational experience, considering also students' feedback and interaction.

[186] Use of some encoded excerpts and testimonies from graduate and undergraduate students, obtained through the evaluations of the courses, the presentation of exams and teachers' satisfaction and evaluation surveys. Note that they show satisfaction because that is the general reality; however, in this picture presented in the graduate courses, there were three supervision dropouts and one case of dissatisfaction with the supervision but that, nevertheless, attained the diploma within the deadline.

There is, hence, the assumption of certain urgency in the visibility of affection in a contemporary problematic and adverse social context, and in the organizational constraint of HE, bringing the relationship in an warm dimension, the place of achievements being the meeting of the student with him/herself, with others and with the world, and not the clash with the teacher. The success in HE also, as the place of the choicely relationship stated in: "I appreciate the affection. I thank all those who, in relationship, have been with me in this moment of graduation" (GAI5).

We admit, following Goffman (1993) and Kaufmann (2005), that this may be a "cotton-candy" look (*ibid*., 2005:10), perhaps a sweet utopia of human Relations (humanized) at the HEI.

But note that other authors have recognized the lack of alternatives to contemporary societies based on capitalist and bureaucratic models. For instance, Fromm (1999) suggests that new models of social reconstruction should be examined, in order for the imagination to visualize other alternatives. On the basis of this assumption, the author examines the "two basic modes of being in the world: the *mode to have* and the *mode to be*" (1999: 37-38). And through this perspective, the author revisits some "common places" and gives us an exciting new vision, showing us new ways for humanity. We highlight what he says on the sense of *learning* in each mode: "Students who are included in the existence mode *to have*, hear a lesson, listening to the words and understanding their logical structure and meaning, and, as best as they can, note down each sentence in the notebooks, to later be able to memorize the notes they took and succeed in the exam. But the content did not become part of their individual system of thought, enriching it and expanding it" (1999: 37). Conversely, there are those"[...] students that relate to the world through *being*. In the first place, they do not attend any classes, even the first class of the course, making *tabulae rasae* [...] they are concerned with the issue because it is something that interests them [...] they receive and respond in an active and creating mode. In their mind, new questions, new ideas, new perspectives arise. Their way of listening is a living process. [...] Each student was affected and was modified: each one becomes different after the lesson" (*ibid*.: 38).

The relationship in an affectionate dimension

This affective dimension in HE manifests itself in the proximity and involvement, attained in the tutorial works and as a structuring dimension of an educational relationship based on students' autonomy and fostering. This is referred in their words: "Because she dropped the anchor always on time, renewing confidence and boosting options' making. Above all, because she led me to autonomously make my way, although remaining there whenever needed [...]" (MAS7).

Regarding the *Learning* concept, we encourage students to experience active and creative processes, witnessing a non aseptic experience, but rather one shared pleasure. It is about the development of a living and creative process that does not surrender, as a graduate student says, "the challenges presented, the concern, the dedication and the defiance of the teacher" (MAS7).

The work of teaching, research and analysis thereby developed, and reinforcing the idea, consists in a difficult approach and, therefore, we would like to make some other considerations; on the one hand, the general issue of theses' supervision and, on the other hand, the training experiences in HE.

Freire tells us (1997: 207-209) that the incentive to supervised students is in *daring to think* independently, that is, with autonomy, being close to them in their choices, sometimes quieting them and sometimes disquieting them; stating that "a dissertation may be worth more by what it demonstrates of curiosity, risk, spirit adventure on the part of its author, than another 'well behaved' one that reveals fear of risk and daring", and experience has, indeed, shown us these aspects. The dissertations have been worth more for their audacity, for letting talk the feeling, the affection, the emotion which carries the passion that stimulates us to progress, even though sometimes it requires the unthinkable, the assumption of a courage which is disused in our times. But is it worth for the students' words and gestures that tell us about "the warm colours and the touch of the finger" (LC2), and they "Thank for the knowledges, the availability, the support and the encouragement" (MDO3).

We, therefore, work with and for students, in a supervision based on developing a relationship of autonomy experienced on the openness, mutual trust and affection, yet faithful to critical and thorough objectives, built on a constant exercise of knowledges that are required to be ethical and understanding.

AN EXPERIENCE OF SHARED MANAGEMENT IN THE ORGANIZATION OF THE TEACHING PEDAGOGICAL WORK IN HE

The recognition of the didactic mediation as a function that sets the tone for teachers' work has made it possible to understand teaching as a relationships profession, requiring, according to Pimenta (2005), a training that enables building teaching know-how from the needs and challenges that teaching as social practice places on the daily life.

Such understanding meets the concept of teacher advocated by Roldão (2005: 117), regarding the understanding of the teaching professional as the "responsible for the mediation between knowledge and the student, because he/she – not others – is supposed to know how to do it, through intentionalized and tutored supervision of teaching actions leading to the real possibility." That is, according to Tardif & Lessard (2005: 35), it is "a work which object is not composed of inert matter or symbols, but of human relationships with people capable of initiative and endowed with a certain capacity to resist or to participate in teachers' action".

That understanding, although endorsed as essential in the training process and in the effective teaching practice, through research, is still little recognized by students in training – especially by the departmental nature of the organization of Diverse Undergraduate Courses[187], namely the separation specific subjects / pedagogical-didactic subjects. Such situation has been observed over years of practice in teacher training courses, through statements and behaviour of students on the complexity of the teaching profession. This fact has also been observed in research studies carried out on HE teaching, according to Leite and Ramos (2010), regarding the recognition of the relevance and need for didactic-pedagogic training for teacher performance in HE.

In this context, teachers' initial training has been the object of attention with regard to a review of principles that demands a new curricular structure. And the Diverse Undergraduate Courses in Brazil are undergoing a restructuring process, according to guidelines from the National Council of Education explained in Resolution 12/2008 (CCEPE/UFPE, 2008), aiming at training a teaching professional who is identified with the teaching role, considering the principle of inseparability between theory and practice, of the training-professional field approach and of the questioning of the teaching knowledge, requiring a substantial change in the offer of the Curricular Components of General Pedagogical Training and of the Components of Pedagogical and Teaching Practices – placing the initial training as an integral part of the professional teaching development.

Considering that the subject of Didactics is a curricular component of the block of the Teaching and Pedagogical Practices, which mediating nature enables a dialogue between the specific contents and the General Pedagogical Training, the experience herewith socialized is a proposal implemented to help in the construction of professional teaching with students of the Diverse Undergraduate Courses in the process of initial training, in order to situate the challenge of shared management of the organization of the teachers' pedagogical work, especially when it comes to choosing the training of investigation and intervention, through taking responsibility and co-responsibility in the process of collective (re)construction in conducting the activities of a curricular component.

This proposal has been developed since the second semester of 2008 in the context of the subject of Didactics at the Federal University of Pernambuco (UFPE), and, regarding the experience under analysis, in classes that bring together undergraduate students of: Performing Arts, Visual Arts, Biology, Dance, Nursing, Graphic Expression, Philosophy, Geography, Physics, History, Literature, Mathematics, Music and Chemistry.

This subject is offered in a Teaching Unit which is distinct from the Course of origin, physically and administratively, which requires facing the challenge of overcoming the dichotomy of specific content subjects/didactic pedagogical subjects, in the context of overcoming the Comenius view of the *treaty of the universal art of teaching everything to everybody* and the effort to enable the development of the understanding of teacher education within the perspective of *Didactics as Construction*, particularly in the sense ascribed by Cunha (2006) of rejecting static defining landmarks of didactic doings but acknowledge epistemologically grounded referents.

This fact has required an investment in creating new learning, in order to create opportunities for an understanding of the complexity of the construction of the teaching identity/professionalism - among others, needing to overcome (pre)concepts related to the figure of the teaching professional, in order both to recognize the teacher as a person/professional and, according to Gauthier *et al.* (1998), to understand the teaching profession as a *craft made of knowledge*s.

In this perspective, considering the complexity of the construction of the teaching identity/professionalism (Ramos, 2010), actions have been undertaken that have enabled the student in training to overcome (pre)concepts related to the classical view of the teaching profession, in order to enable a more systematic reflection, through the creation of new learning, in the context of overcoming the classical view about the teaching profession.

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[187] Diverse Undergraduate Courses refer to the teachers training courses in the diverse areas of knowledge.

For this, the methodological proposal of the subject of Didactics is directed towards the permanent dialogue with the subjects about their know-how, through systematic and interdisciplinary reflection between knowledges and the proposed literature, and contributions have been identified:

- in the process of construction of the teaching identity/professionalism of the students involved, in the overcoming of (pre)concepts of the classical view of the teaching profession;
- in the systematisation of alternative elements for creating new learning in the process of the construction of the teaching identity/professionalism in the Diverse Undergraduate Courses;
- in the identification of elements to support the evaluation processes of undergraduate courses under restructuring.

Particularly with regard to the developed work of the collective organization of the subject, taking as its starting point the design of the didactic contract through the presentation and submission to group assessment of a proposal to conduct the subject, having as a basic resource the continuous evaluation of the established contract.

This proposal takes into account the understanding of the teaching professionalism as a relational movement process-product (Ramalho, Nuñez & Gauthier, 2004) and the importance of experiential knowledge in teachers' training.

FINAL THOUGHTS

In this paper, we intended to demonstrate that none of the models and theoretical conceptualizations present in the literature is, in itself, capable of accounting for all factors affecting the performance of HE students. However, these perspectives, analyzed together, provide a holistic view of the myriad factors that contribute for the academic experience of HE students to result in success or failure of their path, and that HEIs, on the one hand, should consider them in preparing their strategic plans, and that faculty, on the other hand, should consider them in the teaching/learning relationship established with students.

In this sense, then, we basically move towards this educational relationship, teacher/student or supervisor/supervised, from a vision that is both formative and shared, demanding throughout the way but with a heuristic theoretical framework and imaginary foundations, yet with basic concepts in the educational, pedagogical relationship, as Freire puts it, of "teacher and learner" – "those who teach learn while teaching and those who learn teach while learning" (Freire, 1997: 25), since this has been the most significant dimension of our relationship, as we found a dialogical praxis that, hand in hand, builds our uniqueness and the bonds between students and teachers.

Yes, bonds are established when we live the daily practice of a participated experience in HE, with students from various courses, but essentially around issues of Educational Sciences, Communication, Psychology and Sociology. The urge to think and to reflect the authentic teacher, who is able to live in a policy of autonomous life, to love, to engage and to act with students, has become essential in any educational arena. The authenticity of the essential teacher is less mediatic, is less visible, is more intimate, is felt in a real educational relationship – it is the essentially relational teacher. The identity of this teacher is indispensable in that it binds us and it moves with us towards the understanding of knowledges. In the words of students: "These classes have made us reflect, look inside ourselves and ask if we go to fight; and if we can and will try to build something, what more can you ask from the personal point of view?" (LM1).

The Brazilian experiences presented also corroborate these views, clearly seeking to enable the student in training to bring to the classroom the experiential knowledge – both from the perspective of contributing to a knowledge-learning dialogue and of transforming the experience into a *knowledge of the pedagogical action* (Gauthier *et al.*, 1998).

Experience has proved to be an opportunity to accompany a training process, besides the students in the class, of four graduate students in Pedagogy[188], who act as monitors of the subject, and of two Masters students of the Graduate Program in Education of the UFPE[189], aiming at establishing a real-time dialogue between support to teaching, knowledge building and possibility of training intervention.

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[188] The Undergraduate Course in Pedagogy, although having teaching on the basis of its training, is equated to the Course in Educational Sciences.

[189] The two Graduate students are Scholars in the Program *Reuni* of Teaching Assistance, included in the Project for Restructuring and Expansion of the Federal Universities (REUNI), from the Edictal Reuni-UFPE No. 03/2010.

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217 - Effectiveness of Cognitive Conflict Strategy In A Humanity Class

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Cognitive conflict is central in cognitive development (Piaget, 1952). It is often induced by discrepant events—presenting information and/or experiences that clearly contradict students' existing conceptions and arouses in them an awareness of a momentary disequilibrium in the system of schemas (Limón, 2001).

According to Kwon(1989),cognitive conflicts arise from three types of disequilibrium : a) cognitive disequilibrium between one's cognitive structure and environment, such as discrepancy between a child's expectations and an empirical outcome that contradicts those expectations; b) metacognitive disequilibrium between cognitive schemata, as when two or more incompatible responses are aroused simultaneously; c) social-cognitive disequilibrium between a scientific conception recently learned or the conceptions of others and individual's past experience and /or the old conceptions, as encountered in group or class discussions.

Cognitive conflicts encountered in social interaction are called socio-cognitive conflicts. Though socio-cognitive conflict does not lead to greater advancement than cognitive conflict, social interactions would trigger cognitive progress by providing an obvious forum for the possibility of exchange of perspectives and helping to introduce anomalous data and create a demand to re-examine one existing beliefs in the light of incompatible ideas of other individuals. The socio-cognitive conflict encountered in the stage of social interaction motivates a cognitive restructuring that results in an increased ability to construct alternative models in the second, cognitive conflict stage (Monica Bucciarelli, 2004, 2007).

The first stages of thinking development are deeply social. Learners working alone are often unable to perform certain tasks because they cannot decenter, i.e., they focus on certain aspects of problems excluding others, more important aspects. However, learners in the interactions with participants at the same cognitive level as well as with participants at different cognitive levels, would find it easier to decenter as they compare their own point of view with another one which is different (more or less correct) . Each has to restructure his or her cognitive performance to coordinate it with the performance of others. This restructuring event in turn allows each participant to adopt a more advanced and consistent approach (Doise & Mugny, 1984; Siegler,1995).

The cognitive conflict process model developed by Lee et al. (2001) asserted that cognitive conflict consists of three stages: the preliminary stage, the cognitive conflicts stage and the stage of resolution . And in the second stage of the cognitive conflict process, four sub-stages are identified: a). recognition of an anomalous situation, b).interest, c).anxiety, and d). cognitive reappraisal of the conflict situation.

Responses to a discrepant event were classified into seven types: rejection, reinterpretation, exclusion, uncertainty, peripheral belief change, belief decrease, and belief change (Kang et al., 2004). Three specific criteria—believability of a discrepant event, inconsistency between a discrepant event and students' existing conceptions, and belief change after experiencing a discrepant event---- were used in classifying students' responses to the discrepant event(Chinn and Brewer,1998). According to Posner et al. (1982), cognitive conflict is generated when students feel dissatisfaction with their existing conceptions. Learners in a state of cognitive conflict are known to express signs of curiosity, arousal and inner drive to solve the conflict, as well as expressions of frustration, satisfaction and ultimately contentment as they arrive at a meaningful resolution (Zimmerman & Blom, 1983; Movshovitz-Hadar & Hadass 1990).

According to Limón and Carretero (1997), the seven response types to a discrepant event could be ordered into four levels in a continuum from the least acceptance of the discrepant event to the most acceptance of it. Rejection, reinterpretation, and exclusion were rated as a '0' because these responses produce no change in students' beliefs in their existing conceptions. Responses classified into uncertainty, which indicates no confidence in the validity of a discrepant event as well as an existing conception, were rated as a '1'. Belief change and belief decrease, the response types that indicate dissatisfaction with an existing conception at least to some extent, were rated as a '2'. Belief change, a function of entire dissatisfaction with an existing conception, was rated as a '3'. Rating '2' and '3' can be classified as the effective cognitive conflict.

According to Demetriou's model (1998), after the resolution of cognitive conflicts, cognitive development follows naturally at three levels of cognitive processing: 1) development in representation of information in the mind; 2) development of domain's operations, skills, and concepts; and 3) development in self-

monitoring, self-awareness, and self-regulation. At the first level,students generally place emphasis on the surface of the definition, and their understanding of the term at hand does not have any influence on their other fields. At the second level, learners have found some further information relative to the topic and can associate key aspects of the term, in an attempt to develop an explanatory mechanism to make sense of reality by establishing the logic relationship between the subject and practical learning. Learners 'concepts has changed partly at this level,. At the third level, learners have already create totally new schema to guide and control other parts of life. Maybe some superficial representation is similar, the core is quite distinct.

Cognitive conflict as a teaching strategy has been popular in science education research since 1980 (Stavy & Berkovitz,1980, Lee,1998). It focuses on destabilizing students' confidence in their existing conceptions through the presentation of contradictory experiences and then substituting their alternative conceptions with scientifically accepted ones, a common strategy incorporated in most conceptual change models (Chan et al.). It is found that an experimentally based contradiction played an important role in conceptual change (Levin et al, 1990; Kang et al., 2004). That is, students' belief changes were strongly mediated by their responses to anomalous data; the more that anomalous data were considered as valid and inconsistent with their existing beliefs, the more new theories were accepted.

According to Limón (2001), clearly highlighting the differences between students' existing conceptions and given contradictory data could help them to be aware of the differences between their own conceptions and the one introduced later by the teacher, and presenting conflicting experiences could help students to better reflect upon their existing conceptions as they attempt to give an explanation of the information studied

Present Study

Given the central role of cognitive conflicts in cognitive development and the effectiveness of cognitive conflict strategy in science education research, it is interesting to note that few research to date has been conducted to test feasibility and effectiveness of cognitive conflict strategy in humanities education, in which the introduction of a discrepant event through scientific experiment is impossible. Thus, the purpose of the present research was to find ways to bring cognitive conflict strategy to humanities education and to show its feasibility and effectiveness in a humanity class.

The most central concern of the present research is to build social interactions into the procedure of classroom performance that will provide a forum for the possibility of exchange of perspectives and help to introduce anomalous data and create a demand to re-examine one existing beliefs in the light of incompatible ideas of other individuals. For that purpose we have adopted an ACIR teaching procedure consisting of four stages: autonomous learning, cooperative learning, interactive learning and reflective learning.
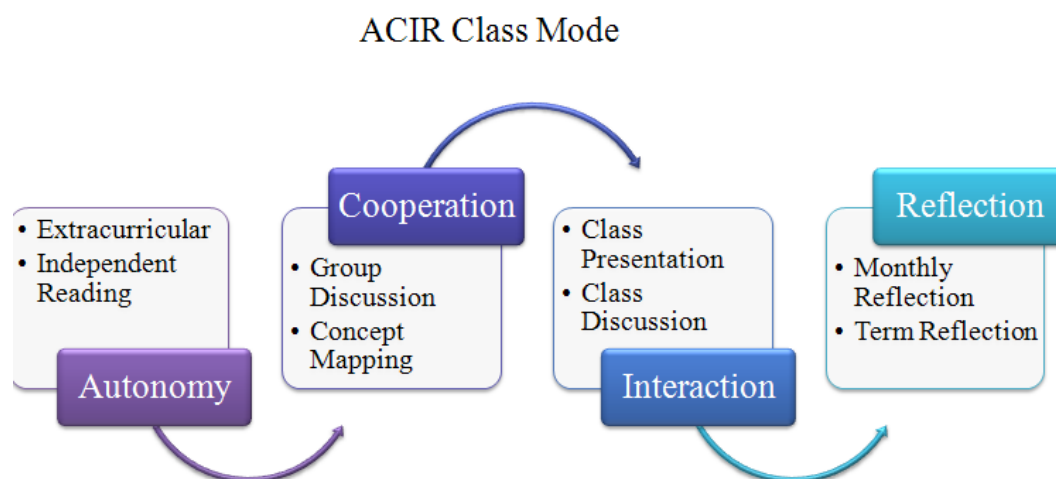

Figure 1: ACIR Class Procedure

Autonomous learning in Figure 1 serves to bring students into the preliminary stage of cognitive conflicts, during which student have to accepts responsibility for his/her own learning, determine objectives, select methods and techniques and evaluate what has been acquired (Van Lier,1996). Cooperative learning and interactive learning are two stages of cognitive conflicts and their resolution, where the thinking and interaction within the group or the class is characterized by the exchange of ideas, information, perspectives, attitudes, and opinions (Cohen, 1994). This kind of discussion generates thought-provoking questions,

explanations, speculations, justifications, inferences, hypotheses, and conclusions and such cognitive activities force students to clarify concepts, elaborate on them, reorganize thinking, or re-conceptualize the material in some manner. Interactive learning is to promote not only multiple connections between new ideas and prior knowledge but also to stimulate the construction of many different kinds of high-level connections (Bearison, 1982). Reflective learning is the last stage of the ACIR class procedure, the purpose of which is ''that reconstruction or reorganization of experience which adds to the meaning of experience'' Dewey's (1933). The reflective process, as embedded in Kolb's (1984) model of the experiential learning cycle, leads to recognizing values and beliefs underlying actions and decisions, considering consequences and implications, exploring alternatives and reconsidering former views (Boud et al., 1985).

One of the prominent factors in ACIR class that enable the class move continuously and smoothly from the stage of autonomy to the stage of reflection is an effective tool—concept mapping, which students are required to prepare before class and present in class by working cooperatively in their groups. With the help of this tool, students are exposed to the dynamic interaction with group members, classmates and the teacher, where their concepts are challenged, destructed and restructured. In this process of learning, critical thinking and creativity are encouraged, and students experience suffering, struggling, trying, finally reaching conceptual change and self-growth. Therefore, in this learning environment, conceptual change is not a mechanic and cold cognitive change, but a process which involves a strong awareness of resources. The class is computer-based and students can access online through a public email box concept mappings constructed by other groups as resources to stimulate their individual thinking in their preparation for class and meditate over mappings reconstructed in classroom interactions in their after-class reflections

Concept maps are diagrams indicating interrelationships among concepts and representing conceptual frameworks within a specific domain of knowledge (Novak, 1990). Concept mappings may be useful in revealing thought processes that generally remain private to the learner (Cohen, 1987). Cognitive theories, focusing on the structure of knowledge, underlie instructional approaches and assessments that involve concept mapping. According to Anderson (1984), structure is the essence of knowledge, and the process of constructing a concept map focuses the learner's attention on the structure of knowledge and the importance of knowledge integration. Through concept mappings, we can trail the learner's cognitive structure clearly

Concept mappings can provide a workable and effective expressed model for students to present their mental models concerning complex and abstract concepts (Johnson-Laird, 1983).The concept-mapping task also provoked conflicts, because in talking about relationships between concepts, students often had to choose between two opposite alternatives (Carla van Boxtel, 2002). Concept mappings are helpful for identifying the learners' prior knowledge before instruction. A concept map requires an explicit answer which leads to students' elaboration on almost all conflicts that arise. Becoming aware of one's own conceptions, knowledge gaps, and inconsistent reasoning can be considered very important conditions for conceptual change (Pintrich, Marx, & Boyle, 1993). Collaborative construction of concept mappings contributes to the learning of concepts, because both students are actively engaged in elaborative activities at the same time They are not only reflecting on and elaborating their own understanding but are also integrating and elaborating the input of their partners. (Carla van Boxtel 2002).

By integrating concept mapping into the procedure of ACIR class, the present research aims to investigate the following question:

> iii. How are cognitive conflicts generated and solved in the process of construction and deconstruction of concept maps ?
> iv. What is the distribution of cognitive conflicts over the four stages of ACIR class procedure?
> v. What is the long-term effect of the cognitive conflicts generated and solved in ACIR class culture?

METHOD

Participants

The participants in this study were 35 first year graduate students (4 male and 31 female) ranging in age from 22–38 years old who attended the correspondence author's course of Philosophy of Education in 2010, organized into 12 groups, each required to present their concept mapping to the whole class at their designated time.

Instruments

In order to find answers to the above-mentioned research questions, three instruments are adopted: 1) concept maps to track the online development of cognitive conflicts, 2) reflections to investigate the

distribution of cognitive conflicts over the four stages of ACIR class procedure and 3) word association tests to examine the long-term effect of cognitive conflicts generated and solved in ACIR class culture.

Concept mapping

Concept mapping, apart from its role to make the class move continuously and smoothly from the stage of autonomy to the stage of reflection, is used to keep the teacher focused on the process of meaning-making. And it is available for the teacher to track a students' conceptual development in relation to the curriculum.

Reflection

Two types of reflections are required from the students in order to keep track of the process of their learning and self-growth: 1) monthly personal reflection; 2) term reflection on personal growth and on group activities. There is no fixed standards concerning the form and content, and the only requirement is to write authentically.

Word Association Test

Word association test is a tool we use to measure the long-term effect of cognitive conflict on mental model. In the test, the respondent is given a stimulus word and required to freely write down 10 or 20 associated ideas that come to his or her mind, which are assumed to give relatively unrestricted access to mental representations of the stimulus term. Researchers have declared that ideas expressed within a word association procedure are spontaneous with fewer constraints than typically imposed in interviews or closed questionnaires, allowing thus the extraction of less biased results (Wagner et al., 1996).Word associations is one of the methods used for the evaluation of conceptual structures, as well as for ascertaining belief or attitude changes in psychology and sociology (Doise, et al., 1993; Ross, 2003).An analysis of these responses to a prompt word may give useful information about how words might be linked together in a person's mind" (Aitchison 2003:24).

Experiments with one word response association(one associate word to one stimulus word) with children and adults reveal predictable patterns of responses, with certain associates recurring at high frequencies, and the greatest majority appearing only once as idiosyncratic responses(Jay,2003:105). Such patterns are a social representation of the stimulus word, which is a form of social knowledge held by social actors elaborating and communicating their lifeworld in a symbolic way (Li, 2004:252) . As a particular type of social cognitive system, the social representation comprises of central as well as peripheral elements (Carey, 2000). The core is considered the conservative component that determines the organizational principle of the whole structure, and the periphery is the flexible component that helps the structure adapt to different frames of reference (Guimelli, 1998; Liu, 2004)

DATA COLLECTION

Word association pretest was administered during the first week of each semester and post-test during the last week. In the tests, participants were asked to write down 10 associates on the stimulus word "思考"(thinking or reasoning) to get the subjects' semantic representations of the stimulus word at the time of the tests. The associates were written on a hand-out form with ranked slots and a request to note down the time it takes the participant to finish the test. On average, participants needed approximately 3 minutes to complete the task. Participation in this study was voluntary and with no mark bonus given.

Concept mapping was done by using Inspiration, a visual thinking and learning software, developed by Inspiration® Software, Inc, in an online computer laboratory and students had the choice to join the collaborative reshaping or do it independently in their own way on their own computers. Concept maps were collected weekly as the course unfolded. The presenters of the task group each week were required to construct their mapping collaboratively and send their product to the class email box as resources available to other attendants to the class. During the process of mapping reconstruction in class interaction, the final outcome was put into file for later processing, together with the results of intermediate stages done either jointly or individually.

The assessment of students' performance in each semester were based on a final paper plus a term reflection and a reflection self-chosen from their monthly personal reflections. Term reflection is a time-tested tool in our ten-year-long research tradition with its emphasis on authenticity and students get much encouragement to describe their emotional experience in them. Reflections on monthly learning experience were collected on designated dates, commented, edited and fed back to students as shared resources .

DATA ANALYSIS

Data analysis was executed in three stages: a) analysis of concept mapping based on statistics of concepts and the links among them with its focuses on the structural change in the process of reconstruction and its aim to probe into mechanisms of conceptual change; b) analysis of reflections with its focuses on the generation and resolution of cognitive conflicts with a coding system based on Lee's cognitive conflict process model, Limón & Carretero's model of response types and Demetriou's model of cognitive development; c) analysis of word association test data involving structural reconstruction by hierarchical clustering based on the calculation of the frequency and the mean rank of each association and content analysis of the results of the structural reconstruction（Koskinas et al., 2000）
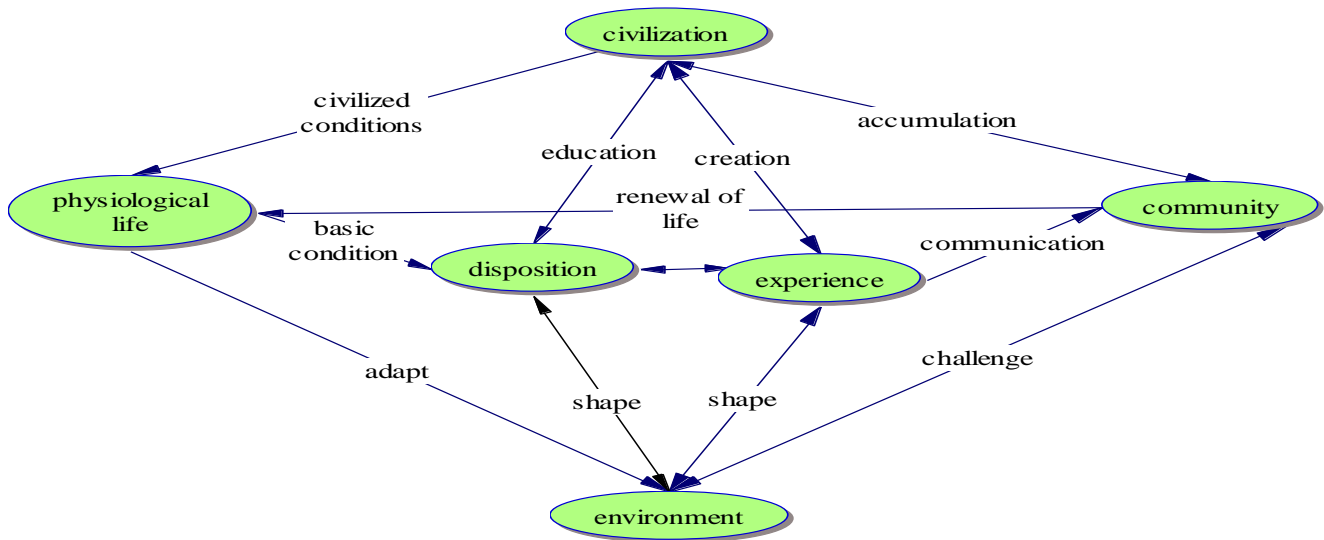
Figure 2: Concept Mapping Based on Dewey's Idea of Education as a Necessity of Life

RESULTS

Concept Mapping Analysis

The structure of a concept map can be assessed by examining： a) the number of the concepts in the concept mapping for the depth of understanding; b) the links(line, single headed arrow and double-headed arrow) between concepts showing students' understanding of the logic relationship among concepts; c) link words which are indicators of the clarity of their understanding.

Figure 2: Concept Mapping Based on Dewey's Idea of Education as a Necessity of Life

Figure 2 is a concept mapping reconstructed in the first session of the 2009 semester, with 6 concepts, 12 links and 11 link words. It was used as the starting position during a later session whose task was to integrate relevant ideas of Piaget, Vygotsky and Erikson into the mapping. Key concepts from these psychologists had been discussed and mapped in previous sessions, and ideas picked out for the integration included concepts like accommodation, assimilation, cultural mediation, social interaction, scaffolding,helper's schema, child's schema, internalization, life-stage challenge, successful resolution, favorable virtue(11 items).

Stimulated by the interactive classroom efforts at an integration, one of the students drew four mappings independently and consecutively in the class, the first of which is shown in Figure 3 below:
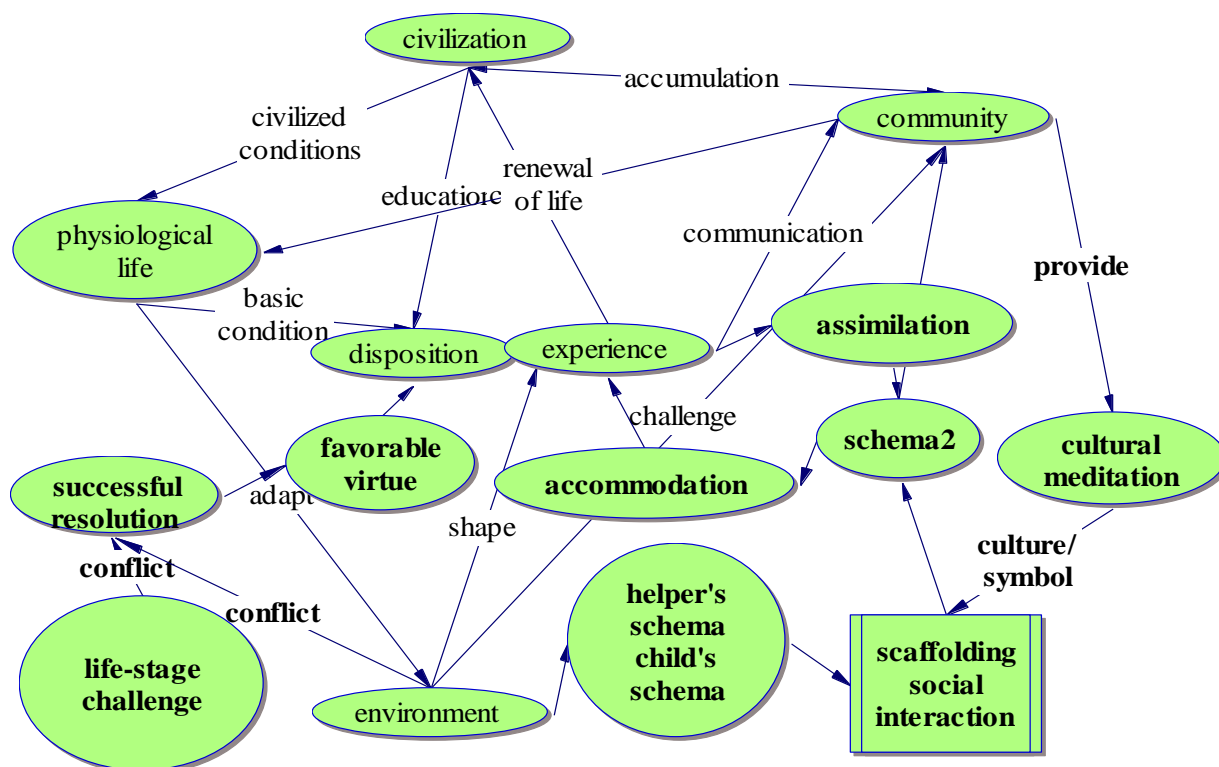
Figure 3: A Concept Mapping to Integrate Dewey, Piaget, Vygotsky and Erikson

In Figure 3, concepts in slender letters are those in the original map as shown in Figure 2, those in bold letters are concepts that are to be integrated. Facing with the integrative task, the student took for granted the original map and simply added new ideas to wherever he thought they belong. The ideas from Piaget and Vygotsky were added to a space between the concepts "experience" and "community" and the ideas from Erikson were added to a space between the concepts "disposition" and "environment". It shows that he had already a good mastery of the definitions of the major concepts involved and understood the logical relationship among these discrete concepts.

However, an integrative task like this requires much more than that: concepts arising from different theoretical perspectives are to be revalued against each other, re-conceptualized and re-categorized before a new framework might emerge through the process. Traces of such an awareness in Figure 3 can be detected in the merge of "social interaction" and "scaffolding" into one node and that of "helper's schema" and "child's schema" into another, but they are far from enough. The student knew it himself, and his consecutive re-mappings show his persistent effort to address this inadequacy. The statistical features of his mappings are summed up in Table 1 against the features of the final collaborative mapping reconstructed in class.

Table 1: Statistical Features of Consecutive Mappings

Count	Mapping 1	Mapping 2	Mapping 3	Mapping 4	shared	Collaborative Mapping
concepts	15	16	13	11	7	6
links	23	24	21	15	4	9
link appellations	14	15	8	6	4	9

Table 1 shows a steady reducing of the numbers of concepts, links and link appellations through the four consecutive mappings, which is an indicator of the learner's awareness of and persistent effort at re-conceptualization: he refused to take for granted the given concepts and tried his best to penetrate into the depth of the meaning of them. In his second mapping, "social interaction" was changed from a discrete node into an appellation for the link between "helper's schema" and "assimilation" and "scaffolding" for the link between " child's schema" and " accommodation" . In his third mapping, "assimilation", "accommodation" and " cultural mediation" were merged into one node, indicating his effort to integrate Piaget's ideas with that of Vygotsky. The focus of his effort in the fourth mapping is directed toward a re-conceptualization of

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the three concepts of "physiological life", "disposition" and "experience" in the original mapping about Dewey and the merge of the three into one node shows his understanding of the overall structure of all the concepts involved, as shown in Figure 4.

As shown in Figure 4, by merging the three concepts of "physiological life", "disposition" and "experience" into one node, the student demonstrated his understanding of the fundamental message conveyed by these authors: the dynamics of anthropological system composed of two dimensions: 1). civilization vs natural environment; 2). individual vs community. The collaborative mapping in Figure 4 moves further in this line of his thinking by two new reconstructions: a). merging Dewey's "renewal of life" and Vygotsky's" social interaction","cultural mediation","scaffolding" and "helper's schema vs child's schema" into an appellation to describe the multi-level dynamical interaction between the individual and community ; b). merging Piaget's "assimilation" and "accommodation" and Erikson's "successful resolution" into an appellation describing the growth process from life stage challenge to favorable virtue or schema 2.
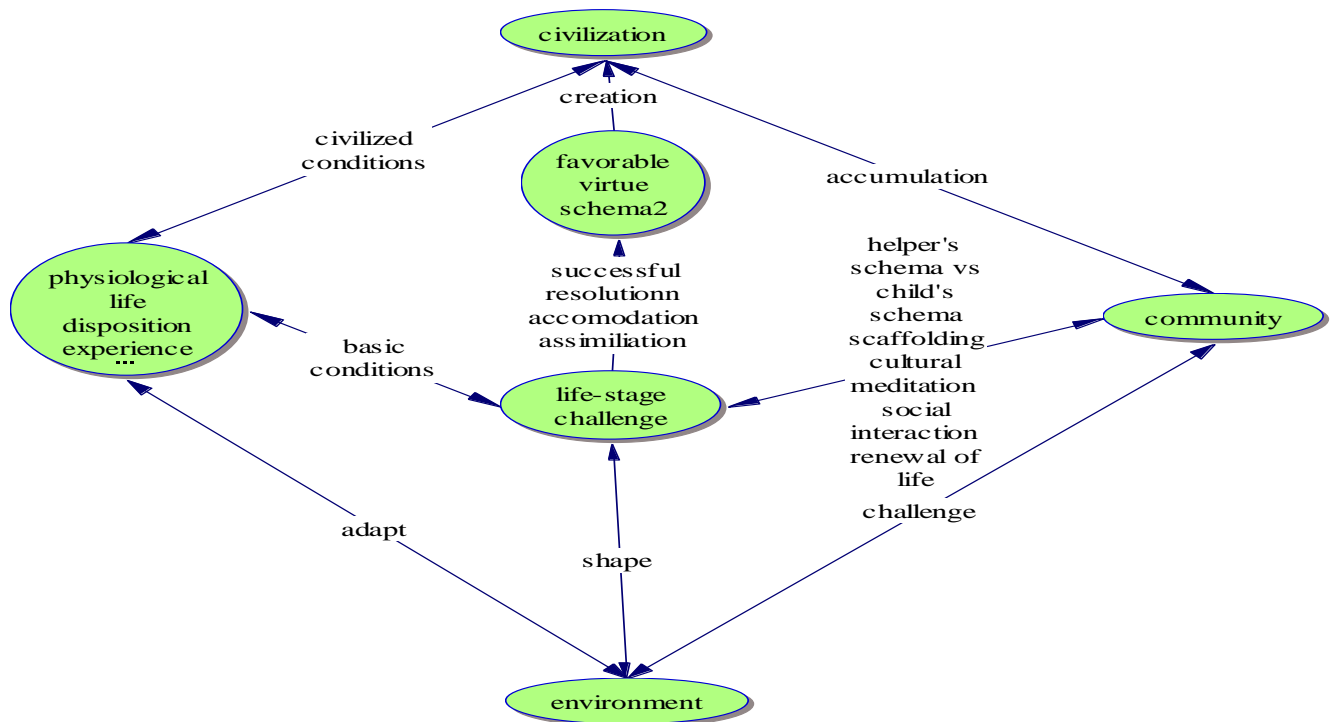
Figure 4: A Collaborative Mapping on Dewey, Piaget, Vygotsky and Erikson

Table 1 shows that there are 7 concepts, 4 links and 4 appellations that remained unchanged throughout the reconstructive process. The concepts are "civilization", "community", " environment", "life-stage challenge", "successful resolution", "favorable virtue" and "schema2"; and the links and link appellations are those concerning the relations among "civilization", "community", " environment", and "physiological life, disposition and experience" as shown in Figure 4. These unchanged items are indicators of his overall understanding of the domain knowledge involved and serve as anchors in his reconstructive effort. Starting from these anchors and stimulated by the online classroom interactive process, he moved forward from one problem area to another, examined concepts drawn together from various theoretical perspectives, and successfully resolved the emergent cognitive conflicts by re-conceptualizing them.

Reflection Analysis
The coding system for the analysis of reflection consists of two dimensions: a) stages of cognitive conflicts and types of conflict resolution; b) source of cognitive conflicts arising in the ACIR class.

Table 2: Coding of Cognitive Conflicts

Stages	types of resolution	Abbreviation
the preliminary stage	x	C1
the cognitive conflicts stage	x	C2
the stage of resolution	rejection, reinterpretation, exclusion, uncertainty	$C3_0$
	New knowledge	$C3_1$
	New skills	$C3_2$
	New conceptualization	$C3_3$

The coding in Table 2 is an integration of Lee's cognitive conflict process model, Limón & Carretero's model of response types and Demetriou's model of cognitive development. Table 3 is statistics of reflection analysis of the data from the 2010 cohort using this coding system.

Table 3: Distribution of Cognitive Conflicts over the Rounds of Reflection

count	n^{th} Reflection				
Stages and resolutions	1	2	3	4	5
C1	20	11	7	8	3
C2	17	6	14	3	12
C3	25	48	35	27	43
$C3_1$	11	25	15	7	11
$C3_2$	8	17	6	10	17
$C3_3$	12	6	14	10	15

Figures in Table 3 shows three statistical trends: 1）the number of reflected preliminary stage experiences dwindles steadily and sharply from 20 in the first round of reflection through 11, 7, and 8 to 3 in the last round；2）the number of conflict resolution experiences rises up from 25 in the first round to 43 in the last round,3) of the conflict resolution experiences, the number of resolutions resulting in new knowledge fluctuates around a steady base-line figure 11, and the numbers of resolutions resulting in new skills and new conceptualization rise in ratio against those resulting in new knowledge.

The other dimension of reflection analysis is concerned with the distribution of cognitive conflicts over the types of sources of cognitive conflicts arising in the ACIR class, the coding system of which is shown in Table 4.

Table 4 : Coding of Cognitive Conflict Sources

Types of cognitive conflicts	Sources	Abbreviation
Intrapersonal	Reading material	R
Social	Class mode	CM
	Teacher	T
	Collaborative construction	C
	Events in class	Ein
	Events out of class	Eout

Table 4 shows the coding system of cognitive conflict sources: intrapersonal cognitive conflicts arising from reading, social cognitive conflicts arising from students encountering the ACIR class mode, their interaction with the teacher, their participation in collaborative construction and their engagement in events in and out of class.

Figures in Table 5 are blends of C1, C2 and C3s and the figures in the bracket indicate types of cognitive conflicts occurring in the designated stage of class procedure, the first position being for C1, the second for C2, the third for $C3_0$, the fourth for $C3_1$, the fifth for $C3_2$ and the sixth for $C3_3$. Take the first box for example, 13 indicates the total number of cognitive conflicts occurring in reading, of which there are 4 C1s, 2 C2s, 0 $C3_0$, 6 $C3_1$s, 1$C3_2$ s and 0 $C3_3$.

The 5th reflection is the term reflection, and students tend to write about their general impression and emotional attitude instead of going into the details of specific events which were fading away, which might be an explanation for the absence of any mentioning of specific events in and out of class in the 5th round of reflection.

Table 5: Distribution of Cognitive Conflicts over Cognitive Conflict Sources

Nth Reflection	R	CM	T	C	Ein	Eout	Total
1	13 (4,2,0,6,1,0,)	16 (3,3,1,2,5,2)	15 (5,4,0,3,1,2)	2 (1,0,0,0,1,0)	7 (1,3,0,0,0,3,)	8 (4,2,0,0,0,2)	61 (18,14,1,11,8,9)
2	22 (5,0,0,13,2,2)	9 (1,1,1,1,5,0)	8 (1,0,0,2,4,1)	1 (0,1,0,0,0,0)	6 (1,1,0,3,0,1,)	14 (2,2,0,3,6,1)	60 (10,5,1,22,17,5)
3	13 (3,1,0,7,0,2)	15 (1,3,1,4,4,2)	8 (0,3,0,2,2,1)	2 (0,0,1,0,0,1)	8 (1,3,1,0,0,4,)	5 (1,1,1,2,0,0)	52 (6,11,4,15,6,10)
4	10 (3,0,0,3,2,2,)	10 (2,1,2,1,4,0)	5 (1,0,1,0,2,1)	1 (0,0,0,0,0,1)	3 (0,1,1,0,1,0.)	11 (2,0,0,3,0,6)	40 (8,2,4,7,9,10)
5	14 (3,3,0,6,0,2)	24 (0,4,6,1,5,8)	21 (0,4,0,3,11,3)	5 (0,1,0,1,1,2,)	0 (0,0,0,0,0,0,)	0 (0,0,0,0,0,)	64 (3,12,6,11,17,15)
total	72 (18,6,0,35,5,8)	74 (7,12,11,9,23,12)	57 (7,11,1,10,20,8)	11 (1,2,1,1,2,4,)	25 (3,8,2,3,1,8)	38 (9,5,1,8,6,9)	277 (45,44,16,66,57,49,)
percentage	25.99%	26.71%	20.58%	3.97%	9.03%	13.72%	100%

Table 5 shows that the total number of cognitive conflicts is 277, with 45 C1s, 44 C2s, 16 $C3_0$s, 66 $C3_1$s, 57 $C3_2$ s and 49 $C3_3$, which indicates a very balanced cognitive development going from the preliminary stage through the conflict stage to the resolution stage. Of the 277 in Table 5, 72 belong to the category of intrapersonal cognitive conflict, occurring in the reading period, taking 25.99% of the total, the second largest share among the six sources listed in the table. 205 of them belong to the social cognitive conflicts, with those connected with the class mode standing at 63, the largest share of 26.71% of the total, and those connected with the teacher at 56, the third largest share of 20.58% of the total.

If viewed more closely, it can be seen that the total number of conflict resolutions decreases from 66 for $C3_1$ through 57 for $C3_2$ to 49 for $C3_3$, a clear indication that changes in conceptualization are much more difficult than changes in skills and knowledge and are less easily reached. Figures in the brackets strongly suggest that intrapersonal cognitive development are heavily tipped towards the preliminary stage (18 C1s out of the 72 total) and changes in knowledge (35 $C3_1$ against 5 $C3_2$ and 8 $C3_2$s). However, the situation with social cognitive conflicts is quite different. Social cognitive conflicts connected with the class mode and the teacher are heavily tipped towards changes in skills (23 $C3_2$ s against 9 $C3_1$ s and 12 $C3_2$s for Class Mode, 20 $C3_2$ s against 10 $C3_1$ and s 8 $C3_2$s for Teacher) and those connected with collaborative construction, events in and out of class are tipped towards changes in conceptualization (4 $C3_3$ s against 1 $C3_1$ and 2 $C3_2$s for Collaborative Construction, 8 $C3_3$s against 3 $C3_1$s and 1 $C3_2$ for Event In, and 9 $C3_3$ s against 8 $C3_1$ s and 6 $C3_2$s for Event Out) .

The figures concerning negative resolutions like rejection, reinterpretation, exclusion, uncertainty are 0 for Reading, 11 for Class Mode, 2 for Events In and 1 for the three categories of Teacher, Collaborative Construction and Events Out. It suggests that negative resolutions are more likely to appear in social cognitive conflicts than in intrapersonal cognitive conflicts and there seems to some intrinsical relationship between $C3_0$ and the other types of conflict resolutions.

Table 6: Correlations among Types of Cognitive Conflict Resolution

Correlations

		$C3_0$	$C3_1$	$C3_2$	$C3_3$
$C3_0$	Pearson Correlation	1	-.189	.282	.515[**]
	Sig. (2-tailed)		.317	.131	.004
	N	30	30	30	30

**. Correlation is significant at the 0.01 level (2-tailed).

Table 6 shows that the correlation between negative resolution and changes in conceptualization is .515, that is, significant below the . 005 level.

WORD ASSOCIATION ANALYSIS

Word association analysis starts with a structural reconstruction based on frequency and mean rank or rank average. In our word association test, each student was required to write down 10 associated words to the stimulus term 思考(thinking or reasoning) and the expected number of associates given by the 33 participants is 330. Frequency means the number of identical associates found in the general pool of the associates given by all participants returning the data, that is, the frequency of a word appearing in the general pool. The higher is the frequency of an associated word appearing the pool of data, the more important is the associated word to the stimulus term and the closer is its position to the core of the social representation of the stimulus term. Rank is closely related with the order of emergency of the associate to the mind of the participant as he or she was trying to respond to the stimulus word consecutively. Since 10 associations were required for the stimulus word, the highest possible rank for each associate is 1 and the lowest possible rank is 10, indicating that the former is written down earlier than the latter in the association test and stands closer to the stimulus word in the semantic network. Therefore, we say that the smaller is the figure of the rank, the closer it is to the core. To facilitate the structural reconstruction of the data, values are assigned to the ten possible ranks, ranging from1.1 to 1.9. Mean rank is the result of summing up all the rank values of the associated word appearing in the total pool and then dividing the total figure by its frequency. Table X takes 反思(reflective thinking), one of the associated words, as an example to illustrate the two statistical dimensions of the coming structural construction.

Table 7: Statistical Dimensions for the Structural Construction

rank	1	2	3	4	5	6	7	8	9	10	frequency	Mean rank
value	1	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9		
反思	3	0	1	0	1	0	1	0	0	0	6	1.2

Hierarchical Clustering analysis based on frequency and mean rank is applied for a structural construction of the word association data.

Table 8. Structural Construction of the Word Association Data

Stimulus word	思考 thinking	Required number of associates from each participant							10	
Participants Returning data	33/pretest 33/posttest	Expected number of total associates							330	
		Frequency		Number of associates		Percentage		words		Percentage	
Cluster		Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1		8	8	8	16	2.42%	4.84%	1	2	0.47%	0.83%
2		7	6	28	12	8.48%	3.64%	4	2	1.86%	0.83%
3		5	4-3	15	44	4.55%	13.33%	3	14	1.40%	5.79%
4		4-3	2	59	68	17.88%	20.61%	18	34	8.37%	14.05%
5		2-1	1	220	190	66.67%	57.58%	189	190	87.9%	78.5%
Total				330	330	100%	100%	215	242	100%	100%

All the associates in the sample are organized into 5 clusters, Clusters 1 and 2 forming the central core of the social representation of the stimulus word "思考", Cluster 5 forming the periphery, and Clusters 3 and 4 forming the transition from the periphery to the core. The total number of words is 215 for the pretest, and 242 for the post-test, indicating that the posttest social representation has a larger spread than the prestest

one. The central core is composed of 5 words for the pretest, 10.9 % of the total of 330 associates, and only 2.33% of the total of 215 words. For the posttest, the core is made up of 4 words, 8.28% of the total of the associates and 1.66% of the total of 242 words. This indicates that the pretest social representation has a thicker core than the posttest one. The transitional part is composed of 21 words for the pretest, 22.33% of the associates and 9.77% of the 215 words, and the figures for the posttest are 48 words, 33.94% of the associated and 19.84% of the 242 words, indicating that the posttest social representation has a larger transitional section. Figures in Cluster 5 are 189 words for the pretest, 66.67% of the associates and 87.9% of the 215words, and those for the posttest are 190 words, 57.58% of the associates and 78.5% of the 242 words, indicating a proportionally much smaller periphery.

The structural construction provides a typological information to anchor the position of each associate in the social representation of the stimulus word. By analyzing the components of the central cores of the pretest social representation and the posttest one and by tracing the movement of each of the associated words among the clusters, we hope to detect evidences for qualitative changes in the shared mental model of the stimulus word "思考"

Table 9: The Central Cores of the Pretest and Posttest Social Representations of 思考

Pretest Core	Cluster	Posttest Core	Cluster
1*:进步progress	1	1:人生 human life	1
2:哲学 philosophy	2	2:进步 progress	1
3:安静quiet	2	3:哲学philosophy	2
4:人生 human life	2	4:反思reflection	2
5:问题 problem	2		

 * The number indicates the serial position of the word appearing in the data pool.

The pretest core has 5 words and the posttest 4, and of these 9, 2 are shared and located in the original clusters : "progress" in Cluster 1, "philosophy" in Cluster 2; 1 is shared but located in different clusters: "human life" in Cluster 2 in pretest and in Cluster 1 in posttest; 2 words, that is, "quiet" and "problem" in the pretest are dropped down into Cluster 3 in the posttest and the word "reflection" is added, or moved from Cluster 4 (see Table X) in the pretest to Cluster 2 in the posttest. It is quite reasonable to find "progress" and "philosophy" at the pretest and posttest cores as the former might be regarded as the purpose of thinking and the latter as the science or methodology of thinking. The movement of "human life" into Cluster 1 shows its greater importance in the posttest social representation and indicates a greater awareness of the fundamental function of thinking : not only for progress in general, but for the promotion and enrichment of our life as a human being.

The examination of the central cores shows that there are upward movements (going towards the core) and downward movements (going towards the periphery) in the posttest social representation which can be used to show the changes the representation has undergone. Yet as the space is limited, our focus will be directed to the upward movement in and new additions to the posttest representation.

Table 10: Upward Moving Words in the Posttest Social Representations

Pre	Cluster	Post	Cluster
4:人生 life	2	1:人生life	1
13:未来 future	4	6:未来future	3
56:梦想 dream	5	30:梦想dream	4
109:家庭family	5	37:家庭family	4
155:爱情love	5	52:爱情love	4
24:反思reflection	4	4:反思reflection	2
40:沉思mediation	5	17:沉思mediation	3
9:理性 reason	4	13:理性reason	3
11:学习learning	4	7:学习learning	3
206:联想association	5	32:联想association	4
107:关系 relation	5	41:关系 relation	4
98:学问 knowledge	5	20:学问knowledge	4
163:认真earnest	5	26:认真earnest	4
19:习惯habit	4	9:习惯habit	3
130:过去bygone	5	40:过去bygone	4
171:肤superficial	5	42:肤浅 superficial	4
118:想着怎样改变自己 thinking how to change myself	5	15:改变 change	3
14:实践practice	4	12:实践 practice	3
54:痛苦 pain	5	11:痛苦pain	3
43:总结 conclusion	5	5:总结conclusion	3
174:交流communicate	5	36:交流communicate	4
12:创新innovation	4	16:创新 innovation	3
103:创造creation	5	48:创造 creation	4
162:启发inspiration	5	28:启发inspiration	4
45:琢磨ponder	5	19:琢磨ponder	4
173:火花 sparkle	5	39:火花sparkle	4

As shown in Table 10, words moving towards the core in the posttest are semantically related to four domains: a) the domain of life, future, and dream; b) the domain of reason, learning and reflection; c) the domain of action, change, and self-surpassing; d) the domain of inspiration, innovation, and creation.

These tendencies are greatly reinforced by newly added words in the posttest representation. The domain of life, future, and dream is expanded by words like "growth" in Cluster 4, "soul", "heart", "wisdom", "beauty", "nature" , "rainbow" and "sky-watching" in Cluster 5; the domain of reason, learning and reflection is enriched by words like "understanding", " insight", "discover" in Cluster 4,"logic", "analysis", "fantasies" and "discretion" in Cluster 5; the domain of action, change, and self-surpassing is emotionly packed by words like "initiative", "action", "exploration","lesson" and "experience" in Cluster 4, "disorientation", "courage", "undergoing", "setback", and "power" in Cluster 5; the domain of inspiration, innovation, and creation is developed by words like "sublimation " in Cluster 4, "deconstruction", and "transcendance" in Cluster 5.

CONCLUSION

Findings in the present study vindicates the central role of cognitive conflicts in cognitive development. Firstly, the construction of concept mapping, by shaping vague ideas into clear-cut diagrams, helps to detect cognitively anomalous data and create a demand to re-examine step by step existing beliefs in the light of incompatible ideas shown in the mapping. It provides an opportunity for collaborative reconstruction through questions and explanations and helps to bring implicit intrapersonal conflicts as stimuli leading to social cognitive conflicts. Secondly, intrapersonal cognitive conflicts are less likely to result in negative resolutions and more likely to bring about changes in knowledge than changes in skills and conceptualization, while social cognitive conflicts are more likely to result in negative resolutions at the beginning and, if lasting long enough, are more likely to bring about changes in skills and ways of conceptualization. Thirdly，continuous social cognitive conflicts produce long-term effect by changing the social representation of key ideas in our mental model, reinforcing certain dimensions both in the central core and the periphery, and even adding new dimensions to them.

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Abstract: This is a naturalistic classroom-based exploratory study of the kinds of beliefs held by a chemistry teacher about the teaching and learning of stoichiometry concepts. The variations of these beliefs with the teaching of different stoichiometry concepts are also revealed. A teacher stationed at a well established and resourced urban school in Zimbabwe was purposively sampled to participate in this study. Data was generated from documents, video recorded lesson observations and tape recorded belief interviews. Data interpretation involved the in-field and post-field stages. Data collected was continuously interpreted through a constant comparative technique to establish evaluative patterns which guided the data generating process. Text analysis by means of grounded theory techniques was employed to interpret data in the post-field stage. Major themes were developed by merging identified ideas and sub themes as suggested by the data. Findings are presented in a narrative form supported by charts and exemplary field notes, interview and observation transcript excerpts. The teacher's personal beliefs that guide his stoichiometry instruction fall into four emergent categories: objectives of teaching, learning conceptualisation, the perceived complexity of concept and mathematical reasoning application. Slight variations of the beliefs with the concepts taught are revealed. The teacher's beliefs about stoichiometry concepts teaching and learning are mostly traditionally oriented. His teaching of stoichiometry concepts is typically teacher-centered and text-book based. The teacher's self-reliance teaching approach, learning and teaching stoichiometry experiences seem to have influence upon these beliefs. This study gives insights into the interactions between beliefs and teaching practices and recommends further research on the topic with a larger sample of participants in different contexts.

Key words: ordinary level, stoichiometry concepts, teacher's beliefs**,**

INTRODUCTION

Much has been written about the complexity of chemistry and the difficulties students encounter in understanding its concepts (Gabel, 1998; Calyk**,** Ayas & Ebenezer, 2005). Chemistry concepts are allied and the subsequent understanding of build-up concepts depends on prior conceptions (Schmidt, 1997). Conceptions deviant from the existing chemistry ideas and explanations are called misconceptions. Okanlawon (2010) concurs with this view in his contention that misconceptions are learners' understanding of scientific concepts that are at variance with accepted scientific views regardless of their sources. Misconceptions act as barriers to further chemistry learning (BouJaoude, 1994; Mas, Perez and Harris, 1987). This effect has been widely studied and found to be persistent in the context of chemistry education research (Bradley, Berrans & Long, 1990; Garnett, Garnett & Hackling, 1995; Treagust, Chittleborough, & Mamiala, 2003; Mpofu, Kusure, & Zishura, 2008).

Stoichiometry is a fundamental, universal and central topic to all chemistry branches **(**Yalcinalp, Geban, & Ozkan 1995, Schmidt & Jigneus, 2003; Evans, Leinhardt, Karabinos, & Yaron, 2006, Chanyah & Coll, 2007). Stoichiometry quantifies reactants and products of a chemical reaction (Dennistron, 2001; Okanlawon, 2010). Consequently, understanding stoichiometric concepts demand both conceptual and mathematical reasoning (Bennert & Agarkar, 2003). Solution chemistry, acids and bases, electrochemistry, bonding and chemical equilibrium exemplify some of the topics which demand a good grasp of stoichiometry concepts. This explains the worldwide attention it has received in chemistry education research and the secondary school curriculum. Nonetheless, much of stoichiometry research is oriented towards its learning and the learners' conception problems. The focus of this study is on the teaching of stoichiometry to inform the development of any intervention strategies aimed at overcoming difficulties students experience in grasping stoichiometry concepts.

Literature is rich on the difficult nature of the stoichiometry topic studies (Yalcinalp, et.al, 1995; Heron & Greenbowe, 1996; Schmidt et al, 2003; Kolobe, 2007; Evans,Yaron, & Leinhardt, 2008). A myriad of studies revealing that learners bring a surfeit of misconceptions to the study of stoichiometry also exist (Woods, 1990; BouJaoude Barakat, 2000; Furio, Azcona, & Guisasola, 2002, Fach, de Boer, & Parchmann, 2007).

This exacerbates the snag learners have in comprehending its concepts. It is worrisome that the intensive research into chemistry learning has not brought much change into the learning of chemistry. An equally vast study on teaching shows that the practice teaching in science classrooms is not changing (e.g. Johnston, 1997; Smerdon & Burkam, 1999; Hobden, 2005) and is predominantly traditionally oriented. To me this is evidence that research into the learning of chemistry has been an isolated process from that of its teaching. My logical thinking is that such secluded research remains informative without bringing much change to the teaching and learning chemistry prominence has largely contributed to the non-productive learning and teaching of chemistry in general and in particular stoichiometry.

This paper proposes a holistic chemistry education research approach. I view this research orientation as a possible solution to the transformation in the teaching and the consequential conceptual understanding of stoichiometry concepts. The argument in this paper is that the teacher is a key person to the effective learning of any concept. He/she has classroom practice autonomy in that s/he is mostly in control of learning factors such as aids, strategies, and content depth coverage. He/she selects teaching methods which he/she regards as appropriate for the effective transformation of content to the learners. Notably, the teacher's classroom practices and what s/he considers to be effective teaching is not always compatible with effective teaching for authentic learning. Shulman (1987), Baumert and Kunter (2006) agree that the teacher's effectiveness depends on professional competence. In an effort to understand factors which influence professional competence, many researchers have focused on the knowledge that teachers create by transforming their content into a teachable form which Schulman (1986) names Pedagogical Content Knowledge (PCK). To date the Schulman ideas on PCK have metamorphosised. For example, Rollnick, Bennett, Rhemtula, Darsey and Ndlovu (2008) have developed a PCK model (Figure 1, appendix 1) in which teachers' beliefs anchor the Teacher's Knowledge Domains (TKD). Four distinct kinds of knowledge make up TDK and integrate to produce PCK which is noticeable through observable classroom practice indicators called manifestations of teacher knowledge (MTK). MTK aspects include representations made by the teacher, including metaphors and illustrations; curricula saliency (depth of coverage, what to leave out and what to teach); assessment and topic specific instructional strategies. These are referred to as manifestations of PCK in the model. Rollnick et al's (2008) view PCK as how teachers teach their subject by accessing what they know about the subject, the learners they are teaching, the curriculum with which they are working and, what they believe counts as good teaching in their context. Undoubtedly, teachers' classroom practices are greatly influenced by his/her beliefs (Clark & Peterson, 1986).

Beliefs play a crucial role in defining personal behavior and in organizing knowledge and information. Research has shown that beliefs are relevant to the enhancement of professional competence which in turn results in improvement and effectiveness of schools. Koballa, Gräber, Coleman, and Kemp (2000) conclude that beliefs influence all types of interactions between teachers and pupils. Accordingly, the knowledge about teachers` beliefs is crucial when attempting to affect teachers' actions (Ben-Peretz, 1984; Fischer, 2000). The argument in this paper is that the starting point to overcoming what research has not unravelled about teachers' and students' difficulties in teaching and learning stoichiometry concepts is to examine the prevalence of certain beliefs in relationship to stoichiometry specific TDK and MTK. This fills the research gap which TALIS's (2009) notes has little research on beliefs and practices specific to certain subjects in their examination of a variety of beliefs, practices and attitudes. The TALIS (2009) model (Figure 2: Appendix 2) is used to explore the teachers' beliefs and practices.

This case study explores teachers' beliefs and practices about stoichiometry teaching and learning, and is guided by the following research questions:
1. What beliefs are held by the teacher about the teaching and learning of stoichiometry?
2. How do these beliefs vary with chemistry concepts taught?
3. How do the teachers' beliefs influence his classroom practice?

METHODOLOGY

A case study design of the qualitative approach was used. Keeves (2004) asserts that the qualitative paradigm seeks to understand motives behind human reactions and therefore this approach is suitable for the unveiling of belief factors on stoichiometry specific TDK and MTK. The approach guided the researcher in the examination of beliefs and practices phenomena in a naturalistic and interpretive way. A single person case study methodology was adopted in this research in view of a unit of the analysis that is characteristic of a case study design. The case study definition of a person, a small group, a single situation, or a specific "case," justifies the one participant approach. The one participant case was chosen also on the basis of Keeve's (2004) heed on the cost and resource constraints that limit the amount of data generated associated with a multi case research approach. This case study was conducted for exploratory reasons as a prelude to

social research (Yin, 2003) to provide insights into stoichiometric specific teaching and learning beliefs and practices. Furthermore, the case study design allowed details of the phenomenon to be brought from the viewpoint of the participant within nested contexts using multiple sources of data.

The unit of analysis whose phenomenon is examined from a multi-perspective is a critical factor in a case study (Tellis, 1997.) To ensure fulfilment of this case study element the participating teacher was purposively sampled. The logic of purposive sampling is to select cases that are likely to be information rich, with respect to the purpose of the study (Creswell, 2007). An experience of five or more years of chemistry teaching, located at well resourced school and voluntary informed consent to participant in the study was the sampling criteria. The chemistry teacher is pseudo named Happy for identity confidentiality in line with ethical research issues. Happy is stationed at trustee school referred in this research as Northgate.

The research data was triangulated and generated from documents, lessons and interviews. Cohen and Marion (2000) define triangulation as the use of two or more methods of data collection in the study of some aspect of human behaviour. The three methods of data generation employed were considered sufficient for the rationale of triangulation described by Creswell (2007) as complementary, corroborative and confirmatory. According to Tellis (1997) the need for triangulation arises from the ethical need to produce plausible study findings. The teacher was observed teaching twenty four form-3 chemistry stoichiometry lessons. The teacher was interviewed before and after each week's lessons. This gave a total of eight interviews. The lessons were double periods of seventy minutes each. The interviews on average lasted between 15 to 20 minutes. The lesson observations and interviews were field-note captured and enriched by video and audio tape respectively. Transcripts and field notes were infield data interpreted on a daily basis through a constant comparative technique to guide on when to use documents and what to look for. Teacher resources and generated documents such as textbooks, teaching materials, past exam papers, scheme books, record of marks, pupils' exercise books and written work items used in preparing lessons were interpreted mostly before the pre-observation interview as and when the situation demanded. Field notes were used to capture document analysis and general observation data. The three sets of data to emerge from the documents were field notes data (FND), Lesson Observation data (LOD) and belief Interview Data (BID).

Text analysis by means of grounded theory (GT) techniques was employed to merge and interpret FND, LOD and BID in the post-field stage. Emerging ideas, sub themes and major themes of data categories were established and organized from GT data analysis (Markic et al., 2008) as guided by identified MTK and belief constructivist and traditionalist categories in Appendix 1, Figure 1 and figure 2 respectively. Units of ideas were counted to give the sum total of ideas (N). These were grouped into categories of sub and major themes respectively. The findings are presented in a descriptive form supported by some descriptive statistics and direct extracts from field notes and interview transcripts.

RESULTS

The findings of this study which answer the research questions stated earlier are presented in the ensuing sections.

Happy and his operational nested contexts

Teachers operate in a. The ensuing section describes Happy's characteristics, his operating environment and how it influences his teaching practice. Happy has been teaching chemistry as a stand alone subject or in combination with physics (physical science) at ordinary level in different schools for the past seventeen years. He holds a Bachelor of Education degree in the area of chemistry after a post 'O' level certificate in education at secondary school level. Happy does not belong to any association of science teachers and never attends any meetings called for by chemistry clusters in the district. He taught all his chemistry lessons during the period of research. He has been stationed at Northgate High School for the past seven years. Northgate is an 'A' level co- educational school that is located in an urban low density suburb in one of the large cities of Zimbabwe. The school is well established, well resourced and academically reputable. At the time of this research Happy was teaching one form 2 general science class, one form 3 chemistry class and one form 5 chemistry class. The total teaching load was 22 periods per week. The form 3 class of 30 pupils had 6 chemistry lessons per week and followed the ordinary level chemistry syllabus (5071). The class has its lessons in a well equipped chemistry laboratory with a lecture section on one end.

For the past twelve years, Happy has consistently produced good results in chemistry at both 'O' and 'A' level with average pass rates of 90% and 96% respectively. He uses English for instruction. Happy's chemistry teaching falls within a nested context environment, which starts with the classroom environment level. It then interacts with outer and higher level environments, which are; the department of science, other departments in the school, the school location, the ministry and the nation of Zimbabwe at large i.e. business, industry and society in general. This means his classroom practices are indirectly or directly influenced by

both the macro and micro environmental level factors as depicted in figure 2, appendix 1. His beliefs about stoichiometry teaching reflect his TDK and influence his practices as indicated by MTK as he operates in his nested context environment.

Emerging Belief categories

The personal beliefs that guide Happy's stoichiometry instruction fall into four categories These categories are identified as objectives of teaching (OOT), perceived conceptualisation of learning (COL), complexity of concept (COC) and mathematical reasoning application (MRA). These belief categories were interpreted on a continuum from traditional to modern beliefs as postulated by Markic (2008) in Markic and Eilks (2008). Figure 3 shows that a major proportion of Happy's belief's about teaching and learning stoichiometry contributes to the OOT and COL categories, which is approximately 65%. His teaching of stoichiometry concepts in any of the belief categories is focussed towards recall of facts, symbols, formulae and step by step procedure of balancing of chemical equations and solving of stoichiometric problems respectively as evidenced in his overall stoichiometry teaching strategy in Appendix 2, Figure 4.
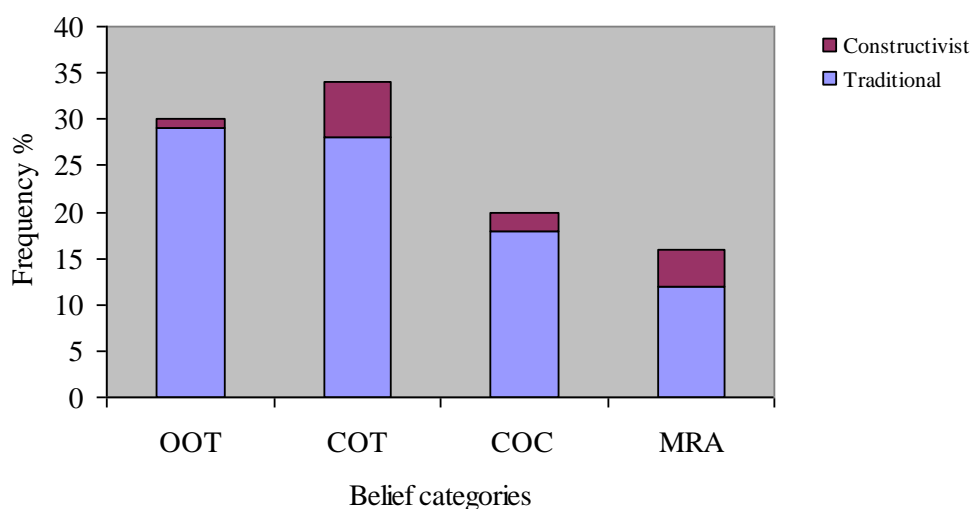
Figure 3: Stoichiometry Teaching and Learning beliefs

The results in Figure 3 also show that Happy holds both the constructivist and traditional beliefs about the teaching and learning of stoichiometry. The traditional beliefs override the constructivist beliefs.

Mr. Happy's overall strategy in his stoichiometry lessons is based on his perception of the complexity of concepts developed, how best his pupils learn the concepts and his past experiences of teaching the topic. The strategy is constructed from his work preparation (scheme of work) and topic lesson delivery during lesson observations. Happy confirmed the strategy in one of the belief interviews when he said:

> Teaching from the language to solving stoichiometric problems is the best approach I have learnt to use over the years. …..many of my pupils experience problems with this topic no matter how intelligent they are, so I have to go over and over again until they get used to the difficult ideas.

Happy's objectives of teaching stoichiometry

Mr. Happy's objectives of teaching stoichiometry are examination driven. He is obsessed by the idea of maintaining a high public examination pass rate and his reputation as a good chemistry teacher. His classroom activities are mostly teacher directed, controlled and dominated (Figure 5).
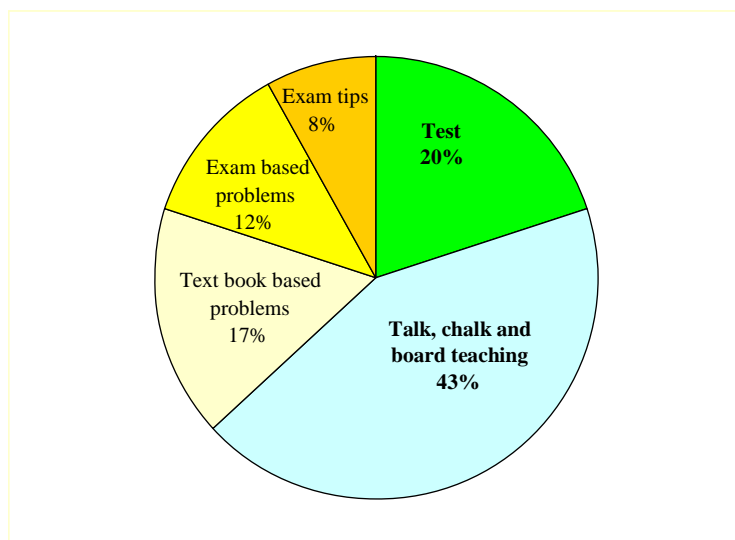
Figure 5: Happy's main classroom activities time proportion

The time he spends on a particular aspect of the stoichiometry topic is determined by its frequency of appearance in public examinations and how it affects the understanding of subsequent topics e.g. kinetic theory, chemical reactions, chemical energetics, acids and bases, and practical chemistry topics. Happy acknowledges that he takes his time to explain the mole concept and on a step by step basis, carry out calculations and determine the formulae of compounds for the reasons summarised in one of his interview responses:

I devote my time to formula determination, balancing of equations and stoichiometric calculations in relation to the mole concept. The mole concept is a very difficult topic. My pupils have always gained understanding of this difficult concept through practice with problems from text books and past examination papers. …. Textbooks are not a problem here and I photocopy past examination papers for them to use during practice. They have no way out except to understand the concepts for further use in the topics I will cover next. This is good preparation for examinations.

The follow

Magnesium Oxide is produced by burning oxygen as shown in the equation below

$$Mg \quad + \quad O_2 \quad \longrightarrow \quad MgO$$
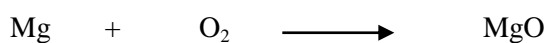
What mass of Mg is needed to produce 0,5g of MgO?

Step 1: Balance the equation if it is not balanced
Step 2: Highlight the substances involved from the question
Step 3: Write down the relative masses under each of the substances involved
Step 4: Establish the stoichiometric relationship
Step 5: Construct the arithmetic problem and solve it

Solution

$$2Mg_s \quad + \quad O_{2g} \quad \longrightarrow \quad 2MgO_s$$

24   40

?   0,5g

1149
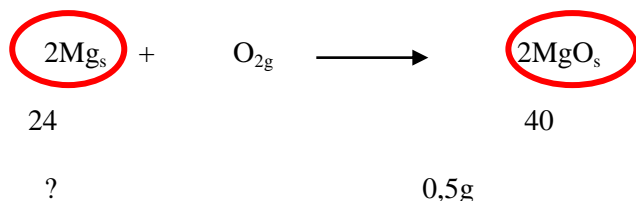
Stoichiometric relationship is established by looking at the ratio of the number of moles of each of the involved substances
Then you circle them as shown

The mole ratio of Mg and MgO is 1:1 i.e. n(Mg)= n(MgO)
Where n is number of moles.
Therefore, number of moles (n) = mass (m)/ Molar mass (M)
Therefore the arithmetic problem to solve is
m(Mg)/M(Mg) = m(MgO)/M(MgO)
and start by making mass of Mg the subject of the formula
m(Mg) = m(MgO)/M(MgO) x m(Mg),
Substite the formula and/or symbols with the value for its amount
That is, [(0.5/40) x 24]g   = 0.3g

Happy deliberately omits some aspect of stoichiometry which I consider necessary for conceptual understanding. For example, he only mentions atoms and ions under the term particle leaving out molecules. The Avogadro concept is not clearly linked to the different types of particles. His position is that a holistic approach to the term particle will confuse his pupils. To him what is important is to remember the Avogadro constant and use it in calculations.

Happy's conceptualization of learning of the stoichiometry concept
Thirty five percent (35%) of emergent ideas about Happy's beliefs of stoichiometry learning and teaching fall within the COL category. Happy's beliefs about stoichiometry learning are traditionally inclined. He considers memorisation of definitions and the procedural aspects of stoichiometry as significant to learning of its concepts. He employs algorithmic and pneumonic approaches in his overall stoichiometry teaching strategy. As he teaches, he makes reference to the memorisation learning strategies of his days that gave him clues to remember some stoichiometry and chemistry concepts. For examples in one of he lessons he said:

> Formula determination is not all that easy. You need a lot of practice; however for those which occur regularly in examinations I tell my students to remember them. Such as,

His overall teaching strategy evidences some constructivist belief of learning stoichiometric approach. It is a prior knowledge build-up approach which shows linkage of concepts. However, his classroom practises to deliver the concepts are traditional belief based as depicted in figure 5. Mr. Happy's use of the language of chemistry without code switching as well as the non use of analogies is depicted in lesson observation and preparatory work. His reasons for the approach confirm he perceives memorisation and procedural learning as a crucial approach to learning. This provides an answer to his step by step approach to teaching. Mr. Happy said:

> I use stoichiometry language and not English in my teaching, to familiarise my pupils with them. Understanding of the language means understanding of what is taught. Analogies make things worse. I call a spade a spade. Either you get it or you miss it. But with time I make sure we are together. I do not associate myself with failures.

Happy's perceived complexity of concept
Mr. Happy's procedural stoichiometry learning conception is linked to his stoichiometry complexity view. In the interviews he consistently highlights that pupils experience difficulties in comprehending the mole concept, interpretations of symbols, formulae and equations and solving stoichiometric problems. He attributes stoichiometry learning difficulties experienced by his pupils to the nature of the topic. His emphasis is on getting used to the approach to teaching the concepts. His view of symbols and formulae as key aspects to the understanding of the topic emerged from his lessons and was confirmed in fieldnotes and interview excerpts. In the fieldnotes summarising observed lessons I wrote:

> In every lesson Mr. Happy places great emphasis on symbols and formula and their consequential effect on understanding of concepts covered in other aspects of the topic. He showed how symbols and formula are interpreted as and when he felt an opportunity has prevailed itself in all his lessons.

Mr. Happy confirmed this observation in one of the interviews as presented in the following excerpt.

> I call it a wake up tablet when I remind my pupils about symbol and formulae in almost every chemistry lessons. Chemistry is about these. You get it.

Happy's perceived stoichiometry learning mathematical reasoning application.
Mr. Happy's perceptions about mathematical reasoning application to the learning of stoichiometry are captured in the following interview excerpt.

> In my teaching of stoichiometry, I have noticed that many pupils have difficulties in understanding the thought processes involved to solve stoichiometry problems. Pupils in the chemistry class are good in mathematics. But though mathematics is applied in learning stoichiometry most of my pupils do not display the level of mathematical reasoning required in solving these problems. ……….My teaching caters for pupils with mathematical reasoning problems and gives advantage to those with it. So by the end of the lessons with or without mathematical reasoning all my pupils will correctly solve stoichiometric problems.

In follow-up interviews to probe Mr. Happy's mathematical reason application in teaching and learning stoichiometry beliefs, it became evident that he holds constructivist beliefs. He identified the standard form, mathematical operations, co-efficient, bases and change of subject in a formula as important in solving stoichiometric problems. He illustrated this argument with the Avogadro constant expression 6.02×10^{23} particles from the standard form $A \times 10^n$ and said:

> An understanding that n takes integer values only and A takes values between 1 – 10 helps the pupils to understand the calculations and check the answers. The base form view of the expression helps the student to understand the mole concept and express the amount of substance in various forms such as grams, moles, number of particles.

However, his emphasis on procedural learning of the aspects of stoichiometric is supported by his belief in teaching for external examination assessment objective. For example, the mole concept requires pupils to use the idea of amount of substance in calculations rather than conceptualise it. The traditional belief he holds in the teaching and learning stoichiometry aspects overrides the constructivist ones as depicted in figure 6. The major aspects captured in figure 6 are: Terms (T), Atoms, Elements & Symbols (AES), Compounds and Formula (CF), Reactions and Equations (RE) and Stoichiometry Calculations (SC).
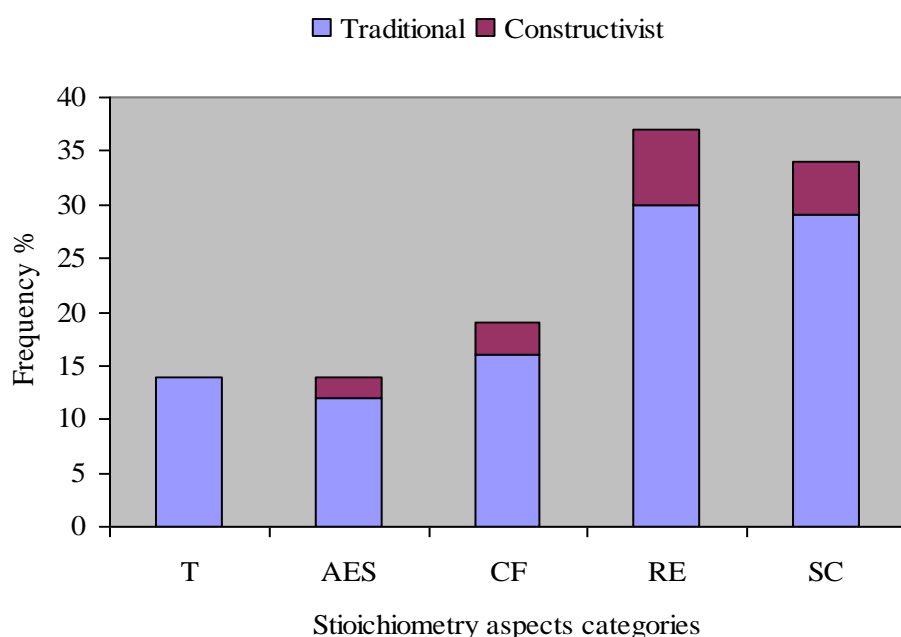
Figure 6: Stoichiometry aspects belief variations

SUMMARY, CONCLUSION AND IMPLICATION

To answer research questions 1 and 2, Mr. Happy holds both constructivist and traditional beliefs about teaching and learning of stoichiometry but the traditional beliefs override the constructivist ones. The findings also show that his self reliant and textbook based teaching of stoichiometry classrooms practices are teacher-centered, examination driven and traditionally-held beliefs oriented based addresses question 3.

The finding that Happy hold traditional oriented beliefs about stoichiometry teaching and learning is in line with Markic and Eilks's (2008) finding from their study on German first year chemistry student teachers' beliefs about chemistry teaching. Though this finding reflects the German context qualitative research authorities contend that readers can transfer such findings to other contexts. The findings from the two studies differ in that Mr. Happy is a qualified and experienced teacher whilst the German study participants were student teachers. Markic and Eilks (2008) also revealed that the middle and completing university teacher training programs student teachers have more modern (constructivist) beliefs about teaching and learning chemistry. This points out that professional development training plays a significant role in modifying teachers' beliefs. Therefore, chemistry teacher education departments and educators should incorporate in their programmes modern theories teaching and use them in their teaching to orient teachers` belief structure towards progressive teaching.

Happy's traditional belief orientation in his stoichiometry teaching may have stemmed from his school experiences (Calderhead and Robson, 1991 in Markic and Eilks, 2008) and teacher qualification training. His practice of teaching may remain static in as long as he continues not to participate in outside school academic activities. His traditional beliefs are also in large emanating from his teaching for examination focus. Markic and Elkis's (2008) concluded that the student teacher's exposure to the reality of the teaching career moves their beliefs slightly back towards a more traditional style. This confirms and provides a possible explanation to the beliefs Mr. Happy's holds. After training teaching experience seems to orient teachers' beliefs in the other direction, in the case of this study towards traditional beliefs. Therefore, Chemistry educators systems, with particular reference to Zimbabwe need to form an active chemistry education association for research and staff development activities. These may assist in modification of teachers' beliefs about teaching and learning.

The finding that Mr. Happy posses both constructivist and traditional beliefs about the teaching and learning stoichiometry is encouraging to any intervention strategies aimed transforming his teaching practices. Mr. Happy's traditional beliefs seem to be supported by the assessment system and his isolated teaching. Exposing him to in-service training seminars, research and activities and introducing a supportive examination system may have positive influence upon his beliefs.

My main concern as a chemistry educator is to search for efficient and pleasant ways of communicating chemistry concepts to learners at any level. One way to accomplish this is to facilitate positive change in the teacher's beliefs in view of the contention of by many researchers that changes in teacher's practices are often a result of changes in their beliefs. This study gives insight into the beliefs and teaching practices interactions and recommends further research on the topic with a larger sample of participant in different contexts.

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Appendices
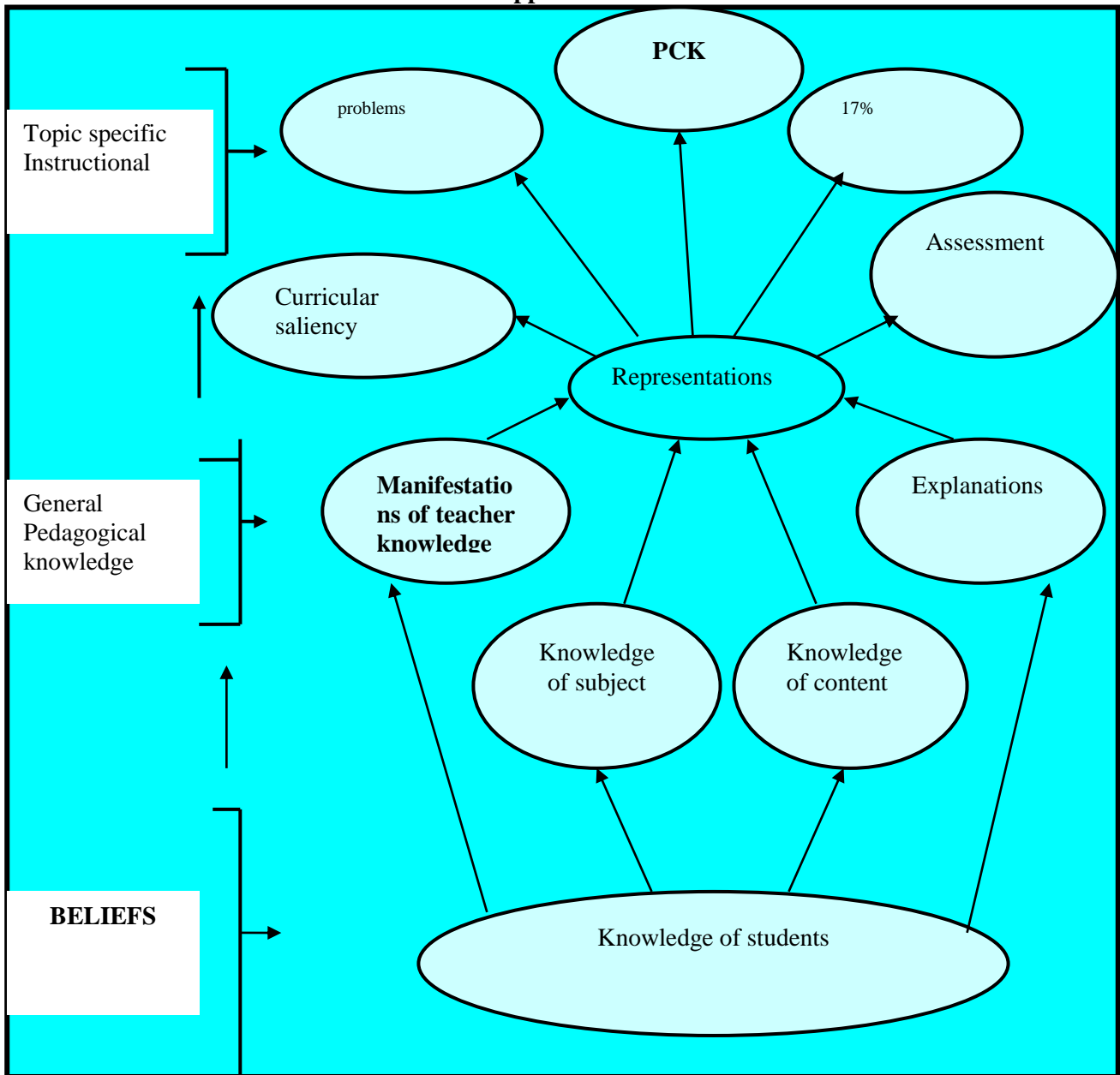
Figure 1: Rollnick, Bennent, Rhemtula, Darsey & Ndlovu (2008) model PCK Model
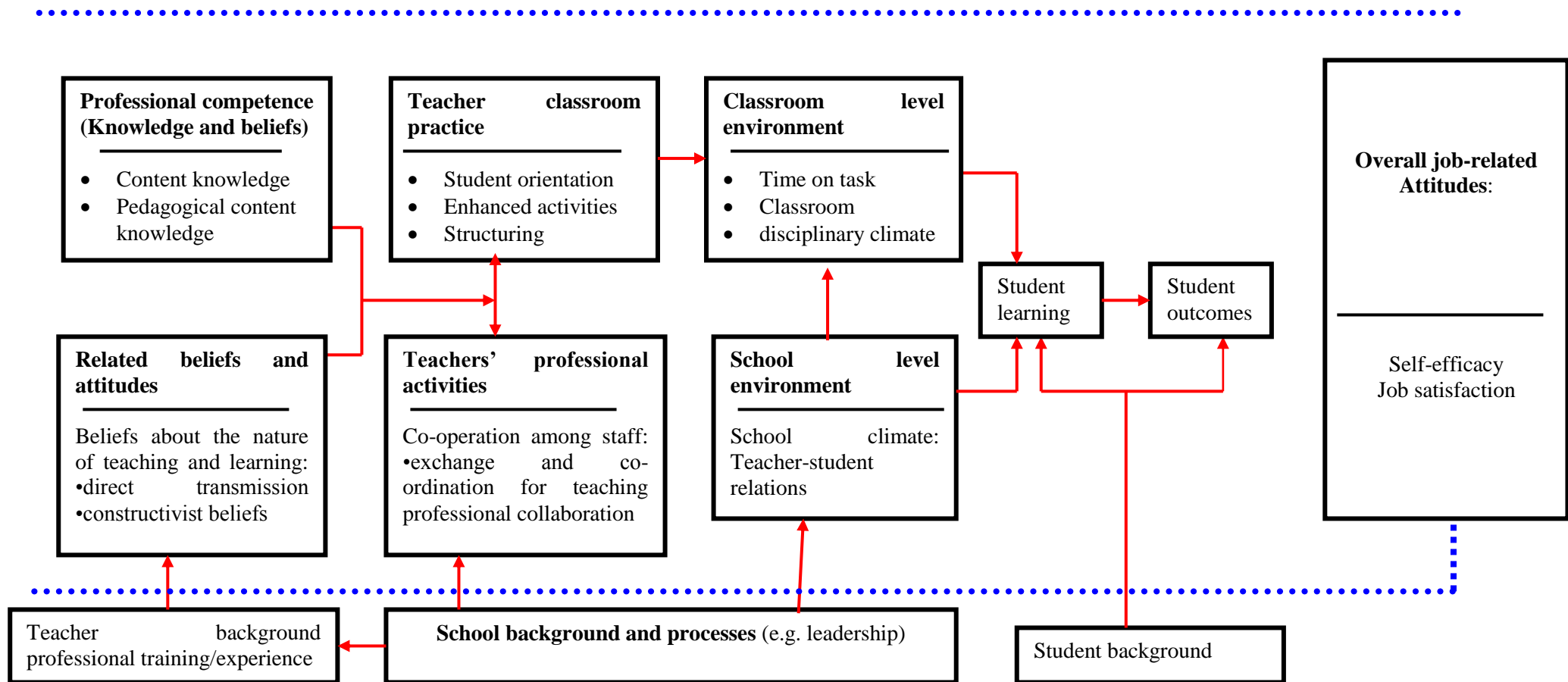
Figure 2: Framework for the analysis of teaching practices and beliefs (TALIS, 2009)

Student background

Figure 2: Framework for the analysis of teaching practices and beliefs

Introduced the topic by stoichiometry terminology

Compounds and formulae

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Atoms and elements

Equations
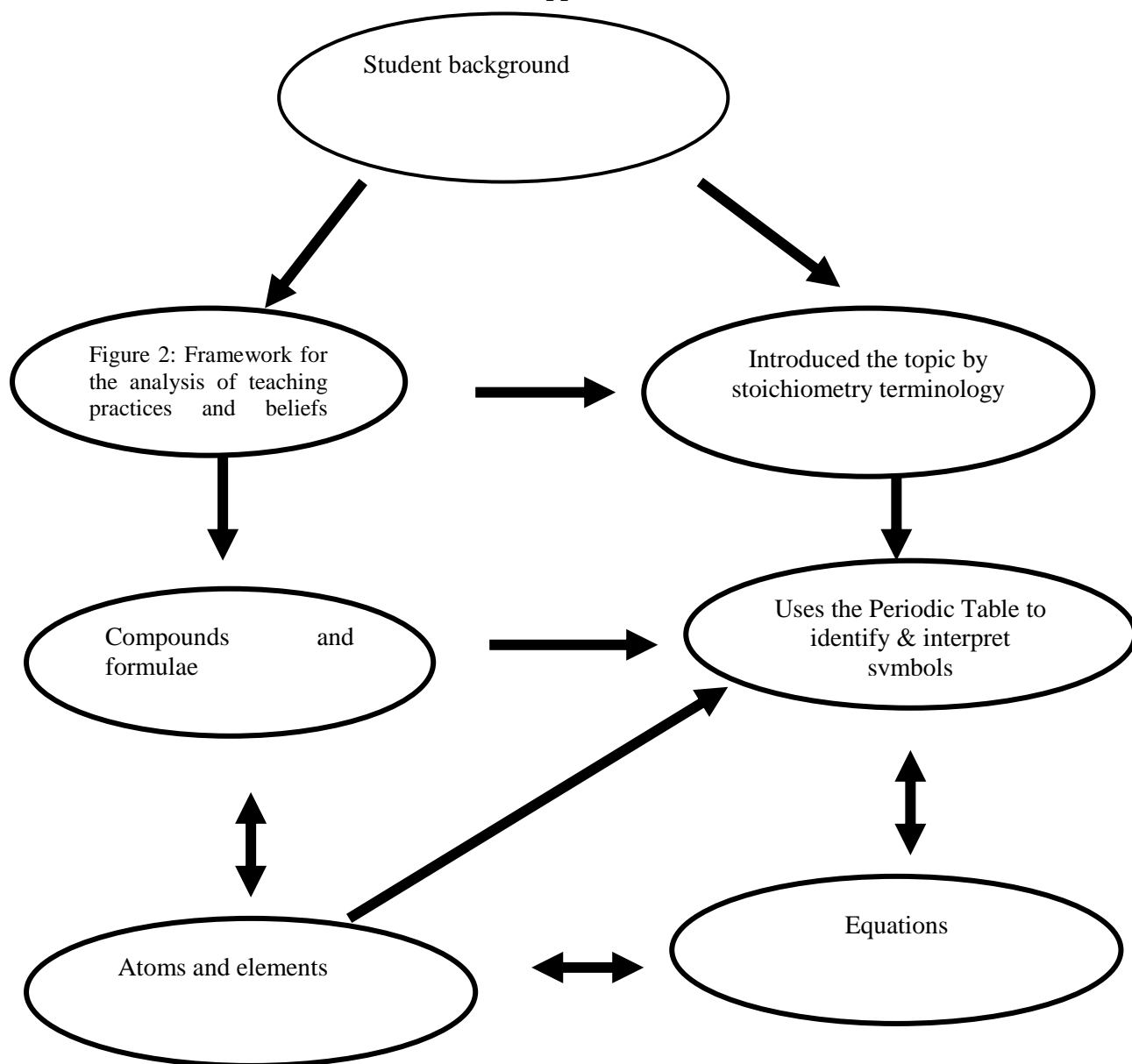
Chemical reactions
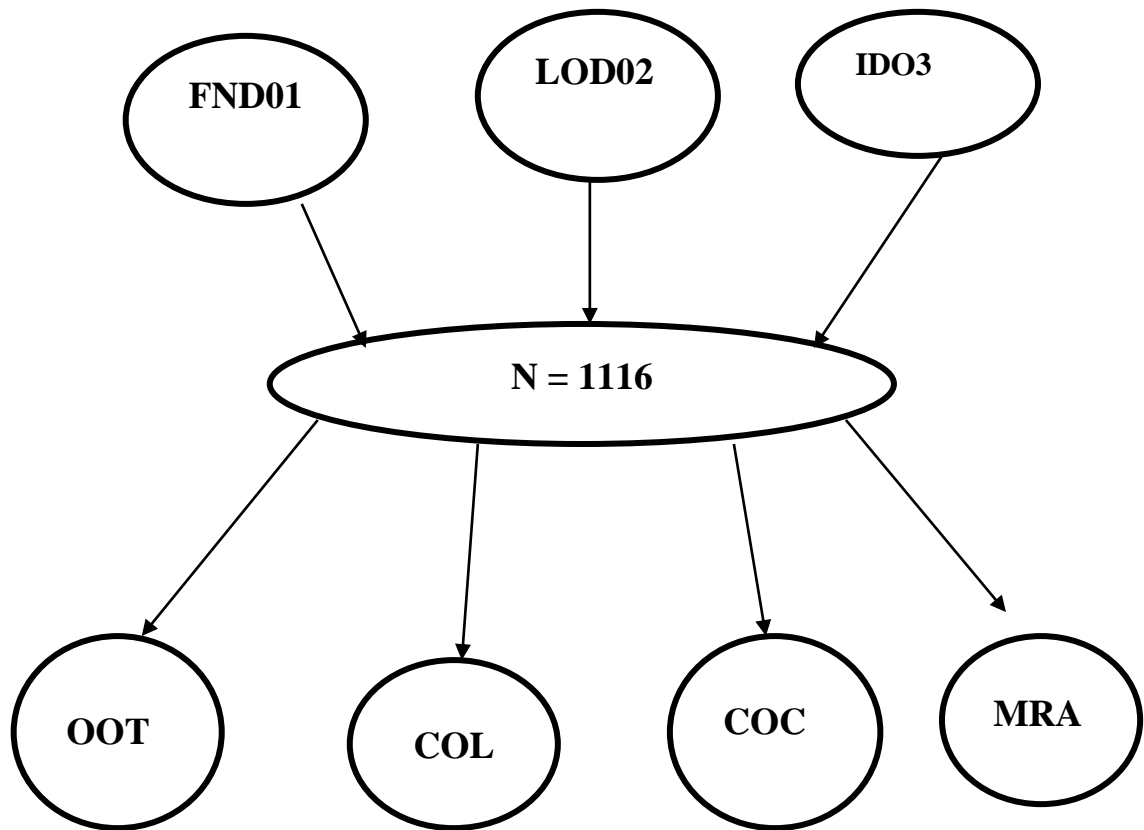
Figure 5: Data analysis flow chart

264 - Education for Citizenship in Spain: Students´ Conceptions of Citizenship in Secondary Schools

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Abstract: This empirical study explores the conceptions of young Spanish secondary students´ on citizenship. A questionnaire was applied to a sample of 2261 students of different grades (2º and 4º) of Secondary School that were studying in three autonomous regions: Madrid, Basque Country and Extremadura. The questionnaire was designed by different experts in citizenship education, and developmental and educational psychology. Each of the questions included in the questionnaire dealt with different aspects related with a set of dimensions which are essential to take into account in the process of developing and understanding a cosmopolitan citizenship. These dimensions were: democracy, diversity, globalization, sustainable development, empire, imperialism, power, prejudice, discrimination, racism, migration and human rights.The results indicate that the citizenship questionnaire is reliable and valid. With regard student´s conceptions of citizenship, results indicate that students show a trend that ranges from a more traditional conception of citizenship and human rights towards a more global and cosmopolitan one. There were differences between the conceptions of citizenship and human rights by grade and age. There were also differences by gender, type of school and students´ socio-cultural background. In the group of foreign students there were no significant differences.

Keywords: citizenship education, teaching and learning, cosmopolitan citizenship, globalization, social justice, human rights, secondary education, student´s conceptions.

INTRODUCTION

Over the last decades there have been a number of studies conducted on education for citizenship and human rights from different perspectives. One of the most representative works in this field is the "Civic Education Study" (CIVED), coordinated by the International Association for the Evaluation of Educational Outcomes (IEA), in which 28 countries had participated with the objective of making an assessment of adolescents´ civic knowledge and attitudes (Torney-Purta & Barber, 2005).

Moreover, other studies have focused on the conceptual discussion about citizenship and the educational approaches related to citizenship education (e.g. Argibay, Celorio & Celorio, 2009; Cabrera, Marin, Rodriguez & Espin, 2005, Crick 2007, Crick, 2008; Maiztegui, 2007, Trotta, Jacott & Lundgren, 2008; Velásquez, 2005; Youniss, & Hart, 2005). Also, other studies have addressed important aspects such as those related to the learning and teaching about citizenship and human rights issues (e.g. Akar, 2007; Alviar-Martin et al., 2007; Davies, Fülöp & Navarro, 2007; Flanagan, Gill, Cumsille & Gallay, 2007; Haste & Hogan, 2006; Navarro, Jacott & Maiztegui, 2011; Sim, 2008; Tourney-Purta & Barber, 2005), or with the different spaces and contexts in which education and training for citizenship takes place (Agra, 2008; Jacott et al., 2008; Moran, 2007). Nevertheless, there are very few studies devoted to analyze how young people understand citizenship (e.g. Lister, Smith, Middleton, & Cox, 2003; Osler & Starkey, 2003; Torney-Purta & Barber, 2005).

Thus, this study seeks to explore the student´s conceptions of citizenship in secondary schools of different Spanish regions: Madrid, Extremadura and the Basque Country. Specifically, our objective was to analyze to what extent students of different educational levels tend to have a more traditional conception of citizenship or a more cosmopolitan conception of citizenship and human rights, based on the work done by authors such as Banks et al (2005), Nussbaum (1999) and Osler and Starkey (2003).

METHOD

Design of the questionnaire
The questionnaire was constructed by different experts from a set of dimensions proposed by Banks et al. (2005) and Osler and Starkey (2003, 2005), which are essential to take into account in the process of human rights education and cosmopolitan citizenship, to namely: Democracy, Diversity, Globalization, Sustainable Development, Empire, imperialism, power, Prejudice, Discrimination, Racism, Migration and Human Rights.
The final questionnaire consisted of 30 questions whose structure consisted of a statement and three possible answers. The statement posed a hypothetical situation, although possible in reality, which contained important elements or different relationships with some crucial aspect of the dimensions. Response options consisted in three alternative responses to each hypothetical situation described, in which each participant had to select the one response that was the most consistent for him or her. In order to analyze the student´s responses, these three response options were given different values, depending if they were more related to a more traditional conception of citizenship or to a more cosmopolitan conception of citizenship and human rights.

Participants
The questionnaire was administered to a sample of 2261 students from different educational levels of compulsory secondary education (2nd and 4th grade), which belong to different public schools and private schools from different Spanish regions: Madrid, Extremadura and the Basque Country. The distribution of participants by age group can be found in Table 1.

Table 1: Sample distribution of participants by age

Age	Frequency	Percentage
13	384	17,0
14	633	28,0
15	472	20,9
16	592	26,2
$\geq$17	180	7,9
Total	2261	100,0

As it can be observed, the highest percentage of students is between 13 and 16 years of age. Within this age range is primarily the student population of 2nd and 4th grades of compulsory secondary education in Spain. With regard to type of school, it can be seen that 54.3% of students attend public schools, compared with 41.7% of students attending private schools.

RESULTS

In order to identify the conceptions that students had with regard to citizenship and human rights, the rating used in this study was based on the skill level obtained from the Rasch model. Thus, for purposes of analysis and interpretation of the results, the data obtained were divided into different ranges according to the quartiles of the distribution of the sample; forming four groups (see Figure 1).
The first group (q1) brings together students who have chosen response options that are closer to a conception of cosmopolitan citizenship, the second group (q2) brings together students whose answers tend toward a cosmopolitan conception, and third group (q3) brings together students who show a tendency towards a traditional concept of citizenship and finally, the fourth group (q4) is for students who have chosen response options that are closer to a conception of citizenship more traditional.
Figure 1 shows the results for each course. It can be seen that a greater number of students of 2 ° ESO course opt for the options tend towards a more traditional human rights and citizenship (56.1%), while a larger number of students in 4 of It shows a greater tendency to choose the concepts related to human rights and cosmopolitan citizenship (59.9%).
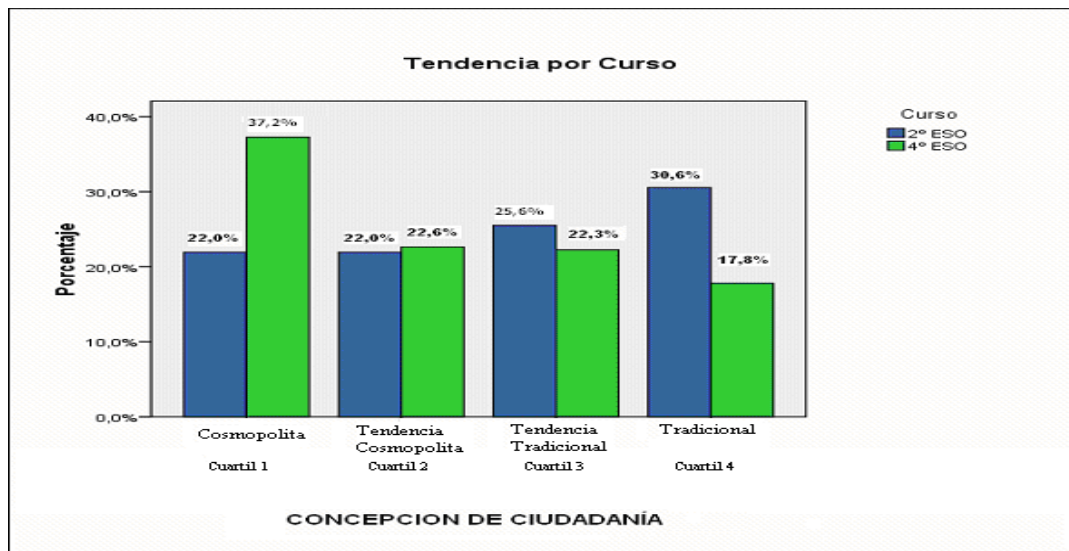
Figure 1: Percentage distribution according to the concept of citizenship obtained for each educational level

Figure 2 shows the results by type of school. It can be seen that there is to some extent an homogeneous distribution in the case of students attending public institutions, in this case showing a slight preference for the options that tend towards a more traditional conception of citizenship (51.74%), while a larger number of students in private schools show a greater tendency to a more cosmopolitan conception of citizenship (55.22%).
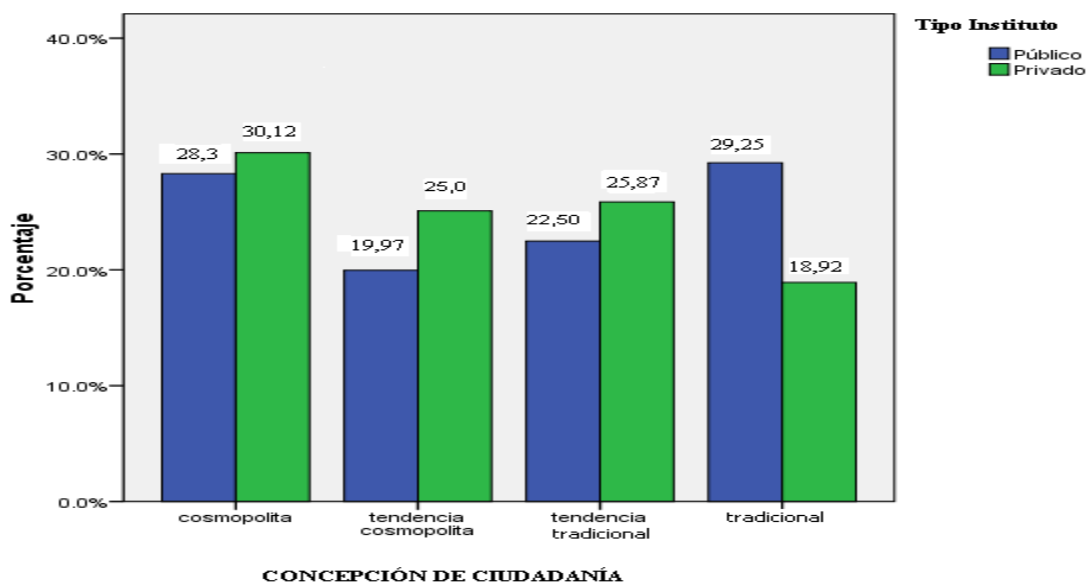
Figure 2: Percentage distribution according to the concept of citizenship obtained for each type of school

The exploratory analysis presented in the box plot (see Figure 3), suggests that there are differences between Spanish and foreign students in relation to their conceptions of citizenship, showing that Spanish students tend towards a more cosmopolitan approach while Foreigners students tend to a more traditional approach of citizenship.
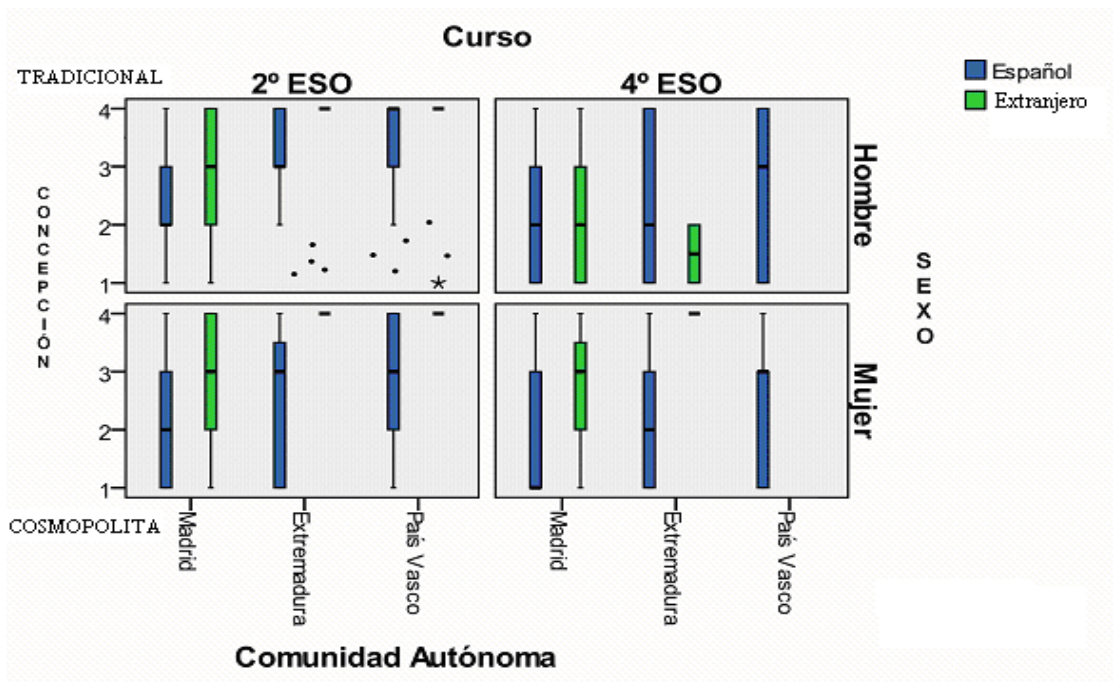
Figure 3: Students' conceptions of citizenship with regard to their educational level, gender and region

At the same time, figure 3 shows the differences found between students from different regions with respect their conception of citizenship. In this case, students of the Autonomous Community of Madrid show a greater tendency towards a more cosmopolitan view of citizenship, while students of the Community of the Basque Country show the opposite trend towards a more traditional view of citizenship.

Another interesting data are the differences between men and women. As can be seen in the same Figure 3, women tend towards a more cosmopolitan approach of citizenship while in men shows the opposite trend, preferring to a more traditional approach.

These differences can be seen in the box plot (Figure 3), based on the median and the dispersion measures that are shown in the boxes. The black horizontal line corresponds to the median, which is inside each green or blue box. The lines emerging from each box inform us about the extremes values of minimum and maximum, in which each end of the box corresponds to the percentiles 25 and 75, respectively.

Furthermore, based on this information, we performed a multiple correspondence analysis, in order to analyze the possible relationships that might exist between the different Spanish autonomous communities, nationality, gender and educational level in regard to the different conceptions Citizenship (Figure 4).

As shown in Figure 4, the data reveal that the notions of citizenship that show a greater tendency towards a more traditional approach are associated with: the Community of the Basque Country, males and students from the 2nd grade of compulsory secondary education. These data can be seen in the upper circle of this figure. In contrast, the data show that the conception of citizenship that shows a greater tendency towards a more cosmopolitan vision is associated with: the Community of Madrid, females and students from the 4th grade of secondary compulsory education. These data can be seen in the lower circle of Figure 4.

Also in this same figure, it can be observed that these variables are more associated with the Spanish origin of the students than with their foreign origin, if we take into account that students of foreign origin are located in the opposite side of the figure.

Once detected the existence of relationships between demographic variables and different conceptions of citizenship, the respective statistical tests were performed in order to see if the differences shown between each of the categories of variables were statistically significant.

CONCLUSIONS

This work has allowed us to identify student´s conceptions of citizenship in compulsory secondary education. Our results reveal different trends shown by students toward a more traditional or more cosmopolitan conception of citizenship, depending on their level of education, type of school they were attending (public or private schools), and the autonomous region in which they were living. Overall, the data reveal that students of the 4th year of compulsory secondary education (16-17 years old) show a greater tendency towards a more cosmopolitan citizenship, when compared with students of 2th grade (14-15 years old).

On the one hand, these results are to some extent similar to those reported by Lister, Smith, Middleton and Cox (2003), where the dominant model of citizenship for young people when they were asked about how they perceive citizenship and how they see themselves as citizens, was related to a more relational model of citizenship. Along with this model, it is noteworthy that some young people gave importance to the participation on their own life experiences, in which an important element was focused on the constructive social participation within the various communities in which they participate, although this was not the dominant model. On the other hand, the data from this study also showed how young people frequently understand citizenship based on a number of models simultaneously, when they try to make sense of citizenship and their own identities as citizens. These facts illustrate that young people still are not able to handle a more definite conception of citizenship.

Also, the results obtained in this work are in line with those obtained by Osler and Starkey (2003), in their study with young people that were living in a multicultural community of Leicester in the UK. This study revealed how these young people tend to have a more cosmopolitan conception of citizenship, showing also multiple and dynamic identities in their lives.

In general, the results of this study indicate the existence of important relationships between different conceptions of citizenship and the variables: type of school, gender, educational level (age), region and country of origin.

Regarding gender differences, it is important to note that they are consistent with the results reported on research conducted in 28 countries by the IEA "Civic Study", in which women had not only a better understanding of Human Rights but also showed more support for minority groups (Torney-Purta, Wilkenfeld and Barber, 2008). Similar results were obtained in a study conducted with teacher training students from three different countries (Spain, England and Hungary), in which women showed more positive attitudes towards cultural diversity (Navarro et al, 2008). Also the study carried out by Haste and Hogan (2006) showed similar results in relation to the fact that women scored higher on issues related to helping the community and the environment.

Furthermore, the differences between the different conceptions of citizenship by educational level may be due to developmental differences in the cognitive and social development of the students (ranging from 14-15 years old to 16-17 years old), which may explain their different views on citizenship in the two educational levels studied.

Similarly, other factors may be influencing the development of different conceptions of citizenship by young people, such as the social, the family and the national context (Alviar-Martin, Usher, Randall and Engelhard, 2008), as well as the learning and experience that take place at the school. In this line, an important element that has to be taken into account is the influence of the curricular subject of Education for Citizenship, as well as the specific civic culture that has been implemented at each school with respects some important dimensions of citizenship. Therefore, it is important to look into these aspects in order to establish which variables are influencing the development and understanding of citizenship issues.

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277 - Territories and Rural Education in the Serras do Brigadeiro

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Abstract: The present work is part of a master's degree research that aims to analyze Rural Education experiences and education dynamics taking place amid processes of peasant territorialization. Therefore, we sought to identify advances, contradictions and challenges faced by Rural Education in Brazil nowadays. This work presents theoretical considerations on the concepts of Rural Education, Peasant Territory and Education Territory, which guide the construction of the problem investigated and support our analyses of the social representations constructed by the participants in different education experiences. Our preliminary and partial analyses reveal diversity of social representations of Territory, Rural Education and Education Territory, indicating the occurrence of territorialization processes in search of new forms of sustainable rural development, based on agroecology and respect to cultural and environmental diversity.

Keywords: Rural Education; Educational Territories; Peasant Territorialization.

RURAL EDUCATION AND PEASANT TERRITORIES

The expression *Rural Education* and its concept started to be constructed in 1990, but important references are found in Popular Education, which, for Paludo (2006), originates from popular social movements of Latin America (Movimentos Sociais Populares da América Latina). It was created and expanded as a set of educational theories and practices in opposition to those traditional and hegemonic. This type of education seeks empowerment, organization and prevalence of the working class, aiming at the construction of popular alternatives for education and development. Therefore, it becomes an instrument of struggle against oppression and exclusion, seeking to offer holistic and comprehensive education for people who have rights, historic memory and ability to understand reality critically. Similarly, Silva (2006) presents Popular Education as *"a set of practices that are performed and developed in a historic process in which the popular sectors are immersed"* and as *"strategies of struggle for the survival and freedom of these sectors"* (Silva, 2006, p. 70)

Rural Education presents the construction of an education Project that reinforces the importance of educational activities for humanization and critical integration of individuals into society (Caldart, 2004), from the perspective of peasants, conceiving the struggle for a rural concept of education, rural area and development that deals with different social groups and hegemonic development models. Rural Education, according to Caldart (2004), can only occur along with the transformation of dehumanizing social contexts, based on the rise of rural people as the subjects of these transformations. Therefore, education is conceived as a work done by country people, "Rural Education as intentional cultural resistance targeting cultural changes and more comprehensive humanization" (Caldart, 2004, p. 155). It means, therefore, that education is made *by* and not *for* country people. It belongs to them and, at the same time, seeks to make them organized, engaged and involved, participating in the decisions about their own destiny.

Rural Education involves different subjects that live and work in the country area and constantly face processes related to territorialization, deterritorialization and reterritorialization. The movements of communities affected by dams, for example, reveal the struggle of subjects constantly deprived of their territories because of the construction of hydroelectric plants that flood large inhabited areas and change the flow and volume of waters throughout the course of rivers. These dams, many times related to interests of private companies and the hegemonic energy model, demonstrate the selection of a development model that provides territory to capital, transforms resources into money, life into goods and takes territories from people of the country, allocating communities in different sites as though their territorial needs could be supplied by material things, such as soil, a house or a street.

Monoculture and biotechnology are also examples of loss of territory in the country, through the increasing use of transgenic seeds. The pressure made by large companies that deal with monoculture, including eucalyptus in the northern Espírito Santo and sugarcane in the Triângulo Mineiro, induces many family

farmers and peasants to sell or rent their lands and move to cities, and they hardly ever manage to return. Besides, transgenic seeds make farmers depend on the companies that produce them, hindering the autonomy of farmers over their lands. In some cases, transgenic plants contaminate Creole plants in other properties, which occurs to maize, whose pollen is spread by air.

The movements of landless rural workers are another example, when they occupy unproductive lands or lands where workers had been illegally exploited, when they recover areas that had been a symbol of inequalities, in which the organization of the agrarian sector expels people and confiscates their lands, giving a new meaning to that site, providing a new territory to peasants and, many times, grouping subjects of different origins, from different locations, with different territorial concepts, that will affect the forms of organization of these new territories...

The Conquista Conjunta de Terras (Joint Conquest of Lands), in Araponga-MG (Campos, 2001), is also a movement focused on territories that enables landless family farmers, sharecrops and tenants to acquire properties, also constructing a network of communitarian and social relations among farmers and strengthening their organizations.

Rural Education is strongly rooted in rural social struggles that demand access to land and decent permanence in the country site, also understood as educational processes. While emerging as a consequence of many of these claims and mobilizations, Rural Education is also an instrument of this struggle for the construction of new political projects for the development of rural areas. In this sense, according to Arroyo (2004), education for rural areas cannot be treated isolately, but it must be inserted in broader discussions about the present rural context. For Caldart (2008), it should also consider the logics of life in the country and its multiple dimensions. Therefore, it must be related to the perception that the space it occupies and recreates is its territory. Thus, there is no way to separate Rural Education dynamics from the territorial processes experienced by the rural population.

The expression "of the country" in Rural Education is related to the identities and historical processes experienced by social groups in rural environments. The subjects of Rural Education and of the country are the same (Caldart, 2004), those who live and remain in rural areas: peasants that struggle for land reform and better living and working conditions in the country, farmers that defy an exclusionary model of agriculture, former slaves and Indians who seek to enforce their rights and identities, riparians, landless people affected by dams; country people and people from the waters and forests, etc.

Although Rural Education has multiple subjects, coming from several contexts, it is possible to say that they form social groups of peasants, because they resist and continue living in the country, occupying spaces, constructing, creating alternatives for production, income generation and education, deconstructing and reconstructing territories, searching for alternatives different from those historically imposed to rural populations by hegemonic country models. Rural Education, as a process of knowledge construction and as a movement of peasant resistance, is also a process of identity construction, peasant identity affirmation, with its characteristics, living spaces and territories (Fernandes, 2008, p. 63).

The concept of territory has been discussed in many fields of knowledge, mainly in studies on societies and their geographic spaces. Territory is many times understood as a limited and controlled space upon which certain power is exerted, many times the power of a state; as a product of appropriation and symbolic valuing by a certain social group; as a space for economic relations; and as a space for the expression of the relations between society and nature, of certain forms of interaction, use and appropriation of natural resources. These are some forms of understanding that reveal some aspects of territories: their political, cultural, economic and natural dimensions (Haesbaert, 2003, p.13).

For Haesbaert (2007), the approaches that prioritize the political dimension of territories and those that favor its natural dimension constructed the two most traditional thinking in the geographical definition of this concept. The cultural dimension of territories have also deeply affected theoretical debates based on the reframing of local dimension, identities and specificities that draw the attention to the existence and re-existence of different social groups. Although seeming to be different trends of analysis of territories and being used this way many times, these dimensions are complementary for understanding space dynamics, forms of organization of social groups, symbolic and power relations, relation with nature, the State and the interests inside and outside territories.

Territories, as a social construction, follow the dynamics of the groups that created them and are always moving, through constant processes of construction, deconstruction, creation of a new meaning or reconstruction, or processes of territorialization, deterritorialization and reterritorialization, which occur at different time intervals, either some hours or over generations, determining continuous or discontinuous spaces, whose limits are well defined or more fluid, with overlapping boundaries and territories that coexist in the same space...

Contemporary authors, including Rogério Haesbaert and Marcelo Lopes de Souza, consider territories as a force field holding different spatial and temporal scales, spatially limited by the social relations of power in their multiple dimensions: political, economic and symbolic. Thus, they emphasize the relational character of territories, instead of considering them as a physical substrate or a material basis that preceded societies.

Territories, "are essentially a defined space limited by and from relations of power" (Souza, 1995, p.78). They should not, however, be confused or reduced to the image of the State, to which the concept of national territory is connected, nor to the recent ideas about Rural Territories and Territories of Citizenship, in the scope of public policies and rural development, which will be later discussed. A territory can be understood as the projection of social relations in space, the result from the articulations among local social actors that recognize a common identity, creating a web of forces and social and power relations, leading to the definition of a limit based on otherness (Flores, 2003; Souza, 1995).

Territory is also defined as a "space simultaneously dominated and appropriated" (Haesbaert, 2002, p. 121), where there are forms of control by a certain group or class, in which bonds of social identity are created. Domination and appropriation constantly occur in an unequal relationship of forces. In the same vein, Fernandes (2004, 2008) declares that territories, regardless of their form and content, are always a political construction based on relations of power. Territories are a convention and confrontation: "Exactly because Territories have limits and boundaries, they are a conflicting space" (Fernandes, 2004, p.4).

Therefore, territories are understood as places of connections, nets and social, political and symbolic articulations among groups and subjects in a geographical space, which delimit a social space while creating movements among local, regional and global scales. Social nets involve the internal and external flows of territories. The flow of ideas, practices and existence generates the following movements *i)* territorializing, which establish new territories, connecting actions and social groups, defining new limits, boundaries, territories; *ii)* deterritorializing, which disrupt political, economic and cultural frontiers, and at the same time, *iii)* reterritorializing, which interconnect different spaces, subjects, ideas and actions (Haesbaert, 2002).

TERRITORY AND EDUCATION IN THE SCIENTIFIC FIELD

In the field of educational research, the concept of territory has been observed more often in studies and scientific works on Rural Education, maybe because this is a field of interdisciplinary research (Ferrari et al, 2009), gathering interests of different areas of knowledge, including Education, Geography and Sociology; focusing on the geographical area, on a certain social group and its territories, supporting Rural Education and not only education in the country, thus discussing the issues related to the development of the rural space, namely, land reform, forms of organization and the strategies of social reproduction of family farming and peasants; through articulation with rural and urban social movements; dialogue with public policies for education and rural space, which, since the last decade, have been adopting, as we will see later, the perspective of " territorial development", a concept permanently discussed in the current scenario.

Over the past two decades, authors and researchers on Rural Education have discussed the concept of Territory, including Fernandes (2004; 2005; 2008), who perceives territories as a multidimensional category fundamental for research on Rural Education, conveying the understanding of rural areas as a peasant territory, thus bringing into discussion the issue of the development intended for the rural space. The idea of territory can be identified between the lines in the approaches of Miguel Arroyo (2004) and Roseli Caldart (2004; 2008), although this concept is not always used directly. It is observed in a concept that has been discussed for a long time in Rural Education by researchers and rural social movements: the expression *of the country*, instead of *in the country*.

Although being used for some authors, territory is a concept under construction in Rural Education. The data of the exploratory study, in which we analyzed the academic work of Rural Education researchers on territory (Ferrari et al, 2009), reveal that the concept is not focused on research works and is employed based on many theoretical references, which may indicate, on one hand, an incipient appropriation and the need for greater depth about the concept of territory, and, on the other hand, the diversity of approaches and expansion of the theme "Rural Education and territory" nowadays. In the same vein, a continuous exploration of this issue is necessary due to its theoretical relevance, the existence of some gaps in this field of knowledge and the daily challenge faced by Rural Education to construct an educational rationale centered on the collective subject and not only on schools, also considering the importance of the territory to which it belongs, of the social context in which it dwells and the movement that supports its affirmation as subject. Therefore, a study on territories and Rural Education has much to contribute.

TERRITORY AND EDUCATION IN THE FIELD OF PUBLIC POLICIES

The concept of territory is also conquering space in the field of public policies. In 2003, a rural development program focused on territory carried out by the Secretary of Territorial Development (SDT) and Ministry of Agricultural Development (MDA) was implanted in Brazil. Ever since, 164 Rural Territories were created in different states and regions of the country (Brasil, 2010).

The implementation of these territories creates new arrangements among cities and between government and society for the management of public resources. This territorial focus, namely, the approach that deals with the scope and concept of territory in the rural development is explained in the official discourse (Brasil/MDA/SDT, 2005) by the need for relating rural space not only to the agricultural sector; because of its local action scope, although more comprehensive than a municipality; its compliance with the current movement for political decentralization, adopting ideas such as the participation of different social actors, the strengthening of social nets and the relation between public and private enterprises, social and productive policies, internal and external instruments, targeted at "sustainable development".

Since 2008, with the creation of a program called Territories of Citizenship Program (Programa Territoriesda Cidadania), some rural Territories were reorganized and started to be considered as territories of citizenship, including different actions in three axes connected to 22 Brazilian ministries: productive activities; infra-structure; and citizenship and rights. Today, there are 164 Territories, 120 of which are Territories of Citizenship (Brasil, 2010).

Rural Territories were created not only in Brazil. Nowadays, there are many processes that arise from or as part of globalization, highlighting more localized ranges. Several authors have focused on local phenomena and dynamics, using different concepts and approaches: "relocalization" (Canário, 2005), "reterritorialization" (Haesbaert, 2002), "recontextualization" (Giddens apud Canário, 2005), or even "reimplantation of the social bond at territory level" (Rifkin apud Canário, 2005).

In the context of the creation of Education Territories of Priority Intervention (TerritoriesEducativos de Intervenção Prioritária - TEIP) in Portugal, Canário (2005) analyses the relocalization of schools, mainly rural schools, related to a rationale of local development. This author reveals two different theoretical ideas about relocalization and makes us curious about the difference between the construction of School Territories and Education Territories. For this author, the TEIP convey an idea of territory connected to the construction of school nets seeking rationalization and efficiency in school management. The concept of Education Territories, on the other hand, emphasizes education activity in a dimension beyond school space, pointing out the spatiality of education, in which the education space is the social space. The understanding of the education activities amid a territorial context is a key aspect, according to Canário (2005), for the construction of meanings, something essential for learning, and helping education in the creation of emancipatory dynamics that change social contexts, placing education in the center of a political and philosophical debate, relating education project to political project.

TERRITORIES AND RURAL EDUCATION: A RESEARCH PROBLEM

The concept of Education Territories used by Canário (2005) seems to be close to the concepts and principles of the Rural Education in Brazil, mainly in relation to the principle of Rural Education for the construction of a political project for the development *of the* country. However, this concept does not involve satisfactorily the territorialization processes deeply influenced by education. The concept of Education Territory seeks to contribute to education by the territorial rationale, and education does not separate education from politics and territories. Rural Education, beyond the construction of this Education Territory, also aims to contribute for the consolidation of the peasant territory, materialized as a space for life, work, struggles and education. Therefore, together with the concept of Education Territories, we can think about Rural Education dynamics – or country education dynamics – which take place in peasant territories, as an alternative to materialize a territory in space, consolidating rural territorialization.

In a research carried out on a Rural Education experience in the Serras do Brigadeiro, in the Escola Família Agrícola Puris (EFA Puris), Zanelli (2009) deals with the construction of territorialities based on actions of family farmers in the municipality of Araponga-MG, such as the Joint Conquer of Lands (Conquista Conjunta de Terras) and the transition of a conventional agricultural model into agroecology, which is understood as a different approach for thinking and practicing agriculture, relating popular, traditional and scientific knowledge with practices appropriate for each context, based on social and environmental sustainability, solidarity, empowerment of farmers, food diversity and sovereignty and the construction of autonomy, which leads to technical and political transformation of conventional agriculture. The territorialization process of the agroecological knowledge, which can also be considered, ultimately, a form

of country territorialization, according to Zanelli (2009), is carried out with the consolidation of the EFA Puris, in a long trajectory seeking to strengthen family farmers in the region.

> More than a school targeted at Rural Education, [the EFA-Puris] it encompasses the broadening of the territory of family farming in the region (Zanelli, 2009, p. 64).

According to the author, the EFA leads to considerations about the local context, seeking to empower organizations and create mechanisms to make young students overcome difficulties and construct new forms of thinking and living in the rural space, in other words,

> a school located in an area of conquest of land is more than an object in the space; but [...] the materialization of territorialities historically desired and constructed through organization, a collective work of freedom seekers, addressing farmer social reproduction (Zanelli, 2009, p. 66).

In another research work on resistance, the resilience of indigenous Puri in the Serras do Brigadeiro, Barbosa (2005), highlights the invisibility and silence of rural workers of Araponga-MG, resulting from a long historical process of cultural standardization and colonial domination; and it corroborates the signs of the emergence of territorialities of the country, of construction of other possible contexts by means of agrology and ecopedagogy, affirming that:

> Secular invisibility and silence, which shadow and limit the absence of certain people, in that specific territory, cannot hide social memory and reality, which keep on resisting cultural uniformity imposed by the colonial historical domination. Today, this patient, persistent and resilient colonial trait demands space to construct another possible reality, unheard-viable (...) territories update and manage the popular poetic hearing that creates concepts through the complex local elaboration of agroecology and ecopedagogy. (Barbosa, 2005. P. 28)

The Rural Territory of Serra do Brigadeiro (TRSB) was the focus of a previous study (Ferrari, 2008), in which we observed the existence of multiple territorialities that do not comply with the rationale of construction, space and limit that created the territory, in the scope of politics and rural development. In other words, there are different territories socially constructed in areas within the formally implemented Rural Territory, which are reduced to the limits of the territory implemented, of the space defined by public policies, articulating conflict, overlapping or defining their boundaries very well, demonstrating more diversified and complex territorialities. The data of the research revealed the existence of social nets created by kinship and neighborhood, labor relations, articulations of the movements, social and union organizations, flows according to the need of access to services and markets, among others.

This research also revealed the existence of concepts of territory expressed by people directly involved in the management of the Rural Territory, which were somewhat shared by their social groups. However, among the concepts of territory, how have education and rural territories been appropriated, understood and reelaborated, namely, socially represented by the subjects involved in experiences of Rural Education in the Territory of the Serra do Brigadeiro? What do these representations reveal about concepts, practice and challenges in Rural Education? What do they reveal about the processes of peasant territorialization?

Whiled analyzing studies carried out in the Serras do Brigadeiro on the emergence of territories of family farmers (Barbosa, 2005; Ferrari, 2008; Zanelli, 2009) and noticing their relation with Rural Education, we questioned: how do rural educational dynamics take place in peasant territories? What do educational dynamics in the processes of peasant territorialization in the Serras do Brigadeiro indicate about concept, advances, contradictions and challenges in Rural Education?

The present research, therefore, aims to map and select some experiences of Rural Education present in the Rural Territory of the Serra do Brigadeiro; characterize them and their political articulations, historical aspects, principles and education practices; and identify the social representations of "Territory", "Rural Education" and "Education Territories" provided by the subjects involved in these experiences to identify advances, contradictions and present challenges in Rural Education throughout the processes of peasant territorialization.

Understanding that experiences of Rural Education are experiences of both formal and informal education, which occurred in peasant movements and social organizations aiming at the construction of a popular, autonomous and sustainable project of rural development, we can observe that there are many different experiences in TRSB, which, at first, we could consider Rural Education.

Considering these aspects, we decided to select qualitatively formal and informal educational experiences, prioritizing those whose information was of better quality. Thus, the present study focused on the experience of the Escola Família Agrícola Puris, a school in the municipality of Araponga-MG and on the experience of the Ecojovem, in the municipality of Divino-MG.

The Escola Família Agrícola Puris (EFA Puris) was founded in March 3rd, 2002, resulting from the farmer movements derived from ecclesial communities (Comunidades Eclesiais de Base - CEBs), the creation of the rural worker unions (Sindicatos de Trabalhadores Rurais - STRs) and a partnership with a center of alternative technologies (Centro de Tecnologias Alternativas da Zona da Mata - CTA-ZM), aiming at the construction of other forms of living and working in the country, reflecting about the need for an educational model appropriate for the rural context, concerned with providing comprehensive training for (a) young farmers (a) linked to projects of community development (EFA PURIS, 2008). In 2010, when it completed two years of operation, the EFA Puris had three classes of three series of high school, totaling 45 students in the technical program integrated to high school, which offered qualification in Agriculture and cattle raising, with emphasis on agroecology.

The Ecojovem is a group that offers training for young family farmers of the municipality of Divino. The itinerant training is provided in the rural communities of the municipality, aiming to awaken young leaders to struggle in their communities for changes in life and working conditions in rural and urban areas; recover rural cultural identity; exchange knowledge; train youth in agroecology; understand better the social relations of gender; and fight for the permanence of rural workers in rural areas. The Ecojovem was created in August 2009 by some young people involved with family farming movements, such as the STR of Divino, in areas of the TRSB and CTA, who observed the need for aggregating more young people in the political discussion of worker's union. Besides, the religious movement Pastoral da Juventude Rural was not working any more and elementary schools run by the union were not able to involve the rural young people of the municipality. These two experiences were relevant in the history of the municipality for young people training and union movements. Nowadays, the 43 young farmers participate in the Ecojovem, under the support and partnership of the STR of Divino, ECOSOL (a solidarity credit union), CTA-ZM, farmer association of Divino and the families and rural communities that host the young people that come for the meetings.

RURAL EDUCATION, TERRITORY AND EDUCATION TERRITORIES - SOCIAL REPRESENTATIONS UNDER CONSTRUCTION

Our research aimed to understand, based on the Moscovici Theory (2003), the social representations of subjects involved with the EFA Puris and the Ecojovem related to Territory, Rural Education and Education Territories, to unveil the meanings and practice involved in the territorial educational dynamics. For such, we interviewed four participants of the Ecojovem and 7 participants of the EFA Puris, to ensure the diversity of gender, age and forms of involvement of the different groups and subjects that participated.

Concerning Rural Education, the new meanings given to rural space, the focus on the social relations constructed in the countryside and the values of respect to nature are striking characteristics of the social representations mentioned by the interviewees. In the EFA Puris, although the educational dimension of social relations is present in the reports, the participants stressed the formal dimension of education, using in their speech about Rural Education expressions such as "school", "study", "student" and "teacher". It differs from the representations of the participants of the Ecojovem, who focused on education that takes place in daily life, collective experiences or the experiences lived with family, community and social organizations. In their definition of Rural Education, their representations are supported by actions such as "knowing", "understanding", "acknowledging", "learning", "seeing", "living together", "exchanging experiences" and "exchanging learning", which take place in the daily life, at home, at work, in conversation with neighbors, in activities, meetings.

This rationale makes sense when the context where the experiences take place is considered: in the EFA Puris, the representations of Rural Education are anchored in the formal education experience of the interviewees – school education, while in the Ecojovem, the representations are supported by an informal education experience, combining informal educational processes, valuing communication, creativity, expression and dialogue among people of different generations, origins and training.

The aspects highlighted in the representations of both groups are fundamental dimensions of Rural Education and help us to look at the different angles of an educational project, to understand its challenge and the complexity of the construction of another rural paradigm, mainly for rural youth.

Concerning territories, the social representations of the people interviewed focus different issues, which are not exclusionary, though. Therefore, these representations reveal visions of a territory as an occupied space, either spatially or symbolically limited, socially constructed, resulting from a relation between people and

between people and the environment; a space occupied by a certain social group, marked by identities and certain forms of interaction that allow their constant reconstruction.

The social dimension of territories stands out among these aspects, as well as the dimension of nature, the physical environment represented by forests, rivers, climate and biodiversity. What could be seen as a contradiction, in this case, shows us how the relation established between society and nature is related to a certain rationale and spatial organization. Thus, territories can be understood not only as a social construction, but a construction of certain space and context.

On the other hand, the idea of territory associated to nature stresses the context of these subjects, in a region where two parks were created: the Parque Estadual da Serra do Brigadeiro, founded less than two decades ago, and the Rural Territory of the Serra do Brigadeiro, less than a decade ago, which used the park, or the social articulation derived from it, as an identity axis for the agglutination of the municipalities (Ferrari, 2008). These two ideas, therefore, are very close to the daily routine of these subjects and anchor their representations.

On one hand, this connection of different representations challenges our understanding about the meanings ascribed to territories. On the other hand, the mixture of ideas indicates the representations constructed in the experiences lived, the reflections related to ecological agriculture and the relationship with an environmental preservation area. This is a common aspect to the representations of territories, present in both experiences analyzed, although the EFA emphasized territories, while the Ecojovem focused on the idea of park.

CONCLUSIONS

Brazilian rural spaces have passed through significant changes in the last decades, which contributed for the construction of other concepts about rural areas and their dynamics. For Wanderley (2000), these transformations result from economic globalization; the increasingly significant presence of international influence on policy and economy regulation; employment crisis, the post-fordist relation changes and the transformations of working regulation alternatives; economic decentralization, which favors the implementation of industries and commercial centers in certain rural areas; increased forms of access to goods and "modern" services previously restricted to urban areas, changing the life conditions of inhabitants of rural areas; and the demographic growth together with the adoption of new economic and social policies, leading to reduced migration flow from the country to cities, in certain cases, and attracting other social categories for the rural environment.

Carneiro (1998) and Ferreira (2002) added that it means a demographic revitalization, following some tendencies of growth of rural population, in opposition to the prediction of extinction and future and unavoidable urbanization and expansion of the rural-urban *continuum*. This revitalization brings economic and cultural diversification due to the incorporation, or acknowledgement of the performance of non-agricultural activities by farmers or peasants, a phenomenon Schneider (2003) highlighted and called *pluriactivity*, due to the migration from urban population sectors to the countryside, in search of leisure or "alternative" life styles. Besides these changes, there are other ideas about the relation between society and nature, environmental preservation actions and search for sustainability, placing rural space at the core of conflicts and struggles related to the environment, models of agricultural production and the new socio-spatial dynamics resulting from social movements.

These visions of rural space despise its historical concept based on oppositions, such as rural-urban, countryside-city, agriculture-industry, traditional-modern, uncivilized-civilized, non-technical-technical, resistant to changes-dynamic/flexibe; a space to be transformed by civilization processes, modernization and technical procedures, which must be adapted to market logic, in a context of globalization and hegemony of neoliberal policies (Moreira, 2007).

Therefore, there is a break with the concept of rural space as a lower locus, inferior and marginalized, compared to cities. There is new understanding about its inter-relations with the urban space and the new subjects and dynamics that now characterize rural space. These subjects are former slaves, Indians, peasants, settlers, family farmers, sharecroppers, and many others. They experience different non-agricultural situations in the rural space, including many economic, political and cultural relations.

This process, in which new meanings for the rural space are constructed/deconstructed, has been affected by the reframing of the natural world and nature. Its roots are the ecological and environmental movements, considered counter-hegemonic, "globalization from below", and resistance to "localized globalism" and "globalized localism" (Santos, 2002).

The ecological and environmental movements in Brazil began to question the conservative technological modernization model, the package "Green Revolution", which leads to the poisoning of soils, waters, food and farmers, loss of biodiversity, siltation of rivers, poverty, unemployment, exploitation of rural workers,

exodus to the cities and concentration of land (Moreira, 2007). In this context, counter-hegemonic movements emerge to vindicate land reform, new labor relations and care with nature, the use of agroecology and alternative therapies for people, animals and plants.

The reframed rural area is now understood based on its economic, political, cultural and environmental dynamics; as a space not only for agricultural production, full of histories, cultures, complex social relations, different social nets, new institutions and fields of disputes and conflicts at many levels.

This is the field of Rural Education, with a challenge more complex than just thinking about the inclusion of students from the rural area or the contents related to agriculture: it implies the need for considering what rural population think about their territory and how education can strengthen it

The social representations of the EFA Puris and Ecojovem reveal the construction of new visions and more sustainable practices related to rural space, including rural agroecology, respect to cultural and environmental differences and, finally, re-territorialization of peasants in a hegemonic context that tries to impose forms of development that tend to de-territorialize nature, popular knowledge, and subjects with their stories and cultures

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318 - Problem Setting and Reflections on One Teacher-Researcher's Educational Practice: May the Students Be Subjects of the Relationship with Knowledge in Physical Education Classes?

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Abstract: The established relationships within the school among teachers, students, teaching, learning, and knowledge production have been a recurring theme in the contemporary world's Education field of study. Searching new perspectives toward these issues has been the focus for researchers in Latin America, North America, and Europe. Possible advances from the epistemological standpoint would require considerations on the actual and concrete contexts of knowledge elaboration *with* and *within* the school. Historically, the students' relationship with knowledge has not been considered in Physical Education (PE). Students as subjects of learning have been relegated to the background, because of some theoretical and methodological propositions in the area that consider the movement more important than the movement's subject. We can infer that such propositions were not able to think properly about the movement's subject and his/her singularities. Despite the consensus on which contents should be taught in PE, it is necessary to raise some questions that remain unanswered with consistent arguments referred to knowledge: What to teach and learn? What is the significant knowledge? How to teach and learn? How to motivate and mobilize knowledge? What to teach and learn for? What to motivate and mobilize knowledge for? What is knowledge in PE? What is the meaning for the student in studying (learning) PE at school? What is the meaning of PE? This Doctoral project is based on qualitative, descriptive, and interpretive analysis by one Brazilian female teacher-researcher who works in a public school in the city of São Paulo. It seeks to reveal how students' build and manifest their relationships with the knowledge, and what is the knowledge needed to an educational practice with the perspective to appropriate, change and pronounce the world by such subjects. The overall goal is to understand how students attribute meaning and make sense of relationships with knowledge developed *with* and *within* PE classes. Beyond the aspects of such shared educational intervention, the theoretical referential of Elenor Kunz's critical-emancipatory proposition, Bernard Charlot's ideas about the notion of relationships with knowledge, and Paulo Freire's assumptions on pedagogy will subsidy this investigation. The methodological procedures will use the technique of focus groups, interviews with students as subjects, record analysis of photographic images, videos, testimonials, and descriptive analysis of situations experienced in PE classes. The preliminary indications of this study point out the need to clarify principles that leads to an educational practice in PE concerned with subjects who learn and teach each other, and with the notion of relationship with knowledge. These principles can be tied to the critical and reflective reasoning by the teacher-researcher who questioned the very logic of the teacher education and the logic of her teaching practice, characterizing an educational practice shared with the subjects, i.e., focused on students in their relationship with the knowledge shared in PE classes.

Keywords: Teaching; Learning; Knowledge; Physical Education.

THE CONTEXT OF RESEARCH

The relationships within the school between students, teaching, teaching practice, training and knowledge production have been a recurring subject in the field of study and reflection of Education in the contemporary world. Discuss and propose concrete changes related to these themes have been the focus of research in Latin America, North America and Europe in order to achieve progress in epistemological and empirical propositions that characterize Education.

In the specific case of this investigation, the framework will be build up from the processes of elaboration and comprehension of knowledge in Physical Education (PE) constituted in the relations between subjects "students" and "teacher", revealing the shortcomings of some theoretical and methodological propositions in which the relations with knowledge and subjects were not intentionally considered. In this direction, we consider Charlot's (2000, 2005) and Freire's (2002) contributions. The convergence of these two authors may be justified by the fact that they attribute fundamental importance to the issue of the *senses* on the

appropriation of knowledge, the willingness to take into account the collective and political dimension of education, and at the same time, not to reduce the subjects to their social group.

There is a set of actions taken by students and teachers at school, which is characterized as producing knowledge of different natures. Libâneo (2002) raises some suspicions about these practices of knowledge production, and also clues for investigation about what has been the role of schools and teachers in knowledge elaboration and its relations with the profession. His suspicions provide a diagnostic of Brazilian school situation, based on research and observations of reality that address interdependent issues such as: the quality of teaching, the weakness of learning (lack of school goals), low quality of professional performance (ethical and technical competences), distance from the growth of academic investigation and research on teachers, teachers' educators and scholars who do not know concrete problems of everyday school life (impoverishment and fragmentation of knowledge), the emphasis in the theory of teacher education (working conditions, precarious professional preparation, policy and organization of educational systems, conflicts and contradictions of teaching duties, and disregard about curricular principles), theoretical divergences of sectors in the educational field (conflict among traditional, modern, postmodern, and post-critical conceptions) and reduction of investigative interest in issues directly related to the student (quality and significance of learning).

Moreover, Libâneo (2002) also places his bets that refer to education as a right, and therefore the production of scholar knowledge, as he conceives it, is linked to the need for: reopening the debate and taking position toward the formative objectives of the school, consistent theoretical and practical preparation with good quality for teachers, build critical subjects (cult teachers), provide students with concrete scholar contents (systematized knowledge) to intervene critically in their own reality, turn the focus on the contents of teacher education to the living experiences at school, introduce in teacher education the development of competences related to thinking (new vision of teaching and learning), to reassess the profile of teachers' educators in initial and permanent education, to integrate strategies and evaluation procedures consistent with the work developed in schools and propose effective changes in teachers' salary and working conditions.

Affected by these clues and bets for research, our magnifying glass will be specifically placed on the notion of relationship with knowledge between teacher and students, and how such a relationship is established and appropriated by the subjects, assuming that learning means an appropriation of knowing to be *within* and *with* the world, and it is a singular characteristic of the human subject.

We are submitted to the fact of having to learn "many things" to appropriate the world. In the view of Charlot (2000) the term "learning" is very comprehensive, so part of the question consists in: What is learning? What is knowledge? Learning can be, for Charlot (2000, p.59), "to acquire a knowledge in the strict sense of the word, i.e., an intellectual content ("put things in the head", as the youngsters say), then, it means learning grammar, mathematics, [...], the circulation of blood, history of art." But learning can also mean mastering a subject or an activity (tying shoelaces, swimming, reading, etc.) or entering into relational forms (greeting someone or seduce):

Learning is to exert an activity in situation: in one place, at one time in his/her history and in diverse temporal conditions, with the help of people who help them learn. The relationship with knowledge is a relation with the world, in a general sense, but is also related to these particular worlds (media, spaces...) in which the child lives and learns. [...] The places where children learn have a different status from the standpoint of learning. The family is a living space [...] and affective group in which one main function is to educate. [...] The central function of school is to instruct, but it participates in education and is also a living space (Charlot, 2000, p.67).

The family, school, church, neighborhood are places and living spaces, where children and youngsters learn in contact with people with whom they maintain relationships, which assume different characteristics. Thus we believe that a teacher instructs and educates, he/she is an agent of an institution, represents a discipline, and has peculiarities. The relationship that a student has with a teacher can be predetermined: they are relations with his/her knowledge, professionalism, institutional status, with his/her person. Both student and teacher may assign other meanings to their relationship that is defined, in principle, as a relation of knowledge.

The relationship with knowledge is not only marked by the place and people, but for a moment too. Learning, under any figure whatever, is to learn in a moment of one's own history, but also at a time of different and unique histories: from the humanity, the society in which I live, the space in which I learn, the people who are responsible for teaching me. The pedagogical relationship is a moment, i.e., a set of perceptions, representations, and current projects inscribed in one's appropriation of his/her individual past and projections – that each one builds toward – the future (Charlot, 2000).

Freire (1983) points out that the characteristics of a human being, a being of relationships, is the ability to reflect about him/herself, about his/her own reality. Such a reality must be the object of one's own thinking

and knowledge put into action. This makes one be able to relate to others, leaving and projecting him/herself on others, to transcend and differentiate distinct existential orbits than him/herself.

Therefore we believe, in consonance with Pérez-Gomez (1998), that the investigative process of Education, regarding the knowledge elaboration, has a subjective and complex character and requires research methods that respect the nature of educational phenomena (social phenomena).

However, the characteristics of the social phenomena, in general, and educational phenomena are different from natural phenomena observable and measurable, particularly as they are presented as unfinished, have a creative dimension, self-formative, intentional, and are polysemic, i.e., have many meanings.

Thus, the investigative procedures of constituent knowledge of everyday school life, whether to understand and transform teaching, should question the production and exchange of meanings in complex school life (Pérez-Gomez, 1998), which present some universal assumptions in the form of teaching designs.

Toward these universal assumptions, we highlight two issues raised by Charlot (2005). The first relates to the concept of mobilization needed to relations with knowledge: "Nobody can learn [...], without a personal mobilizing, without making use of one's self. Learning is possible only if one is imbued with the desire [...] and if there was involvement of who learns (p.76). "Another universal of the education appointed by the author refers to the fact that the teacher should be responsible for motivating students to mobilize their knowledge, not to feel a victim of the students' lack of mobilization.

Freire (2002, p.46) stressed the importance of valuing the student as a being of relationships and argued that teaching requires the recognition and assumption of the cultural identity:

One of the most important tasks of the educative-critical practice is to provide the conditions under which students in their relations with each other, and all with the teacher rehearse a profound experience to take up themselves. Coming out as a social and historical being, as a thinking being, communicative, transformer, creator, maker of dreams, able to be angry because able to love. Coming out as a subject because he/she can recognize him/herself as an object. The assumption of ourselves does not mean the exclusion of others. It is the "otherness" of "not me," or "you", which makes me assume the radicalism of myself.

It is in this context that research on the practice are announcing new paths for understanding the educational practices and knowledge originated from them (Pimenta & Franco, 2008a; Pimenta & Franco, 2008b; Roldão, 2010; Trindade & Cosme, 2010). The issues involving relations with the knowledge that shape the teaching profession in contemporary society, at the same time that set problems on the characteristics of teacher education, put the challenge to include investigations that consider the students in this discussion.

We emphasize, however, that this view, which stresses the teacher's educational action must be analyzed under criteria, given that previous knowledge and experiences of students in performing a particular school activity, may reframe the relationship with knowledge in the daily classes.

THE RESEARCH PROBLEM

Knowledge, for Charlot (2000), as well as information, is under the primacy of objectivity, but it is information that the subject appropriates, and in this case it is also knowledge. Because knowledge produced by the subject will be confronted with other knowledge produced by other subjects, that could, in principle, initiate from the order of the object and reach a reportable product, i.e., a kind of knowledge, which consists of information and knowledge.

Thus, the intent and direction of all educational research is the transformation and improvement of practice. This practice is justified by ethical and political principles, not simply technical. In the practice of classes' environments, the selection of contents, the definition of methods, modes of organizing space, time, and students as well as the decision on the criteria and assessment instruments are, in essence, ethical and political decisions. As a result, it is necessary to rethink the didactics beyond the technical rationality, because of the characteristics of teachers' work. The focus should be on the mobilization of knowledge deemed most relevant in the educational process in order to raise the comprehension of teaching as a concrete reality.

The reductionism, particularly sociological and psychological, are old in an attempt to diagnose and prescribe the directions of Education, ignore the polysemies of educational practices and subjects' intentions because they are at once social, psychological, cultural, economic, biological, etc. (Libâneo, 2002). The more we recognize that educational practice is not reduced only to school practice, the more necessary is to understand that the relationships among individuals and social, physical, ecological, cultural, economic, political, aesthetic and technological demands require a field of integration for consistent theoretical and practical interventions, that focus their intentions on the subjects and the relationships they establish with their lives.

Teaching, as a practical activity, is mediated by exchanges of educational influences exerted in guiding students. Understanding life in the class environments is an important aspect to minimize arbitrariness in the

intervention. This is because we are dealing with subjectivity, interactions between individuals, inserted into unfinished and complex realities. According to Pérez-Gómez (1998), while no one intervenes and experience, it is not possible to know, understand and interpret the characteristics and peculiarities of his/her being.

Therefore, it is necessary to create and incorporate critical and rigorous educational work, when we think of teaching and research on teaching, for various reasons, among which we mention the teachers' and students' life history, continuing education, teachers' characteristics, sociocultural and economic conditions that are relevant aspects for the incorporation and modification of the *habitus* of being a teacher (Sanches Neto et al., 2006). By the way, *habitus* is a system of dispositions; ways of perception, feeling, doing, and thinking, that take us to the action in a certain form in a given circumstance (Bordieu, 2001).

Bourdieu (1994) rejects the objectivist reduction that denies the practice of agents, and he only concerns with the relations of constraint it imposes. He also denies the determinism and stability of structures, but maintains the notion that the sense of more personal and transparent actions does not belong to the subject who makes them, but to the whole system of relations in which and by which they take place (Bourdieu et al., 1990).

However, the assumptions and the concept of *habitus* of Bourdieu (2001), as well as the aspects that characterize different sociological fields, do not explicit the notion of the subject, according to Charlot (2009), i.e., a sociology of the *subject* (in this case, it is about the student) which would be capable of confronting the needs of learning, and with the presence of various kinds of knowledge in their world. For the author:

The awareness is a necessary condition for social change [...]. However, while in Paulo Freire, awareness may be an effect of education, in Bourdieu it cannot happen at school, a place where the ruling classes exercise their symbolic violence and "cultural arbitrary." Awareness can only be produced in social struggles. Therefore, the activity is transforming principle, but it is the activity developed in the social struggles and not the activity of teacher and student in the classroom. In fact, Bourdieu is not interested in school activities, for what happens in the classroom, but the social functions of the school, the process of social reproduction through it (Charlot, 2009, p.90).

In the case of the teacher, says Charlot (2005), the problem of teaching is neither only to transmit, nor to make the knowledge be learned. But it is, through knowledge, to humanize, socialize, and help a singular subject to happen. It means to hold a certain part of human heritage. It is to be oneself, an original exemplar of whom is sought to make happen: a man or a woman. The teaching practice is constituted in the living aims of teachers' and students' competence. It is impossible to conceive the knowledge and the different theoretical conceptions about teaching from a separation between teaching contents and ethical education of students. Freire (2002), in the same direction, refers to the notion that the teaching practice is inconceivable without the students.

Thus, it is intended that the knowledge developed in the investigative process of educational practices *with* and *within* PE incorporates the thoughts and actions of those directly involved in these practices: teacher and students.

Physical education: knowledge without subjects?

From the mid-1980s, some theoretical and methodological conceptions in the area of PE were elaborated in an attempt to break with the mechanistic, sportive, and traditional model that supported the intervention in Basic Education, which epistemological frameworks from psychology, philosophy, sociology, health studies, anthropology, among others.

Historically in PE the subject has been relegated to the background, due to the fact that some propositions considered the movement more important than the movement's subject him/herself. None of those propositions made clear or explicit guiding paths to know whether what is *learned* by students in PE classes, or, in terms of Charlot (2000), whether the knowledge of PE are legitimated knowledge by the students.

In this sense, we feature the propositions based on the concepts of "Body (or Corporeal) Culture" (Soares et al., 1992) and "Culture of Movement" (Kunz, 2006).

The term "culture" was literally incorporated by the PE, something that could not be imagined if one considers the history and prevalence of biological sciences in recent decades, demonstrating the influence of the Humanities in the area, according to Daolio (2007). For Geertz, American anthropologist and one of Daolio's references (2007, p.7):

Culture is the very condition of life of all human beings. It is the product of human actions, but also a continuous process by which people give meaning to their actions. They comprise a unique and private process, but it is also plural and public. It is universal, because all humans produce it, but also local, since it is the specific dynamics of life that means what the human being does.

In the view of a collective of authors that proposes an approach called "critical-overcoming" (Soares et al., 1992), drawn on historical and dialectical materialism, PE is a school subject that pedagogically deals with issues of the body culture (games, gymnastics, wrestling, acrobatics, mime, sports), and it is this knowledge that constitutes the contents of PE. But there is one shortcoming in such conception, because it is not clear how the subject appears or manifests him/herself in the movement.

Kunz (2006), in proposing a pedagogical discussion, based on phenomenology, provokes us to try to answer the question: What is the PE that is taught in school? The author's ideas consist in a pedagogy called "critical-emancipatory" which proposes to establish themes, explain and promote educational dimensions of human movement that allow students to construct subjective senses/meanings in the game, sports, fighting, gymnastics, dance, etc., from the concept of the Self-Movement (*Sich Bewegen*):

Human movement as a "Self-Movement" is a relational phenomenon of the "Human being-(in the)-World," and manifests itself always as a kind of "dialogue". One of our best relational languages in different social-cultural contexts, therefore, takes place *via* movement. Exploration and development of this language opens unpredictable and impressive horizons, especially among children and youngsters in the life of relations not only professional relations but especially affective, emotional and sensitivity toward nature and culture. Working with the teaching of human movement that leads to imitation and copy is to suppress and even eliminate feelings, emotions and the important achievements of a person's life (Kunz, 2006, p.21).

In an attempt to break with the traditional concept of physical movement, of the machine that moves, often present when one is trying to understand and define the object of knowledge in PE, the author proposes the concept of Self-Movement that characterizes the very intentionality of the movement's subject.

THE RESEARCH OBJECTIVES

As a general objective we seek to understand how students attribute meaning and make sense to their relationship with knowledge elaborated *with* and *within* PE classes. And specifically: (i) identify and interpret which knowledge is elaborated by students *with* and *within* PE classes; (ii) identify and interpret what relationship they establish with the knowledge from the experiences of learning in PE classes, and; (iii) explain, analyze and interpret what is knowledge *with* and *within* PE in the perspective of subjects (teacher and students) interwoven in a shared educational practice.

The ways of the research

It is a research of qualitative nature, which paradigm, in Education, began to be built in the late-1960s and have been intensified in the following decades, when one could perceive a concern to give meaning and diversify both philosophical foundations that supported the research, and the methods and procedures (André, 1995).

Despite such increase in interest, the distance between the objects of research developed in the universities and the objects of the teachers' concerns about their own work in partnership with their students were slightly reduced.

Franco (2008) warns about the scientific practice of educational investigations and points out that educational theories often fail to translate the senses and to express the meanings that are implicit in the researched daily practices. Therefore it is not always that research impregnates teachers' know-how with comprehension, and do not facilitate their use to enrich the educational practices and actions. Then, research cannot be appropriated by the subjects and therefore cannot stimulate or potentiate changes. This situation, combined with other circumstances, caused a continuous and constant gap between educational theory and educational practice.

In concordance with Alves-Mazzotti (1999), the main feature of qualitative research is to follow the "comprehensive" or interpretive tradition, i.e., based on the assumption that people act according to their beliefs, perceptions, feelings and values and that behavior always has a sense, a meaning that does not happen to be known in an immediate manner, needing to be unveiled.

The proponent of this research, who calls herself teacher-researcher of their own practice (or *praxis*), during a period of time-space of four (4) years made a collective and collaborative intervention with a group of students from a local public school in São Paulo. The background consisted in PE classes, supported by the principles of action-research (Elliott, 1998; Thiollent, 2005) and the notion of "teacher-researcher" (Geraldi et al., 1998). The concern was, at the time, to systematize the curricular principles – objectives, contents, teaching strategies, and evaluation criteria and assessment instruments – that would allow the construction of autonomy in relation to her educational work, as well as elaborate and share knowledge with students which could get them to intervene in their own realities.

Aspects of such education practice based on action-research references have been disclosed in Education and PE scientific meetings in national and international contexts (Venâncio, 2007, 2009; Venâncio et al., 2010),

using part of the systematized records of classes made by the teacher and students, who will also be a source of analysis and interpretation in this research.

In this research, we intend to explain such path and interpret how the subjects have established relationships with knowledge *with* and *within* PE classes. Obviously the researcher, under the condition of teacher, was one of the subjects involved in those relations, therefore she affected the educational processes triggered, and was affected by them. The question that we must ask now is to identify *whether, how, and to what extent* the students involved recognize and assess their involvement in work, and how they were affected by it. Or, in other words, wheter, how, and to what extent they *became subjects toward the relationship with knowledge*.

We are going to use the technique of "focus group" that, as stated by Gatti (2005), has been widely used in qualitative approaches in social research, and has been increasingly used also in educational investigation. According to Morgan and Krueger (1993), research with focus groups aims to capture – throughout exchanges within the group – concepts, feelings, attitudes, beliefs, experiences and reactions. The focus group provides the emergence of multiple perspectives and emotional processes, by the interaction context created, allowing the caption of meanings that could be difficult to express with other procedures.

For the focus groups will be chosen male and female students who participated in the educational intervention at Elementary School (6th to 9th grade), held in the period since 2005 to 2008, and who had contact with the teacher-researcher since 2009 (first year at High School), through messages exchanged in social networks of relationships and e-mails. The focus groups will consist of subjects whose characteristics allow the emergence of different positions.

There is the prerogative of a moderator in the groups' constitution, in this case the researcher, who may have one or more observers to monitor and make records of thematic meetings, to facilitate later the data triangulation. The meetings will be recorded on audio or video format, depending on the acceptance of the groups' component with the technologies. The number of meetings will be set in the course of work. Descriptive data will be interpreted as "triangulation" of sources (audio recordings and videos, interviews, data from observations and records of observers, records made by the school teacher and students) and the dialogue/confrontation with theoretical issues in the literature.

PRELIMINARY RESULTS OF THE RESEARCH AND NOTES FOR INVESTIGATION

We have as background the notion of Self-Movement and Culture of Movement, both present in Kunz's critical-emancipatory proposition (2004, 2006), then this research will be developed around the description and interpretation of the pedagogical work carried out by the researcher in a public school. We seek to uncover how the relationships with students' knowledge are manifested and built, based on the ideas of Bernard Charlot (2000, 2005) and Paulo Freire (2002), with respect to the reflections on the knowledge necessary for educational practice with a perspective to appropriate, change and pronounce the world by the subjects.

We can infer that the different PE theoretical and methodological propositions have not realized the real needs of thinking about the movement's subject yet. However, we emphasize the importance of critical-emancipatory proposition, which begins from the perspective of the subject (human being) and his/her intentions established from, with and within the world.

We have also listed possibilities for nearing Charlot's concepts (2000, 2005) concerning relations with knowledge proposed by the sociology of the subject, Freire's (2002) concepts on educational practices, and the concept of Self-Movement proposed by Kunz (2004, 2006).

Even with all the emphasis on aspects that involve the educational research in the XXI Century, the academic and the school fields are still far apart. According to Betti (2009), there is predominance of research *in* the school (*in* school PE) and not *with* the school (*with* school PE). Moreover, there is a need for progress on the empirical characteristics of educational research, to reveal what knowledge the PE teachers do elaborate and that is concerned with a critical teaching that allows students to appropriate the world and their own lives.

We did a survey of dissertations and theses in FAPESP reference databases defended in the period since 2005 to 2009, in order to find out what studies addressed the theme of teaching and educational practices in PE. In seventy-seven (77) research found in the knowledge area of Humanities none focused on PE, and from a total of seventy-five (75) works in Health Sciences the result was the same. Thus, the results further reinforce the need to investigate the everyday educational practices that are held in PE, to foster new theoretical and methodological propositions.

It is true that there is consensus between the different theoretical and methodological propositions regarding the traditional contents of PE, such as play, games, sports, gymnastics, rhythmic activities and wrestling, which must be systematically organized, and receive treatment that would justify the importance of teaching

and learning in the Culture of Movement context. Despite this consensus, it is necessary to raise some questions that remain unanswered with consistent arguments. A first group of questions – guiding the second group – focuses on the following issues: What to teach and learn? What is the significant knowledge? How to teach and learn? How to motivate and mobilize knowledge? What to teach and learn for? What to motivate and mobilize knowledge for? And the second group of questions: What is knowledge in PE? What is the meaning of the student to study (learn) PE at school? What is the meaning of a teacher to teach PE at today's school? What relationship with knowledge do students make while learning PE? What is the meaning of PE?

We chose these questions to guide the focus of research: to describe and interpret how a teacher-researcher and a group of students attribute senses and meanings to relationships with knowledge elaborated *with* and *within* PE classes.

By drawing attention to the shortcomings of the theoretical and methodological propositions, we hope to provoke an intentional movement in the PE's field of intervention at school, because we understand, along with Franco (2008), that they are the result of the teacher education logic apart from the very logic of practices in which teachers could take on the project of autonomy in their practice (praxis). The perspective of praxis, the author points out, is an action that creates new meanings. To do so, we must assume that the search for new meanings and the claim for autonomy are proper to the human being as a subject that is uncomfortable with its incompleteness, according to Freire (2002) and Charlot (2000).

Charlot (2000), while making his way into the classical philosophy, alerts us to the fact that it defines the essence of man linked to *reason*, that is, the very one that allows the being of man as being a pure subject of knowing, fighting passions, emotions, and, ultimately, the body. The concern of the author thus continues, because the inhibition of the body manifestations cuts all subject's bonds with the world off, in order to save only one: the subject's relation – as reason – to knowledge – as *idea*. Furthermore, we believe it is possible to near Kunz's (2006) and Charlot's (2000, 2005) theoretical referential, since the latter defends the subject of knowledge as the one who develops an activity that is proper to his/her own: arguing, verifying, experimenting, willing to demonstrate, probing, and validating.

There is a self in this epistemic relationship, a self immersed in a given situation, a self that is body, perceptions, system of actions in a mutual relationship with his/her world and actions (as the likeability to act, the value of certain actions, and the effect of the acts (Charlot, 2000, p.69).

This activity is also subject's action on the subject him/herself, therefore taking solely the side of the *reason* and knowledge is to endorse requirements and prohibitions concerning him/herself. According to Charlot (2000, 2005) there is only sense of desire, and this assumption could be articulated to the notion of knowledge. Deepening the question about the meaning of knowledge in PE teaching from the perspective of Self-Movement (Kunz, 2006), we would also find the question of desire. In Kunz's ideas, the subject establishes meaningful relationships based on information, knowledge of his/her life history, social and cultural bonds, mobilizing desires and intentions.

Then, we proceed with the questions: Is there meaning in the relationship with knowledge in Self-Movement *within* the culture of movement manifestations – play, sports, gymnastics, dance, and wrestling? Is there sense and knowledge in the relationship with knowledge to identify and understand what limits or constrains the self-Movement possibilities from personal and interpersonal characteristics, which singularize each subject's own body in performing movements? Is there sense and knowledge in the relationship with knowledge *of* and *within* the world?

We assume as hypothesis that there are specific dynamics in the relationship with knowledge in PE's specific knowledge, and that these dynamics can not be dissociated from culture, body, and environment, because we are, ontologically, dealing with a being-that-moves-him/herself *in* the world.

It is possible to find justifications in the literature for non-appropriation of knowledge by students (e.g., interests, and socioeconomic conditions) and arguments which undermine the teaching profession (lack of competence and commitment), either due to the students' lack of mobilization in the appropriation of knowledge, or due to the teacher's lack of relationship with knowledge. However, we have chosen theoretical frameworks that allow us for questioning the fragile interpretations about school experiences, because learning/knowing has not the same meaning for the teacher and students. Charlot (2000) suggests an understanding of what he calls "figures of knowledge" (knowledge-objects, objects, activities, and relational devices) that are intertwined with the relationship with knowledge as an identitary and epistemological dimension.

Our intention is to propose another reading based on one educational practice (Freire, 2002) among singular subjects, seeking to understand whether and how they become subjects before the relationship with knowledge.

The appropriation of the world, the elaboration of oneself, the inscription on a network of relationships with oneself and others – i.e., the learning/knowing – requires time and never ends. That is the time of a story. That time is not homogeneous; it has its own rhythm, significant moments, occasions and breaches. That time interpenetrates other experiences of the subjects in the present, past and future in a social space.

We hope that this investigation will allow revealing themes and problems in the relationship with knowledge, as well as, based on the elucidation of the very logic of practices, forwarding proposals to better organize the collective processes of changing the students' life reality. The preliminary results already point to the need to establish and to explicit didactic-pedagogic principles that support educational practices in PE concerned with subjects (teachers and students) who learn and teach simultaneously. These principles would possibly derive from the reflective and critical standpoint by the teacher-researcher, who questioned the very logic of teacher education and the logic of her own practice, charactering one educational practice with subjects of the movement in teaching strategies. In sum, this research aims to contribute for building an emancipatory pedagogy in which there could not be only a teacher, or only students emancipated, because the emancipation process can only build up together.

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347 - External Evaluation of Schools in Portugal: Framework and Results

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Abstract: In this paper we will present the framework for external evaluation of schools in Portugal and an analysis of the main results, seeking to highlight some trends.

The ongoing evaluation process is being conducted by the Portuguese School Inspectorate and has been the subject of several observations, namely from the National Education Council, highlighting the tension between the two approaches used for the external evaluation of schools: the formative approach, addressing school improvement and the summative approach, directed to accountability. It also highlighted the redundancy of some of the factors or sub domains involved, suggested the adoption of an hierarchy for the domains and a rethinking of their weight in the final evaluation.

After the analysis of the results already published in Portuguese School Inspectorate reports covering 960 portuguese schools, it becomes clear that schools often reveal differences in performance, depending on the domains and factors evaluated, and reveals the possibility of interference from the theoretical framework and methodology itself on the evaluation results.

The evidence of a certain regularity of ratings over the years suggests the existence of a differential weighting of the factors, following the purposes of the model. This differential weighting tends to benefit the evaluation of domains not directly related to the school results, such as *Organization* and *Management and Leadership.*

The results presented in this paper may raise further questions concerning the conceptualization of the domains themselves and of the factors or sub domains they include.

Key-words: External evaluation of schools; framework; results; trends

INTRODUCTION

Following the publication of Law Nº. 31/2002 on the evaluation of non-higher education, it was initiated, in 2006, a pilot project covering 24 schools (Ministério da Educação, 2006), which is the source of the external evaluation process of schools in Portugal conducted by the Portuguese General Inspectorate of Education (Inspecção-Geral da Educação). This process has gone through several stages and in this academic year (2010-2011) completes the first cycle of external evaluation of schools which began four years ago.

In the framework of reference used by the external school evaluation (ESE) are taken into account five key domains: Results, Provision of Educational Services, School Organization and Management, Leadership, and Adjustment Capacity and School Improvement (Inspecção Geral de Educação, 2009a; Ministério da Educação, 2006). These domains comprise between two and five subdomains, in a total of 19 factors. The ratings of the five domains and factors are assigned in a qualitative scale with four levels: *Very Good*, *Good*, *Sufficient* and *Insufficient*.

The National Education Council (Conselho Nacional de Educação) has made several opinions on the evaluation reference used in the ESE (Conselho Nacional da Educação, 2008; 2010a, 2010b). In these opinions, it was highlighted the existence of a certain tension between two purposes of evaluation, the formative purpose of school improvement and the summative purpose, the accountability and the responsibility of educational institutions. Thus, it considers that adjustments should be made in the framework of reference of the ESE in order to strengthen the central findings in the domains, and to consider different weights in the domains.

It seems to us, therefore, appropriate to disseminate the main results obtained in this process, presenting a first reading and analysis of published data, trying to show some trends.

METHODOLOGY

The database of this study was obtained from the results published by the Portuguese General Inspectorate of Education in the Reports on the External Evaluation of School for the academic years 2006-2007, 2007-2008 (Inspecção-Geral da Educação, 2009b), 2008-2009 (Inspecção-Geral da Educação, 2010) and 2009-2010 (Inspecção-Geral da Educação, 2011), where are presented, in percentage terms, the obtained marks in the domains of the framework of reference and the ratings assigned to the factors that constitute them. To ease

the data processing, we convert this scale into scores 1, 2, 3 and 4, respectively. The distribution of evaluated schools over this period is presented in Table 1.

Table 1: Percentages of the classification levels assigned to schools according to the domains of the framework of reference (column-percentages per school year)

Ratings	Academic Results Year	Provision of Educational Services	School Organization and Management	Leadership	Adjustment Capacity and School Improvement
Very Good	**2006-2007**	10	14	29	40	11
	2007-2008	4	10	24	32	6
	2008-2009	7	9	23	33	4
	2009-2010	12	13	29	36	4
Good	**2006-2007**	55	63	61	43	48
	2007-2008	56	59	64	52	37
	2008-2009	60	73	67	51	36
	2009-2010	64	70	63	56	46
Sufficient	**2006-2007**	34	22	9	16	39
	2007-2008	37	31	11	15	50
	2008-2009	33	18	10	15	54
	2009-2010	24	17	8	8	47
Insufficient	**2006-2007**	1	1	1	1	2
	2007-2008	3	0	0	1	7
	2008-2009	0	0	0	1	6
	2009-2010	0	0	0	0	3

For each academic year, the score was calculated for each domain by weighting each value of the scale with the percentage with which the domain appears in Table 1 being these values represented in Figure 1. This procedure was also used to analyse the ratings of the factors and their relationship with the domain. Under this analysis, we calculated the average value of the differences between the ratings of each factor and the domain rating. These values are shown in Tables 2 to 6, where the second column represents the value of the rating of the domain and the following columns the difference of rating in the respective factor, presenting the average of the absolute differences in the last row of the tables.

RESULTS

Ratings in the domains
The rating assigned to the different domains that comprise the framework of reference, over the observed academic years (see Table 1 and Figure 1), points to predominance of a positive rating levels of Good / Very Good, with the exception of the domain *Adjustment Capacity and School Improvement*. This trend has not only remained the same, as it has been growing, with the exception of the academic years 2007-2008.
Despite this trend, there are variations depending on the domains. Indeed, the *School Organization and Management* and *Leadership* are those which get a higher percentage of the rating levels Good and Very Good The domain where these levels are lower is the *Adjustment Capacity and School Improvement*.

Figure 5: Data analysis flow chart
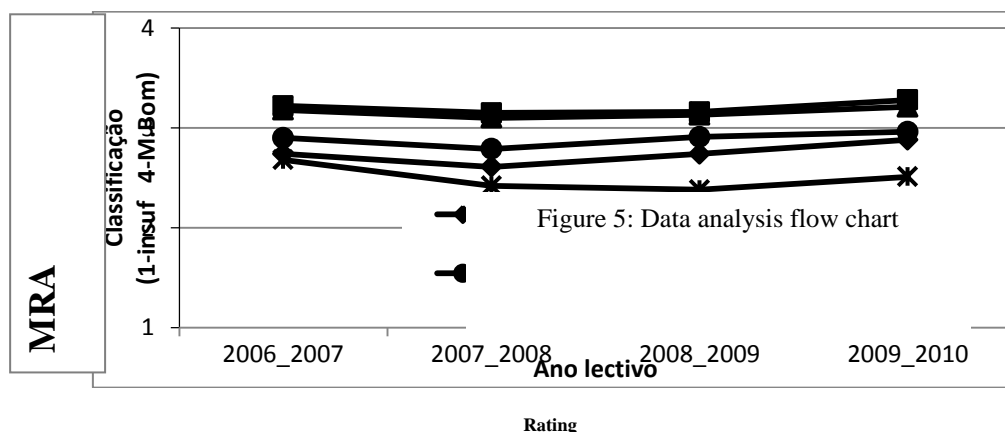
Figure 1: Evolution of ratings in the domains

It is also possible to verify that the ratings in the domain of *School Organization and Management* are much alike with the ones obtained in the domain of *Leadership*, while the ratings of *Results* are close to the domain of *Provision of Educational Services*.

These data raise the possibility that the interpretation of the goals of School Improvement and Accountability of the model itself may be driving to a linkage between *Results* and *Provision of Educational Services*, with the removal of the rating in relation to the other domains.

Ratings *of the factors*

The analysis of the ratings of the factors that characterize the domain *Results* and its evolution, as well as the value of the difference between the rating of each factor and the rating of the domain (see Table 2), shows that the average rating of the *Academic Success* factor has consistently lower values than those obtained in the domain, while the other factors, particularly the factor *Behaviour and Discipline* have a higher average ratings than those obtained in the same domain. That is, the difference of the value between the ratings obtained in the factors and the rating obtained in the domain varies depending on the factors, verifying that the minimum value of that difference corresponds to the factor *Participation and Civic Development*.

Table 2: Ratings averages obtained in the domain *Results* and the differences between the ratings in the domain and the ratings on each factor

| Academic Year | Domain | Factors | | | |
	Results	Academic Success	Participation and Civic Development	Behaviour and Discipline	Valorisation and Impact of Learning
2006-2007	2.74	-0.18	0.18	0.49	0.20
2007-2008	2.61	-0.25	0.20	0.37	0.19
2008-2009	2.74	-0.21	0.02	0.26	0.16
2009-2010	2.88	-0.26	0.03	0.12	0.16
Average of absolute differences		0.23	**0.11**	0.31	0.18

When we consider the ratings of the factors included in the domain of *Provision of Educational Services* (see Table 3), it appears that here too there are factors whose average ratings are consistently lower than those of the domain, namely the factors *Coordination and Monitoring* and *Teaching Practice Supervision*, while the factors *Differentiation* and *Supports* and *Curriculum Support and Knowledge* always present higher average ratings than the observed in the domain.

Table 3: Ratings averages obtained in the domain Provision of Educational Services and the differences between the ratings obtained in the domain and the ratings obtained on each factor

| Academic Year | Domain | Factors | | | |
	Provision of Educational Services	Coordination and Monitoring	Teaching Practice Supervision	Differentiation and Supports	Curriculum Support and Knowledge Enhancement
2006-2007	2.9	-0.14	-0.55	0.34	0.19
2007-2008	2.79	-0.27	-0.42	0.39	0.24
2008-2009	2.91	-0.29	-0.61	0.30	0.17
2009-2010	2.96	-0.27	-0.46	0.26	0.26
Average of absolute differences		0.24	0.51	0.32	**0.22**

Regarding the domain *School Organization and Management* and related factors (see Table 4), we verify that the factors of *Human Resources Management* and *Equity and Justice* obtained ratings slightly higher than those obtained in the domain itself, while factors *Design and Activity Planning* and *Participation of Parents and other members of the Educational Community* obtained ratings well below the ratings obtained in the domain. The factor, which average rating closely matches the rating of the domain is the factor of *Human Resources Management*.

Table 4: Ratings averages in the domain school organization and management and differences between the ratings of the domain and the ratings on each factor

| Academic Year | Domain | Factors | | | | |
	School Organization and Management	Design/ Activity Planning and Development	Human Resources Management	Financial and Material Resources Management	Participation of Parents and other members of the Educational Community	Equity and Justice
2006-2007	3.18	-0.18	0.01	0.02	-0.35	0.08
2007-2008	3.10	-0.24	0.06	0.00	-0.31	0.12
2008-2009	3.13	-0.23	0.00	-0.13	-0.25	0.07
2009-2010	3.21	-0.27	0.11	-0.04	-0.19	0.06
Average of absolute differences		0.23	**0.04**	0.05	0.28	0.08

In the domain of *Leadership* (see Table 5), the factors *Motivation and commitment* and *Partnerships, protocols and projects* obtained slightly higher ratings than those obtained in the domain itself, while factors *Vision and strategy* and *Innovation opening* present average ratings lower than those obtained in the domain. The rating of the factor *Motivation and commitment* is the factor that matches closely to the rating obtained in the domain.

Table 5: Ratings averages obtained in the domain *Leadership* and differences between ratings of the domain and the ratings obtained on each factor

| Academic Year | Domain | Factors | | | |
	Leadership	Vision and strategy	Motivation and commitment	Innovation	Partnerships, protocols and projects
2006-2007	3.22	-0.12	0.00	-0.09	0.07
2007-2008	3.15	-0.19	0.12	-0.22	0.05
2008-2009	3.16	-0.22	0.09	-0.20	0.17
2009-2010	3.28	-0.22	0.09	-0.36	0.12
Average of absolute differences		0.19	**0.08**	0.22	0.10

Finally, with regard to the factors that constitute the domain *Adjustment Capacity and School Improvement* (see Table 6), we observed both in the domain and in the two factors there are average ratings below 2.5, and the ratings obtained in the factors are close to those obtained in the domain.

Table 6: Ratings averages obtained in the domain of *Adjustment Capacity and School Improvement* and differences between the ratings in the domain and ratings on each factor

| Academic Year | Domain | Factors | |
	Adjustment Capacity and School Improvement	Self-Evaluation	Sustainability and progress
2006-2007	2.68	-0.11	0.02
2007-2008	2.42	-0.08	0.05
2008-2009	2.38	-0.05	0.00
2009-2010	2.51	-0.03	-0.13
Average of absolute differences		0.07	**0.05**

DISCUSSION AND CONCLUSION

The data presented show that in general the schools have achieved good ratings in all domains, except on the *Adjustment Capacity and School Improvement*. We also observed that there are domains whose ratings are consistently higher and very close, namely, *Leadership* and *School Organization and Management*, being the ratings of the domains of *Results* and *Provision of Educational Services* consistently close in numbers. However, these data also suggest the existence of a differential valuing of the domains in accordance with the purposes of the model.

The observation of a certain regularity of the ratings over the years under review, and the fact that the contribution of different factors for the domain ranking varies between them, suggests that, although there is no weighting factors in the framework of reference, and defending that it should exist, it is somehow inherent in the evaluation process, when we verify the ups and downs of the ratings in the factors related to the corresponding domain.

The presented data even allow raising questions about the conceptualization of their own domains and the factors that characterize them. These aspects appeared to us to be of much interest and relevance for further study, which is already underway, on a framework of reference and the effects on evaluation related to ratings in the domains and the factors of the schools under evaluation.

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356 - Science Textbooks as Questioning and Problem-Based Teaching and Learning Promoters: Change or Continuity?

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Abstract: High-level questioning is the starting stone of Problem-Based Learning (PBL). This student centred teaching approach is especially appropriate for complex themes, as these are more likely to include real life problems. Sustainability on Earth is the Portuguese National Curriculum theme that better fits this criterion. This paper concentrates on the way Portuguese science textbooks focusing on Sustainability on Earth deal with questioning, in order to find out whether they may foster continuity with regard to teacher-centred teaching approaches or whether they rather seem to promote change towards innovative student-centred problem-based science learning. Three Physical and three Natural Sciences textbooks were content analysed with regard to the way they deal with questions and the cognitive level of the questions they include. Results indicate that textbooks: include a considerable amount of questions; use questions in different ways and for diverse purposes; tend to prefer low-level cognitive questions; hardly include problem-oriented questions.

Keywords: Science textbooks, Problem-Based Learning, questioning, Sustainability on Earth

INTRODUCTION

The Portuguese Educational System Law (law number 49/2005, 30 August, 2005) acknowledges science textbooks as an outstanding educational resource. However, research has shown that textbooks are conservative with regard to the way they develop curriculum themes, as they hardly integrate knowledge from educational research and acknowledge curriculum prescribed methodological innovations (Moreira, 2003). Besides, research also suggests that teachers teaching practices are heavily dependent on textbook for what they decide to teach and the way they decide to teach it in the classroom. Thus, textbooks act as if they were the official curriculum that many teachers tend to ignore. Hence, if textbooks are conservative, then they may contribute to teachers' conservative teaching practice.

Research (Figueiroa, 2003) has shown that textbook authors refrain from innovating in their textbooks because they feel afraid that teachers do not feel comfortable with innovative textbooks and may not choose them to be assigned in their school. In-service teacher education would help teachers to understand the aim of educational innovation and would make them prone to accept innovative textbooks. However, availability of innovative textbooks may also make some teacher feel the need of engaging in teacher development courses in order to be able to do the most with innovative textbooks. Thus, writing innovative textbooks would be one of the ways of "breaking the continuity chain" and promoting innovative teaching. On the other hand, success may be greater if teachers that attend in-service courses, can find textbook that are consistent with the perspectives conveyed into the course and that facilitate their task of putting into practice the new ideas or methodologies they learned.

This would be especially important when educational innovations that require major changes in teachers' and students' roles are at stake. Problem-based learning (PBL) is a methodological approach that requires major changes in teachers' and students' roles (Azer, 2008; Leite & Esteves, 2006; Savin-Baden & Major, 2004). In PBL environments, instead of teaching I the usual sense, teachers need to organize learning settings for students to learn on their own (Lambros, 2004). Students, by their turn, need to become active learners, as they will not be taught but rather learn by solving problems (Hmelo-Silver, 2004), that should be as real as possible (Lambros, 2004; Hmelo-Silver, 2004). A consequence of this is that teachers may feel uncomfortable and unsecure towards PBL (Dahlgren, Castensson & Dahlgren, 1998; Gandra, 2001). Besides, teachers may not have a pool of problems or scenarios from were to choose the most appropriate ones to use as starting points in PBL oriented teaching sequences. In this case, high-level textbook questions would become useful teaching aids, as they could facilitate teachers' teaching practices change towards PBL oriented ones.

Following authors like Hmelo-Silver (2004), Lambros (2004) and Azer (2008), this paper assumes that high-

level questioning is the starting stone of PBL. By high level questioning it is meant a process in which someone questions formulates questions that require high-order thinking to be answered. Besides, a question may be conceptualized as an issue put forwards for discussion in such a way that it demands an answer (Ferreira, 2010), even though it does not end with a question mark. Hence, questions compare to problems, as both include an obstacle that needs to be overcome by the respondent or problem solver.

Questioning has concentrated several researchers' attention and being studied within diverse educational contexts and from several perspectives (Wragg & Brown, 2001). Initially, those studies were quantitative in nature and concentrated on the amount and rate of questions formulated by the teacher. Latter on, researchers concentrated on the classroom interaction and on subjects questioning abilities, including issues like types of questions formulated by students and teachers in diverse contexts. Researchers in this area have developed several taxonomies of questions that emphasise differently the cognitive, the procedural and the values components. Dalghren & Öberg (2001) defined a taxonomy of students' formulated questions that combines al these dimensions, that Dourado & Leite (2010) found useful to analyse textbook questioning level. It includes five categories, as follows: Encyclopaedic Questions, demand an unambiguous and non complex answer (e.g., What is the greenhouse effect?); Meaning-Oriented Questions, oriented towards finding a phenomenological meaning of certain terms or concepts (e.g., How are images formed in our eyes?); Relational Questions, focus on the relationship between aspects/features (e.g., How do technological societies influence the ozone layer?); Value-Orientated Questions, demand for a judgment based on some criteria (e.g., Bearing in mind that Portugal has to reach an energy goal settled within the scope of the Kyoto protocol, should this dam be built up?); Solution-Oriented Questions, focus on looking for solution(s) for a (social, environmental, health, economic, etc) problem (e.g., What can be done to prevent the energy crises?).

This paper also acknowledges that PBL is a student centred teaching approach that is especially appropriate for dealing with complex themes that should be tackled from several perspectives in order to be fully understood. Thus, complex themes are more likely to include real life problems, which are required for PBL approaches. As Pring (quoted by Santomé, 1998) would put it, when the problem becomes the focus of the educational action, it determines what competences are required and eventually will need to be developed. Thus, by putting the problem at the centre, the boundaries between school subjects will vanish and cross-disciplinary approaches will emerge.

Among the four Portuguese National Curriculum themes, Sustainability on Earth is the curriculum theme that better fits this criterion. It is supposed to be taught is in the Physical Sciences as well as in the Natural Sciences junior high school science subjects. This fact together with the cross-disciplinary nature of the theme leads to anticipate that it could be approached from a PBL perspective that could develop in a global manner the competences prescribed by the national curriculum (DEB, 2001) for the two subjects together. The ways textbooks develop the theme as well as the way they deal with questioning may be promote or rather impair teachers from doing so.

In this context, this paper concentrates on the way Portuguese science textbooks focusing on Sustainability on Earth deal with questioning, in order to find out whether they may foster continuity with regard to teacher-centred teaching approaches or whether they rather seem to promote change towards innovative student-centred problem-based science learning.

METHODOLOGY

Three Physical and three Natural Sciences textbooks dealing with the theme Sustainability on Earth were selected for the purpose of this study. These Portuguese textbooks were randomly chosen on the basis of the publisher, so that three different textbook publishers (and a textbook per subject and publisher) were taken. In order to attain the objective of the study, the textbooks were content analysed with regard to the way they deal with questions and the cognitive level of the questions they include. All questions were analysed except questions within an activity and end of teaching unit assessment questions. The reason for excluding within an activity questions was that the way the activity is introduced is far more important from a PBL point of view than the way the activity is prescribed. With regard to the exclusion of final assessment questions, it can be argued that although they are relevant from a self-evaluation perspective and can be used for enhancing learning, they nevertheless are not relevant from a PBL perspective, as they come after teaching and learning.

It should be pointed out that one of the textbooks (PS 3) is not consistent with the curriculum with regard to the teaching units it acknowledges. However, in order to get conditions to compare teaching units, the way it develops the theme enabled us to join two of its units and to divide a third one (into other two) and to get

teaching units similar to those suggested by the National curriculum and used by the remaining textbooks in the sample.

Questions were analysed through a checklist that had in part been used in former studies (Dourado & Leite, 2010; Vasconcelos *et al*, in press). In order to increase reliability of the results, the analysis was done by one of the authors and repeated by another author. The three authors discussed discrepancies in the classifications in order to reach a consensus with regard to the final classification to be adopted. In order to compare textbooks, percentage of type of questions per textbook was calculated. Examples of questions classified in the main categories will be given in the next section.

Presentation and discussions of the results

As shown by table 1, textbooks are quite different with regard to number of questions they include, being Physical Sciences textbooks (PS) those that include larger numbers of questions.

Table 1: Number of questions per textbook and subject (f)

Textbook	Number of questions	Number of questions per subject
NS 1	160	
NS 2	46	232
NS 3	26	
PS 1	286	
PS 2	258	924
PS 3	380	

This result may be due to the fact that traditionally PS textbooks include lots of exercises and a few problems fro students to solve or to see how they can be solved. This is not so usual in the Natural Sciences textbooks (NS), which include very different numbers of questions.

Textbooks selected for this study include questions in different places, ranging from the opening of the theme (NS 1, PS 1 and PS 2) end of unit complimentary questions (PS 2). Besides, as shown in table 2, NS and PS textbooks are quite different with regard to the places they include questions. In fact, while PS textbooks tend to concentrate questions throughout the text, after the presentation of the content, two NS textbooks tend concentrate them on the title of the activities and the third NS textbooks does it in the margin of the page, aside from the main text.

Table 2: Placement of the questions in the textbooks (%)

Localization of the questions		NS 1 (n_1=160)	NS 2 (n_2=46)	NS 3 (n_3=26)	PS 1 (n_1=286)	PS 2 (n_2=258)	PS 3 (n_3=380)
Opening of the theme		1,9	0,0	0,0	0,7	0,3	0,0
Opening of Units		0,0	30,4	0,0	0,0	0,0	18,7
Title of sub-units		0,0	0,0	0,0	11,5	0,0	0,0
Title of sections		0,0	0,0	0,0	0,0	0,0	0,0
Title of sub-sections		1,9	0,0	0,0	0,0	0,3	26,6
Throughout a sub-unit or section text	Integrated into the content being presented	6,3	0,0	26,9	11,2	12,4	3,4
	After the content presentation	0,0	0,0	0,0	50,7	77,1	42,4
	Resolved questions	0,0	0,0	0,0	0,0	2,7	0,0
	Aside content presentation	86,9	0,0	0,0	24,1	0,0	0,0
Associated to learning activities	Activities title	2,5	69,6	73,1	1,7	0,3	5,5
	Activities statement	0,6	0,0	0,0	0,0	0,3	3,4
End of the unit complimentary questions		0,0	0,0	0,0	0,0	6,6	0,0

Including questions after content presentation is a traditional way of using questions, which is opposite to the problem based learning way of using questions. On the other hand, three textbooks include questions in the

opening page of the theme. These questions are quite important as they can be used as starting points for a PBL approach to the teaching of the theme. Also, as these questions are usually broad questions, they cannot only motivate students to learn but also promote an integrated learning of the content. However, it should be noticed that these questions are the ones that are proposed by the National Curriculum and are not a textbook authors initiative. Figure 1 shows an example of an opening page of the theme, that repeats the following questions included in the national curriculum: Why are ecosystems in dynamic equilibrium? Haw can science and technology take the most from the use of natural resources? How has Humanity contributed to global change?
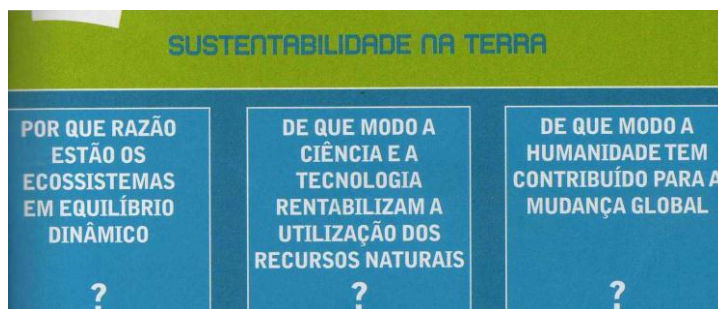
Figure 1: Questions in the opening page of a teaching unit (NS 1, p. 7)

On the other hand, it should be emphasized that NS 2 and PS 3 include considerable percentages of questions in the opening pages of the teaching units. Figure 2 shows an example of the questions presented in the opening page of a teaching unit of textbooks PS 1.
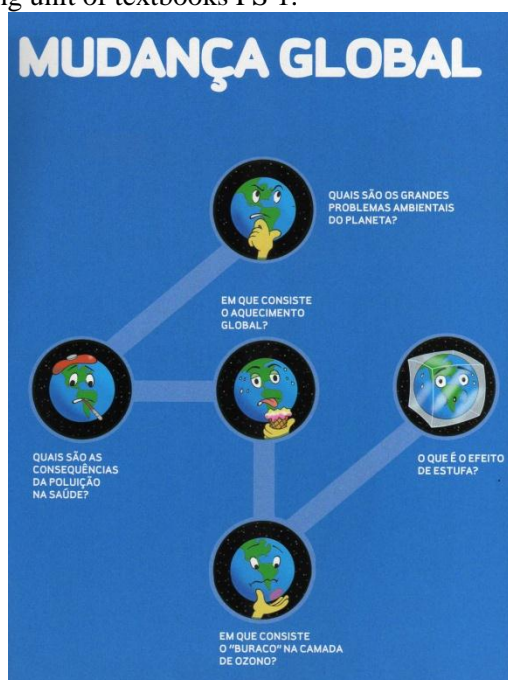
Figure 2: list of questions in the opening page of the teaching unit (PS 1, p. 156)

Questions in this category are of the initiative of the textbook authors and can reveal some awareness of the value of PBL. In fact, teachers can use these questions as starting points to learning. They are qualitative, conceptual questions appropriate for students to investigate about issues: What are the main environment problems of the Planet? What is global warming about? (free translations of the two first/top questions in figure 2).

Some textbooks use questions as titles for activities (figure 3). This way of using questions makes it clear for the students what they are looking for when solving the activity. In figure 3, what is the role of the resonance box? It also makes students feel the need for getting an answer, by solving a problem that is, by performing the activity. Therefore, it is consistent with the PBL idea of starting with a problem.

Figure 3: Question in the title of the activity (PS 3, p. 20)

Textbook PS1 is includes several questions throughout the text, but aside from the main text, that seem to aim at raising students' curiosity (Sabias que? or Did you know that?). This type of questions usually inquires students about whether they knew about or had heard about something. Example given in figure 4 asks students about whether they knew about the frequency of human voice and the frequencies that human hears are most sensitive to. In fact, these questions concentrate on particular aspects that are not that important from the school subject point of view but that can be interesting or even relevant from a personal point of view. Nevertheless, these questions do not require high-level reasoning and therefore they are not relevant from a PBL point of view.

Figure 4: Question for raising curiosity (PS1, p. 30)

The places where questions can be found in textbooks when they develop this curriculum theme (Sustainability on Earth) compares to those indentified for the theme Earth in Transformation (Vasconcelos et al, in press). Although textbooks used in the two studies do not belong exactly to the same collections/editors and, therefore, a textbook based theme to theme comparison cannot be done, it can nevertheless be stated that, in the overall, textbook follow similar patterns when approaching the two curriculum themes.

Comparing data given in tables 2 and 3 it can be stated that, in most cases, the place of the questions is directly related to their functions in the textbook.

Table 3: Role of the questions (%)

Role of the question	NS1 (n_1=160)	NS 2 (n_2=46)	NS 3 (n_3=26)	PS 1 (n_1=286)	PS 2 (n_2=258)	PS 3 (n_3=380)
Present expected learning results	1,9	30,4	0,0	12,2	0,4	18,7
Present the text to be developed	2,5	0,0	26,9	1,0	1,9	26,6
Link parts of a text on a given issue	5,6	0,0	0,0	10,1	10,9	3,4
Present compulsory learning activities	3,1	69,6	73,1	1,7	7,0	8,9
State knowledge application activities	0,0	0,0	0,0	50,7	77,1	42,4
Try to keep readers' attention	86,9	0,0	0,0	24,1	0,0	0,0
Show how to solve a problem/exercise	0,0	0,0	0,0	0,0	2,7	0,0

As they are not supposed to be answered at the stage they are introduced, their aim cannot be associated to diagnosing students' ideas on the issues they focus on. Thus, questions in the opening of theme or unit and title of section or sub-section can be better interpreted as presenting learning results as they give students an idea of what they are supposed to learn about. Figure 5 shows one of those questions (How are living organisms organized in the biosphere?) that is associated to a conceptual scheme that gives an overall idea of what is going to be learnt.
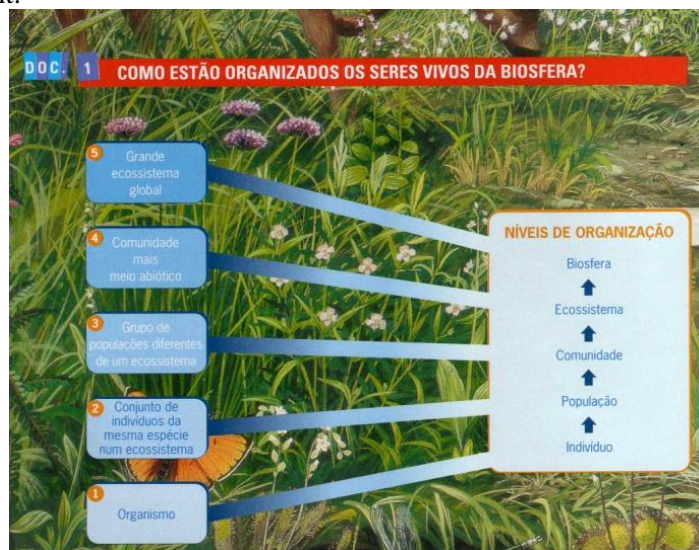
Figure 5: Question aiming at presenting learning results (NS 2, p. 12)

Some textbooks use questions throughout the text to link parts of the text or to introduce knowledge application activities. In the former case, the questions help to keep the reader's attention and promote understanding because even they may not be answered, they interrogate the reader about what he/she is reading. Figure 6 shows one of those questions (free translation: But, science and technology innovations are good or bad from the humanity?).

Figure 6: question that link parts of a text (NS 1, p. 202)

 Application questions are relevant to help students to get feedback on their own learning but as they come after learning, they are not useful from a PBL perspective. Figure 7 gives an example of questions used for this purpose. These questions concentrate on the chemical character of some substances everyday (e.g., orange juice, vinegar or rainwater) or lab substances.
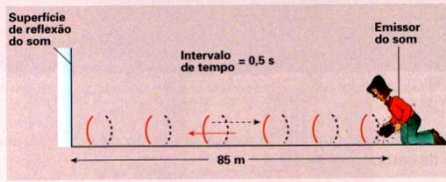
Figure 7: Knowledge application questions (PS 3, p. 121)

Some textbooks also include questions to show students how to solve problems/exercises. Figure 8 shows a question that requires students to calculate on sound speed. This type of questions aims at developing students' exercise solving skills. Although some of these skills may be relevant for problem solving, these questions are not relevant from a PBL point of view, as they require previous knowledge that is available only after teaching.

Figure 8: Question used to show to solve a problem/exercise (PS 2, p. 31)

With the exception of the NS3 textbook, most of the questions are encyclopaedic or meaning-oriented questions (table 4). The former requires rote learning, has no relationship to problems and is not relevant from a PBL perspective. Meaning-oriented questions require understanding and therefore they can be useful within PBL approaches even though they do not require very high reasoning levels. The other three types of questions are much more interesting as they require high level reasoning, namely the establishment of relationships, the making of judgements and the drawing of solutions for problems. Examples of the diverse types of questions were given in the introduction section of this paper. It should be noticed that a few questions were not classified into the five main categories as they were not well formulated and could not be understood well enough to be classified into those categories.

Table 4: Cognitive level of the questions (%)

Category	NS 1 (n_1=160)	NS 2 (n_2=46)	NS 3 (n_3=26)	PS 1 (n_1=286)	PS 2 (n_2=258)	PS 3 (n_3=380)
Encyclopaedic	90,0	13,0	19,2	60,8	58,1	47,6
Meaning-oriented	8,1	67,4	42,3	37,4	41,5	49,5
Relational	1,3	15,2	3,8	1,7	0,0	2,4
Value-oriented	0,6	0,0	0,0	0,0	0,0	0,0
Solution-oriented	0,0	2,2	34,6	0,0	0,0	0,3
Other	0,0	2,2	0,0	0,0	0,4	0,3

CONCLUSION

Textbooks differ with regard to the amount and the way they use questions, being NS textbooks quite similar among them but a bit different from the PS ones. PS textbooks tend to emphasise application questions while NS textbooks tend to emphasise question oriented activities. On the other hand, with the exception of the NS 3 textbook, most of the questions included in the textbooks analysed are encyclopaedic or meaning-oriented questions. Thus, textbooks questioning might not be too much helpful if a PBL approach to Sustainability on Earth is to be put into practice. Textbook authors seldom suggest their own questions as starting points to content development. Taken together, these results indicate that teachers need to find out problems or to prepare scenarios if they want to apply this innovative student-centred teaching approach to the content theme that is at stake. In addition, as the Portuguese curriculum is not a Problem-Based Curriculum, then teacher education is needed in order to help teachers to integrate PBL in a competence based curriculum without failing the development of students' prescribed competences.

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ANNEXE: **Textbooks analysed**

NS 1 – Antunes, C. *et. al* (2010). *Novo Descobrir a Terra*. Maia: Areal Editores

NS 2 – Silva, A. *et al.* (2010). *Planeta Vivo, Sustentabilidade na Terra*. Porto: Porto Editora

NS 3 – Domingues, H. & Batista, J. (2010). *Gaia, Sustentabilidade na Terra*. Lisboa: Lisboa Editora

PS 1 – Silva, J. *et al.* (2010). *(CFQ) 8 Sustentabilidade na Terra*. Maia: Areal Editores.

PS 2 – Rodrigues, M. & Dias, F. (2010). *Física e Química na nossa vida, Sustentabilidade na Terra*. Porto: Porto Editora.

PS 3 – Fiolhais, C. *et al*. (2007). *8 CFQ Sustentabilidade na Terra*. Lisboa: Texto Editora

361 - Photographic Images of Teachers: a Visual Journey of Teachership in Municipal Schools of Rio de Janeiro in the end of the 19th Century and Beginning of the 20th Century

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Abstract: This work aims mainly at investigating, through photographic records and reproductions, the social relations and customs which emerge from the analysis of images of Rio de Janeiro's municipal school teachers, during the period between the end of the 19th century (the 1890s) and the beginning of the 20th century (its initial decades). By analyzing how the images of the teachers was made public and attached to values through photographic documents, reflected in everyday school practices of the period investigated, the work took the form of a historical-sociological study. This search for meaning in the visual discourse of the photographic images analyzed allowed the mapping of the everyday pedagogical customs of these female teachers who imprinted their identities. The structure used to analyze the photographs was based on the premise which also defines photography as a *visual text*, benefiting from the theoretical leads laid by Boris Kossoy, Ana Maria Mauad, Lorenzo Vilches, Ruggero Eugeni, Erwin Panofsky, Roland Barthes, among other authors cited. The city of Rio de Janeiro was chosen because it was the country's capital until the year 1960, besides the fact that, nowadays, it remains a broadcasting hub in terms of habits and customs which spread throughout the country, having, therefore, welcomed and emanated official modes of professional conduct; in the case of this thesis, the identity of female schoolteachers. The final considerations of the work point out that the study of images and photographic documents of Rio de Janeiro's elementary public school teachers offers a new look on the construction of the teaching identity, on the networks from which this identity is woven. These images do reflect the facts as well as the ideologies of the periods in which they were produced, recorded and made public. They can only be analyzed if today's audience is permeated not only by the time in which it lives, but also by the context in which these photographs were taken, which opens the way to a dialogue between the record and the view of the contemporary observer.

Keywords: photography – teachers - 19th century

School teaching has been a source of different studies and thesis throughout time. It has been a tool for doctrines and freedom, depending on the point of view and the thought of different times and social groups that think and operate on it. In this sense, to think about education is not ever to take up a neutral position, innocuous or without commitment.

It hasn't been any different in Brazil. Since the times when school education had been done primarily, and why not say, exclusively by Jesuits, this battle field already showed itself as fertile and of difficult decisions. And thus it continued [and it continues] throughout the centuries.

In the imperial times in Brazil, even though there was, with Pedro II, a slight interest in widening school education, this interest was more strenghtened by political issues and the Emperor's image than say the actual interest in educating the people. With the Proclamation of the Republic, this scene changed.

The research Photographic Images of Teachers: a visual journey of teachership in municipal schools of Rio de Janeiro in the end of the 19th Century and beginning of the 20th Century, my doctorate thesis investigated, through photographs, in what way the image of municipal school teachers of Rio de Janeiro was built and represented, concentrating on the period from the end of the 19th Century (1890) and beginning of the 20th Century (1930), period of the History of Brazil known as First Republic or Old Republic.

The option for the proposed period for investigation was due to the fact that during the Old Republic, period highlighted by historians and also known as First Republic (from 1890 to 1930), that an ideal came up for a strong, civilized Brazil which would be achieved by Order and Progress. The school and its teachers would be leading people in the construction of this victorious architecture.

It is important to mention that this paper has as background, aspects of Cultural History by understanding that objects from the day-to-day life – in this, specifically the photographs -, are contributors of a time in which its use and customs tell us about the ways and manners of back then. It is by knowing the past that historical meanings can be established and the social function of the present can be understood. Therefore,

knowing the school and its people is also to recognize that we are too constructors of a time that is recorded in the image and in the folds of time of times.

Image is communication. Since prehistory, with the images engraved on the walls, the image is a fascinating object of amazement, identity, message. Nowadays, in the so-called *post-modern* time, even being virtual, created in a space-time of imaterial concreteness, the image is the translation of stories, desires and the establishment of symbols and icons, patterns of how to live and view life.

The work happened as a historical and sociological study, and it searched messages on the photographies of such period, habits and customs represented by the image of the primary school teacher, in which the main text is photography as *visual text*, as some authors point, such as Leite (2001), Kossoy (2001, 2002); Amount (2000); Panofsky (2002); Joly (2001), among others mentioned throughout this paper.

Therefore, studying images, photographic documents of the environment of public schools of Rio de Janeiro, makes a way for us to reach into a new perspective on teachers' identity construction, as well as where this identity is woven and modeled, considering these images are not distant from the events and the ideologies that were produced, registered and distributed during their time; the spectator of our time too cannot analyze these images without being saturated by the time in which he lives, and this opens up a way for dialogue between the record and the view of this current observer.

Searching for keys to analysis of the visual text

Panofsky (2002) presents us with a list of methodology steps to engaging in reading visual arts, to which I include photography. The steps are such as it follows:

> the first step concerns the observation and examination of the material; it is a basic step of approaching what the researcher has collected and has in his hands, so that it might be complemented, if necessary;
> the following step consists in decoding and interpreting the records that were collected;
> the third step is to categorize and coordinate the material into a coherent system, that "makes sense".

The first and second steps are denominated by Panofsky as "factual meaning" (primary or natural, according to the author), or in other words, the meaning is "aprehensed by simply identifying some visible forms with certain objects which I already know by practical experience and by identifying their change in relations with certain actions or facts". The third step is called "expressive meaning" (secondary or conventional, idem), and in order to comprehend the image, sensibility is needed, together with references which I join to what I see in order to better understand the object in analysis (id., p. 48-49).

In summing up his considerations, the author presents the following chart (2002, p. 64):

Objet of Interpretation	Interpretation Action
I – Primary or natural Theme A – factual B – expressive	Pre-iconographic Description (and pseudo-formal analysis)
II – Secondary or conventional theme, consisting of the world of images, stories [sic] and allegories	Iconographic Analysis
III – Internal meaning or content, consisting of the world of "symbolic" values	Iconologic Interpretation

The layers organized in the chart by the author are just instructive, illustrative. It is so that he says

> we have to bear in mind, though, that these three clearly different categories, that in the chart seem to point to three independent spheres of meaning, in reality they relate to aspects of the same phenomenon, being it the piece of art as a whole (id., p. 64).

The author's reminder is essential to image reading, and it is not advisable to separate the analysis of technical aspects from the symbolic aspects. In what concerns photography this becomes even more pertaining, due to the fact that photography is a mix of technique and art, even more so in its origin, such is the case.

Based upon these considerations, both technical aspects and cultural code aspects are important in reading a visual text. Therefore, when the author says that "the man who is run over by an automobile, is run over by mathematics, physics and chemistry" (id., p. 43), in what concerns photography we can understand that

whoever reads the photographic image, besides paper and the development technique employed, also reads codes and symbols of the reality recorded in it.

What the photos "say" to us...

As I have been pointing out throughout this text, the analysis proposed here of photography as visual text does not strongly support itself on technical aspects, but it cannot ignore such aspects in order to be complete, and therefore it becomes important to learn about forms and frames of photography. The fact that a message has as function to communicate contents that were chosen by the one who creates it is agreed upon. Such content needs a certain organization so that it might be clearly understood by the spectator, or at least, it might put limits to the width of how the message can be understood.

With the visual text, this point is more critical, if we consider its polysemy and multi-interpretative nature. As Dondis (2000, p. 134) advises, "in visual terms, our perception of content and shape is simultaneous. It is necessary to deal with both as a singular force that carries the information through in the same way. [...] What you see, you see".

It is by the shapes that the message sender might have some success in controlling the direction and the effectiveness of the message that he wants to transmit. In photography as visual text, these shapes are there too, whether the photographer is aware of them or not. When people and objects that are photographed are organized this or that way there is a logic of shapes and structures: why is the building more evident than the people in the picture? Why are there people seated in the picture while some are standing? Why is there an object showing on the right side of the picture? Why? Why?

Listing the *whys,* we see the need to seek after a key to analysis, which, as the author mentioned above states, is not only found in the content, but also in the shapes and in what way they were spatially organized in the photograph, conceiving a visual text: "seeing is a natural fact for the human organism; **perception takes a process to become capable**". It is necessary to perceive the shapes, understand them in its spatial organization so that the message might be more comprehensible: "in its [visual] composition, the first step is based upon a choice of proper elements pertaining to the communication mean with which you are working. In other words, **the shape is the elementary structure**" (Dondis, id., p. 136-137; my own highlights).

If, as the author says, the shape is elementary, in what way do they appear in the visual text in what comes to a photograph? Seeking a certain shape has to do with the message function intended by the sender. Thinking, for instance, about the pictures of teachers and their students, we join the recorded elements to the context of order and civility to which the school was recipient in the end of the 19th century and beginning of the 20th century, these pictures intended to show hierarchy in a well and properly organized arrangement. It is not without reason that the National Flag is behind one of the teachers, as we see in the following picture at Joaquim Manoel de Macedo School.

Picture # 1: Joaquim Manoel de Macedo School – 1920 (on the black board)
(Without authorship)

Dondis completes her statement mentioned before by saying that the visual image, here the photograph, "needs to represent and reveal its final aim. Not only through words or symbols, but through its **whole composition**" (id., ib., 138-139; my own highlight). Thus, when you look at the previous picture, the hierarchic order and organization is noticeable in it as a whole.

On the other side, without being separate from the sender, we find the receptor of the message, the spectator, the one to whom the image-photograph is made. Martine Joly calls it "the expectation of the spectator of the time" (Joly, 1996, p. 62). The author says that there is a game of announcements, signs, manifestations that can be seen or not, references and familiar characteristics which the audience expects to receive, or in other words, there is a way of receiving the image that characterizes a certain audience in a certain context.

This refers us to the Brazilian Modern Art Week, which happened in São Paulo in 1922, in which visual artists, musicians, writers were severely mocked and criticized because of their modern arts that, nowadays, we look at, listen to and read without being shocked, recognizing their avant-garde elements that caused agitation at the time. As to photography that was produced during the same timeframe, with its reliability status, it had to show the seriousness intended for the time, picturing elements in an intelligible way to its intended audience: families, authorities, students, and spectators at last.

The shapes can be perceived in different ways according to the organization shown in the photos. Ostrower (1998, p. 84) makes the following comment about shape and its perception "due to the simplicity, regularity and symmetry found in the structure of the circle, the square, and the triangle, these geometric designs were considered as having a 'good' configuration" by perception researchers of the 19th century. I do not think it is by chance that many photos of this study show these elements in their composition and they are dated from the end of the 19th century and beginning of the 20th century.

Among his considerations about shapes and their expressive strength, Ostrower (id.) says that the circle concentrates an energy field from its central part, from where forces are sent out and are limited by its border.
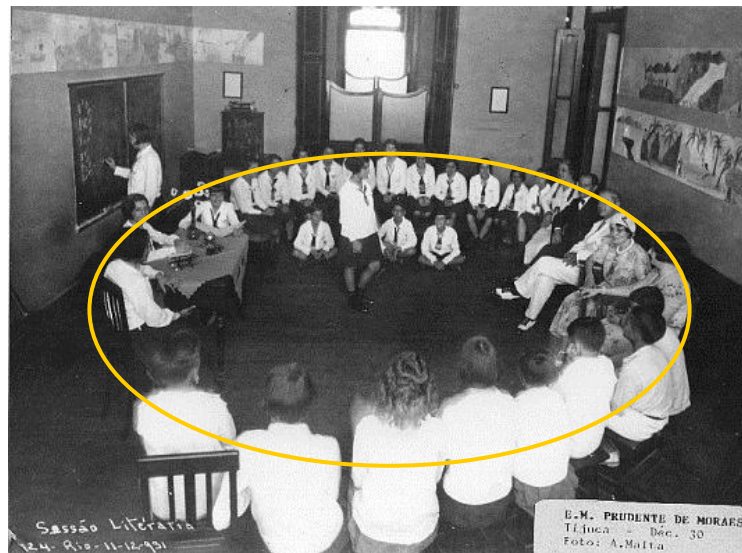

Photo # 2 – Prudente de Moraes School – 1930's
Literary Session (Augusto Malta)

This is a photograph by Augusto Malta dated from the 1930's. We can observe that the circle disposition concentrates the attention in a ways of keeping the look going round the group. The force of the shape makes us look at the circle in a circling manner, concentrating the look on its limits, which are its strength: the propaganda of the "literary session". This circling look sees in the center a girl standing up, which re-enforces the circle and its limits, and it sees the people seated as its rays. This way, whether we look at the people, or at the girl standing up in the middle, the circle idea remains, suggesting movement in reading, even though the people are seated and "still".

According to the same author, the triangle is also a shape which, according to its disposition, it might give us the impression of stability, or the opposite. When it is based on an horizontal line, the triangle promotes the impression of stability with a firmly planted basis; on the opposite side, with its tip based on the horizontal, giving us the impression that it is "upside down", it brings the impression of lack of balance.
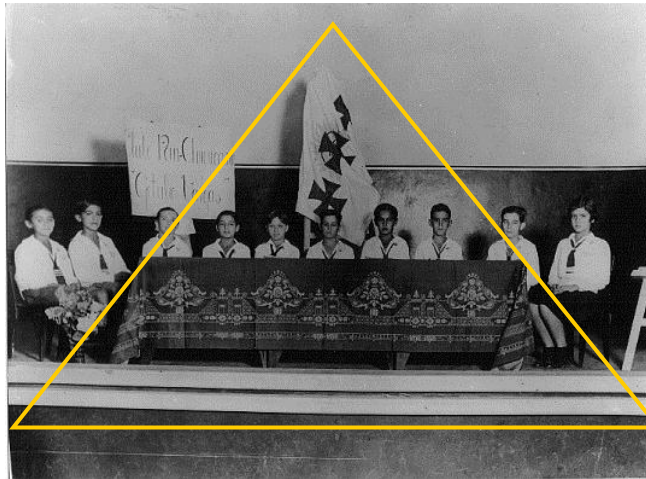
Photo # 3 – Getúlio Vargas School
Panamericano Club – 1935 (without authorship)

If we take the floor where the table and the feet are standing as the base of the triangle, and its "tip" as the tip of the flag, we can perceive that the group is inside this area in the picture. At least apparently, there is no agitation in the picture; quite the opposite, we can see self-restraint, order, concentration.

The wish for global balance, as Ostrower (id.) points out, is directly related to the author's own personality and to his own concept of "fair and balanced". There will always exist evaluations that overtake rational intelectual options, in choosing what should be recorded. Actually, when the photographer captures an image and chooses it to be registered, he is giving his own opinion about a determined topic.

The author mentioned above says that the choice "will always be an intuitive and sensitive knowledge that manifests itself starting from existential values and also due to the multiple simultaneous differentiations and formal relations and to the complexity of tensions (spatial and emotional)" (Ostrower, 1998, p. 96). Through this point of view we can support and explain the fact that there are multiple meanings to the visual text. The author completes her idea by saying that "the person who stablishes the parameters for our evaluation is the author who created the images himself" (id., ib., p. 206). From this mixture that concentrates rational choices as well as sensitive choices, the piece of art if the visible product of the author's concept.

The proportion in distributing the elements that are photographed is a centerpiece in the content of the intended message. The arrangement and the relation among the parts inside the total conjugate the spatial dimension through which "the whole set becomes the *context of its components*" (Ostrower, 1998, p. 219; highlight in the original). In arranging the elements to be photographed, the author of the photo will have organized the message according to his internal coherence – the balanced parts -, besides the external coherence that gets shown to the eyes of the spectator.

The arrangements are expressive and they are a response to some physical, spatial, thematic issue. This way, "the choice for a certain proportional pattern was determined many times by the cultural context in which the artist lived, depending also on the purpose of the piece of art [...]" (id., ib., p. 233). In seeking balance, the choice for how to arrange the photographed groups is also *properly* tidy, or in other words, they are in accordance to the author's order and his time order, and they are never separate from each other.

What should remain is the fact had the polysemy of the visual text is not an excuse for its inexistence; there is a need to seek, time and time again, more elements that base this reading, opening possibilities for a specific kind of knowledge that is non-verbal, but it is imperative in the current time, as it was before the invention of writing.

The interpretation process is cyclic, dynamic and built step by step, according to the interpretative process, that re-takes and re-elaborates the constructions of previous cicle or of the same cicle, formalizing a logic analysis. Through this idea, having the pretension of ending an analysis through a first and quick look is to give the interpretation in to thoughtlessness, considering that the interpretative process assumes many succeeding approaches to the object in analysis, turning it into cycles that complement each other and enlarge the frame of the look. This point brings up how important it is to improve the look and see into the stated and the non-stated, which complement themselves in the dimensions and analytic levels, such as the author mentioned before advises us to do.

Thus, let us take, for instance, the following photo:

Photo # 4 – Marechal Hermes School – 1915
(Without authorship)

At a first look, we see a group of women seated in front of a staircase, where we see three people leaning on the banister. Looking at their clothes, we can see the restraint, even for the time of the photo, dated from 1915. Their countenance are serious, concentrated; some of them look at us directly, others seem distracted, looking afar.

When I join in the information that they are a group of teachers, this description takes up another meaning and perhaps it is more clearly understood why they have such serious looks and why their clothes are modest: as well known people in the society at the time, the teachers had to symbolize the order for the progress of the nation through children's education and, therefore, they were not supposed to have any sort of caprice, and even less so seductive looks in their countenance, gestures and clothing.

Enlarging the first description even more, if I say the entrance where the teachers are seated at is at Marechal Hermes School, in a suburb called Botafogo, South wing of the city of Rio de Janeiro, the first school especially built for children, we can understand more clearly that the location for this picture was chosen and carefully thought of to be preserved for posterity, since this school was novelty in terms of architecture and construction of schools back then.

FINAL CONSIDERATIONS

The representations are linked, or in other words, they are produced starting from the mixture in which are blended political, individual and social practices, besides discursive, and others. They do not act or produce themselves alone; they are integrated and, when there is any movement it always re-shapes the other parts of the structure as well. Concerning the photos analyzed here, with the upcoming of new social republican values, the school, and consequently the teachers' work, had suffered alterations and, to support the politic-social demand, new representation models had been established.

In this thread we find two axes that intercross and feed each other permanently: a long ax, the diachronic and the short and punctual ax, the here and now, the synchronic. The structures are maps through which we approach an object of study. This was one of the reasons why I used photographs in order to understand chains of visual texts, with both continual aspects and unique ruptures.

The photograph makes postures, conducts, models popular, in order for them to be social and professional parameters, in the teachers' example, mainly when we talk about official photos, such as Augusto Malta's photos. Why was that moment photographed? Why was the moment so important and to whom was it important? Perhaps this explains the constant appearance of "important people", authorities in the photos of the school and its events.

The show-off and the publishing of classrooms became an excellent teaching propaganda of wide range. The use of teaching-pedagogic material was a mark of the modernization and remodeling of Brazilian education. Persuasion through esthetics replaces the old ferule. If the lesson was taught by hand before, in the new teaching methods that were to be put into practice a more voluntary and willfulness move was necessary, achieved by the pleasure of being in the school, participating as a whole, not just with their hands spanked.

The photograph shows the individual, and therefore he actually comes into existence as an *individual*, since it is now possible to prove his existence empirically through the picture. Taking the photos of the teachers,

for instance, if it is possible to prove the order, the organization, the modern school practices, then it actually exists, it is reality and whatever drifts away from this empirical model of *truth* is just illusion, mirage. Therefore, a photo is never an innocent picture; it is a choice that intends to register and to leave the time's seal for "eternity"...

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369 - A New Exportation of Technology Island: Inquiring the Science Background Parents Expectations in Science Curriculum of Waldorf School in Taiwan

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Abstract: Taiwan, as known as one of the leading country of the world in high technology industry, is the heritage Original Equipment Manufactures provider with high quality for years. Also, Science Education in Taiwan had nurtured a group of victors in the International Mathematic Olympiad (IMO.) Furthermore, Hsinchu Science Park which locates in Hsinchu County is known as a science city which nurtures a quality investment environment conducive to the national economy. These years, there are several primary schools intend to do some changes on their educational approach. Some of them locate exactly in Hsinchu County; one Waldorf kindergarten, two new established Waldorf elementary schools in the past two years. What is more, National Hsinchu University of Education, one of the famous educational universities in north Taiwan, had started provided training program for becoming a Waldorf teacher. The main purpose of this research is try to use literature review to find the position of science education in Waldorf educational curriculum which concern in the relationship between human development and natural environment. This research used narrative inquiry method to interviewing the parents who work in Hsinchu Science Park would be a plus benefit to this research; by the result would be able to show the reason of why these "science people" would like to choose Waldorf educational system for their children and what are their expectation toward Waldorf schools. In the end, this research attempt to model the new values in science education, which build up by Hsinchu science people and Waldorf education community in Taiwan.

Key words: science curriculum, Waldorf education, parents' expectations

INTRODUCTION

Taiwanese students consistently rank near the top on international exams on mathematics and science. In 2007, Taiwan recorded the highest TIMSS math score for eighth grade. The central education agency in Taiwan publishes detailed mathematics curriculum guidelines, which textbooks and national exams follow closely (Jane-Jane & Feng-Chiu, 2011). Most of the children in Taiwan will follow this way to learning in mathematics and science, so that they could have ability to compete with other student in the same age. If we only focus on the high score and competitions, traditional science education style could satisfy parents already. Its not only work in national exam of Taiwan to help students attend to the famous universities, but also let Taiwan get high reputation of Science Education over the world.

But these ten years, some parents change their expectations in Education. They don't want to only focus on competitions, but ignore the basic essence of learn to the world. They found out that face the exams is not a goal in Education. Even though they are born in that generation, which has very heavy stress in study.

In this research I interviewed a parent, who work in Hsinchu Science Park. He is an engineer in Electronics Corporation for years. When his daughter was four, he made a big decision to transfer her daughter to Waldorf style kindergarten instead of a famous bilingual kindergarten in Hsinchu. There is a common saying about "Don't let your child lose at the starting point " in Taiwan. It's popular to sent kids to bilingual kindergarten, because most of parents think that "the earlier child learn, the more they can get." Especially in English learning, get knowledge of nature and study Chinese characters in early period.

I want to inquiry this father's (Papa) life story, which could appearance the life style and thinking way in last generation of some people in Taiwan, in order to understand the thread of his thought that why he want to let his kids transfer to Waldorf Education. And as a science worker in high tech, what is his expectations in the curriculum of Waldorf school, when the mainstream science education not only successful over the international exams and had build up the Kingdom of Technology in the world already. Why he wants to change these for the next generation?

WHAT HAPPENED IN SCIENCE EDUCATION IN TAIWAN NOWADAYS?

With the survey of the "Common Wealth", which is the famous magazine in Taiwan. It shows there are more than 80 percents of Taiwan high school students do not want to become scientists. Comparing with Japan government, who vows to develop mathematicians and scientist is an important national task nowadays. And with Obama announced that he wants to use science education to save the economy in the United States.

The truth is that Taiwan's junior high school students are good at science competitions in the international competitions, like IMO, TIMSS whether in math or science fields, their grades are highest in the world top three. The fact is Our students won the gold medal every year in mathematics, physics, chemistry and other science related disciplines, but for what reason those students don't want to devote themselves to science work in their life?

Let's back to the story in thirty years before. When "Papa" was young, he lived in the countryside with parents. There was nature environment around him let he to explore and play with. He loves to stay with nature, sometimes go fishing by the stream, and sometimes created games with friends in the cultivated lands after school. He didn't spent time at schoolwork and read books during the childhood. At that age, the resources of education in countryside could not compare with the big cities. Not only the hardware like library and instrument of science experiment, but also the software like the qualities of teachers and their design of curriculum and instruction in subjects.

Papa almost spent all the time playing and hardly study during in elementary school. He started to study as he attended to junior high school. Although he didn't know what is his study for, but he just read hard. Just like other students' do in junior high school at that time. If something he cannot realize in the textbook, he would memorize mechanically to prepare the exam. After the entrance exam, he had no idea to choose the career orientations. He didn't know what's his interests, or in other words he neglect to explore which way he want to work with in his life. He made decision to study in the department of electronic. The reason is only in this field he can get a job easily, since there are many electronic OEM factories and companies in Taiwan. He totally neglected what he really wants to do and didn't care about that anymore at that time.

Papa earns his living in the science manufactory, just follow what he study in school. Compare with new generation in Taiwan, these children have sufficient resources in science education and that style of learning could let some of them win the good prices in this field. But the reality is that, most of them still not interest in it and do not want to work with it as a career in their lives. Isn't it ironic and need to inquiry?

THE SCIENCE CURRICULUM OF WALDORF EDUCATION

Waldorf Schools are based on the writings of Rudolf Steiner, the 19th century founder of "anthroposophy." Anthroposophy is an outgrowth of the theosophical movement popular in the early 20th century, a "spiritual" approach to philosophy. The Waldorf approach is infused with "spirituality." But if schools follow Steiner's views on science, education will suffer. Steiner believed that materialism was insufficient for the understanding of nature (Scott, 1994). Modern science totally ignores the spiritual part of the nature. And they fallow the evidence from laboratory, some of that is far from the real world. But most of people believe in the results of that so firmly more than what they really sense of the nature. The foundation of Waldorf Science Education is more concerning the relationship within the human being and nature. That is including the relationship of "Man and the Animals" and "Men and plants" and "Man and whole nature". Those all develop with the real world instead of the lab.

More of that, absolutely fundamental to Waldorf education is the belief that each child is a spiritual being, come to this Earth with a purpose. Equally, as nature itself is the handwork of God, one wishing to truly understand nature, and science, should cultivate a reverential, awe-filled approach to its study. There is a big different in the common sense of that "man can conquer nature" nowadays. In addition to qualities of awe and reverence, a "training of the senses", as it is referred to in Waldorf circles, is considered vitally important to opening the way for intimate experiences of scientific phenomena. Based largely on the work of Johann von Goethe (1749 – 1832), the Waldorf, or Goethean, approach to science is a deeply experiential one, where the belief is that human beings can in fact be participatory observers of life, not merely outside observers. The study of science, therefore, is an attempt at understanding the mysteries of life itself and, as such, that all will be avoided to modern science (Simmons, 2004). But the latter view was popularized by the philosopher Kant, who believed that people were only capable of a kind of rational intellectualism, a view still dominant today, and one which infuses life with a most deadening kind of materialism (Scott, 1994).

SCIENCE BACKGROUND PARENTS EXPECTATIONS IN WALDORF SCIENCE CURRICULUM

Why transfer to Waldorf School?

When Papa was a fresh man. That was the first time he had enlighten by the teacher of calculus in university. From that moment, he started to interest in what he learned after he really understood them. Or before that, he chooses to study in science field just because he was always good at mathematics. After that turning point, he kept study in graduate school in electronic department. Then Papa got the master degree, and then he went to the Electronics Corporation in Hsinchu Science Park.

Papa married with a physic teacher (Mama) of senior high school. Both of them are major in science in university and with master degree in domestic science field. For their first child (Nana), they choose the bilingual kindergarten to her. Wish she could learn more during the preschool education. But Papa found that there was something wrong with Nana. Evan Papa and Mama choose the most famous kindergarten and try their best to provide a wonderful learning environment for Nana. In Papa's mind, he always felt there was something wrong with her daughter. He found out that Nana seems cannot be calm, and her mind and spirit was not floating smoothly in her physical body. This finding is followed Papa's intuition, not for any doctors' advices. Once he survey the blog of his colleague's wife, that was the first time he know the Waldorf Education. The first impression of that survey is a beautiful picture in that Web which was a painting in Waldorf teacher training subject. Papa recalled when he studied in graduated school, that was the first time he found out himself indeed love work in art. It was so late for him to change his major, after he had studied in electronics so long. So that when Papa saw that painting he moved deeply with it and the essay by Steiner called The Education of the Child (1996):

Life in its wholeness is like a plant. The plant contains not only what it offers to external life, but it also holds a future state within its hidden depths.

After that encounter with Waldorf Education, Papa fallowed the description of Steiner's books to change the way to provide another kind of environment to Nana. He didn't let Nana watched TV and use computer anymore, although Taiwan is keen to develop the electronic media to support education in any period of school. That is popular to let children watch the Discovery Channel to absorb the science knowledge at home, not to mention that there is 24 hours cartoon TV programs could be the company with children, which do a big favor for busy parents' to manage their time easily after their over time working life.

That will be a myth not only in life style but also in education, that using electronic instruments is symbolizing advancement. When Papa never turns on the TV in front of his child, Nana was changed. Papa observed Nana could coordination with her mind and body better than before. From this moment on, Papa wanted to transfer Nana to Waldorf style kindergarten, what is more he wish Nana could learn in Waldorf School until 12 grade.

The expectations of Waldorf Science Curriculum of Papa

Papa wish Nana could study in nature way, which connected with the earth, the waters, and the mountains, those nature elements, will be the text in the curriculum. The knowledge comes out interrelated in the world we encountered and sensed by human, especially by their familiar class teacher. Through the teacher's understanding of the world, let students can absorb not only the knowledge but also the absolute floating feeling between the environments. Teacher transit into the curriculum, which is just unique for that place and that moment, and that are all from the teacher's realize and experiences by themselves not from guide line. Not like the textbooks from MOE could use any places and any classrooms. Papa feels if just fallow the textbook it will ruin the passion between man and nature, so that how children can conscious what kind of environments and real aura around them.

In addition, awe to the nature in Waldorf science curriculum is also Papa cherished. As an engineer and work with science, Papa was an atheist before he read the Steiner's book which talk about spiritual world. Although Mama is a Buddhist for long time, and tried to share the Buddhist Scripture to Papa as well. Papa never believe there will be another world in reality before. One of the reason is it's not easy to understand in the Buddhist Scripture, another reason is he studied and works in science field. To see is to believe. It's a little bit ridiculous to believe that there will be a Spiritual world around us in Papa's opinion before. When he research in the book from Steiner, Papa could follow what his writing about the spirit world than before. Because Papa found that Steiner use science methods to proof and introduce the spiritual world, that is his familiar way to realize the truth. That also the reason he has such a strong willing to transfer Nana to study in

Waldorf School devotionally. He believes the elements and the viewpoints in Waldorf science curriculum will broaden Nana's eyes of the world.

CONCLUSION

Recalling Papa's past life, the environments of Taiwan is so natural at that time than Now. Even though the resources of modern life living and education is not as good as present day. Before the time of economic takeoff in Taiwan, people can breath with nature's rhythm in daily life easily. But Taiwan has been catch up with the advanced countries hardly for decades. Even now, we still have to face the competitions within globalization. The result is we want to catch the goal and make money as soon as possible. Everything is going to efficiently, including the science education. Our children read lots of science books, if their parents have ability to support them. We follow up the advance science as fast as we could as well, in order to catch up the level of the western countries. That also is one of the reasons why we develop the OEM of electronic industry. The results of cultivate fast and look forward harvest fast let us lost the aesthetic in the process. Have we gained much more than we lost? We win the reputations in the international exams over the world, but lost the children's motivations and interests in science field. We come after the modern science and worship the high technology, but lose our nature environments and the relationship to connect to the essence of nature.

As Papa's words, he believes that we need the people who can devote themselves to the specialize fields which are their interests in Hsinchu Science Park or anywhere in Taiwan in the future. Our science education has to involve in the feelings within in what science really is. So that children in the future could use their human abilities to explore the outer world and the inner world both. Just like our ancestors realized the relations to the nature, which is exactly as Waldorf education try to develop the awe and get know of the whole nature. That will be a priceless and new exportation of this technology island.

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