THE TUTOR'S ROLE IN STUDENT LEARNING

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Abstract

Higher education in Portugal, in the last forty years, has undergone profound changes with the enlargement of public higher education network, the appearance of new institutions, the quantity and the heterogeneity of students. The implementation of the Bologna Process in European community countries led to the redesign of higher education Portuguese courses as well as their corresponding curricula [l]

In recent years, the use of Project-led education was one of the most significant changes in teaching and learning, particularly in engineering in higher education in Portugal.

This teaching methodology encourages students and teachers to undertake new roles, new responsibilities and a new learning perspective. This study aims at understanding whether the role of the tutor is to be suitable to the needs and expectations of Project-led education students.

These changes however are not only structural. At the University of Minho, new teaching and learning methodologies were adopted, which could guide the training of professionals on to the twenty-first century.

The opportunity arising from the implementation of Project-led education in Engineering methodology was used in the University of Minho's courses. This teaching method is intended to provide students with educational support programs that benefit the academic performance, allowing the opportunity to upgrade, train and develop the ability to study and learn more effectively. Through the Project-led education it is possible to provide students with techniques and procedures and develop the ability to communicate orally and in writing.

Students and teachers have assumed new roles in the teaching-learning process allowing in one hand the students to explore, discover and question themselves about some knowledge and on the other hand the teachers to change to a tutor, a companion and to a student project guide.

Therefore, surveys were analyzed, comprising questions about the most significant contribution of the tutor as well as if there are some initial expectations that have not been foreseen by the tutor.

Keywords: Project-led education, tutor, learning.

1 INTRODUCTION

In the last forty years with the enlargement of public higher education network, the appearance of new institutions, the quantity and the heterogeneity of students, Higher education in Portugal has undergone profound changes. The implementation of the Bologna Process in European community countries led to the redesign of higher education Portuguese courses as well as their corresponding curricula.

These changes however are not only structural. At the University of Minho, new teaching and learning methodologies were adopted, which could guide the training of professionals on to the twenty-first century [l].

The opportunity arising from the implementation of Project-led education in Engineering methodology was used in the University of Minho's courses. This teaching method is intended to provide students with educational support programs that benefit the academic performance, allowing the opportunity to upgrade, train and develop the ability to study and learn more effectively. Through the Project-led education it is possible to provide students with techniques and procedures and develop the ability to communicate orally and in writing [2].

In order to prepare the professors for the use of this new methodology, training courses were offered to all the engineering and Science staff.

2   HISTORICAL BACKGROUND

Although the tutor's role is not new in higher education, it has been changing through the people´s development and science [2].

In Ancient times, transmission of cultural heritage was performed by shamans, healers or sorcerers. These were considered "educators" by ancient people since these assumed educational roles. At the same time, these "teachers" helped the learner to understand what they called life [3].

The usage of a written language occurred with the transition from tribal society to early primitive stages of civilization. A formal education model was established, taught by the priesthood, which assumed the special class teacher's role [4].

In Greek civilization, the teaching was carried out by tutors, chosen by the criteria of mutual esteem, affection and friendship. Tutors were responsible for education about honor, justice, patriotism, self-sacrifice, self-control and honesty [3].

Roman education contributed to a pragmatic approach, guided by usefulness and effectiveness criteria. Concerned with the moral character formation, the education was the responsibility of the family and school. The last, operated in private homes, streets, squares and public buildings, had "poor" teaching results when compared to the education received at home [3, 4].

In the Middle Ages, education was viewed as an instrument for the salvation of the soul as well as obtaining eternal life, using a pedagogical approach based on God. In the eleventh century, the appearance of the feudalism acknowledged men by their relationship to the land: the owners or servants. Secular schools were created with non-religious education to meet the needs of the new social class in learning to read, write and calculate [5].

In the twelfth century, small schools were built in major cities, with "person-teachers" appointed by the city authority. The school was facing the current practice that included notions of history, geography and natural sciences. The teaching was developed in these free schools under the only responsibility of the master-teacher. Agreements were set between the students and the master teacher [6].

The Universities made their appearance in the early thirteenth century, initially organized in corporations of teachers and students, called universitas. The term generalia studio - learning sites (free schools) - or, later, the term university acquired the official recognition granted by the Pope, by a papal decree. In order to obtain the university degree, the student was required to access the university and stay under the responsibility of a teacher to acquire certain skills, such as reading texts, definition of words, the meaning of sentences and others. When this knowledge was acquired, these students taught the younger students, supervised by a teacher. It thus appears that the tutor' role as well as the monitor`s role are present since the beginning of the university [6].

The academic community established its own constitutions and laws through the corporate spirit that existed at the time.

At that time, students were limited to reproduce a crystallized knowledge, which contributed to the homogeneity of the institutions [4, 6].

Between the sixteenth and eighteenth centuries, universities are affected by a drop in prestige when compared to colleges, where the individuality in teaching-learning process increased. This fundamental feature created the prospect of mentoring as we know it today [4, 5, 6].

In the nineteenth century, the French Revolution and the Industrial Revolution had a great impact on the university. A remarkable event of the nineteenth century was the opening of the university to female students. One of the main characteristics of the university was that it broke up as an institution for the clergy and therefore male, while continuing aristocratic and elitist. Another important event was the extraordinary expansion of the university to the five continents. This expansion has faced the emergence of new models. It broke the medieval uniformity and installed the plurality of organization, form and content, especially from the reforms that took place in France, Germany, England and the United States [4, 5, 6].

From the second half of the twentieth century, there has been a remarkable expansion of universities both in developed countries and in developing countries [5, 6].

In Portugal, the last four decades have been particularly marked by profound changes in higher education, particularly regarding the characterization of the student population. The increase in higher education institutions allowed widespread access of students to higher education. Thus, the students

have increased in number and heterogeneity showing different skills, knowledge, motivations and expectations [7].

3 PROJECT-LED EDUCATION

With the implementation of the Bologna Process in Portuguese higher education, the institutions felt the need to restructure their courses and adopt new methodologies of teaching and learning. Thus, the School of Engineering, University of Minho, adapted the curriculum of their courses and proposed learning methodologies involving students seeking to answer the needs of the labor market [2, 8].

Facing these new opportunities, the project design was implemented. This teaching/learning methodology demands that students understand and integrate knowledge from courses in a comprehensive project. Thus, it is essential that students acquire skills in planning and execution of projects. This model of teaching and learning involves students in projects throughout their training, which allows, on the one hand, to assimilate the materials necessary for the development of each project in concrete and, on the other hand, to learn how to work on projects of all kinds [2, 8].

The development of the ability to regulate the process of group work increases the motivation for learning and contributes to the improvement of interpersonal relationships. It should also be highlighted that the success of the team means that there is an individual assessment of the performance itself and of other elements [2, 9].

Thus, in this context of team learning, you can also practice social skills such as communication, teamwork, conflict management, decision making and evaluation processes, as well as the ability to learn by doing to relate theory to practice and to perform learning from problem solving, building on existing resources and situations [2, 9].

Learning by project requires an integration of wills, tasks and knowledge of all stakeholders which in turn implies systematic planning, monitoring and evaluation that cannot be improvised [2, 9].

Therefore, the methodology of Project based learning is related to interdisciplinary and even trans disciplinary knowledge. The fact that it focuses on problem solving introduces a dynamic integration and synthesis of theory and practice, adapting it to identify relevant problems and building adjusted solutions [9].

The essence of Project based learning lies in giving meaning to learning in higher education, as well as to the multiplicity of knowledge used [9].

4 METHODOLOGY

The tutor's role is critical to the performance of the group itself. The tutor's role should induce and motivate students to learn by themselves, using the teaching-learning design, methods, often called by assets or for Engineering Education Project [2, 9].

The tutor plays a key role in structure, promotion and evaluation of the work of the Project based learning [2, 9], as he/she must elucidate what are the learning outcomes to be achieved in the course and set the learning steps that students must meet

The study, undertaken through a questionnaire survey, analyzed the higher education students' perception on the support provided by tutors during the course of the semester project.

This survey consisted of 39 closed questions, 2 open questions and a rating scale. However, this study only analyzed the open answers, which focused on the problem of the most important contribution of the mentor for the team and whether the expectations have not been met in relation to the tutor.

These surveys were completed in the academic years 2010/2011, 2011/2012 and 2012/2013, the latter being limited to just the first semester

The authors analyzed 111 surveys in total, of which 31 related to 2012/2013, 32 to 2011/2012 and 48 to 2010/2011.

5   RESULTS AND ANALYSIS

In this study we chose to use content analysis of respondents' answers. Making an overview of the number of response, it can be seen that 52.5% of respondents replied to the question regarding the most important contribution of the tutor to the team; only 3.6% commented on the question "what other expectations for the tutor have not been met yet?"

58 answers to the first question were analyzed. The support given by the tutors was the most evident answer (19 occurrences), followed by the willingness shown by the tutor (14 occurrences); the orientation is the third element shown (7 occurrences) and treated with 5 occurrences are the factors "presence" and "organization." However, other answers were mentioned, such as sympathy, criticism and foster positive group work. It has also been highlighted that the tutor's most important contribution to the team was a visit to a company and boost innovation.

Regarding the question "what other expectations are not yet answered?" it was found that most the students (107) did not answer the question. Only four answers were obtained.

The expectations identified as unmet were:

  • Commitment and interest in the work of the group;

  • Support for the correction of the project;

  • Increased number of meetings and greater collaboration from the tutor;

  • Providing information on some subjects and resources.

This study allows us to notice that the tutoring experience in the course in question also allows tutors to learn to deal with situations and develop the necessary skills to support this.

In this study we identified more positive than negative factors. Among the positive ones we point out the support given by the tutor to the students. Regardless of the negative factors, they are considerably counterbalanced by the positive ones namely the support provided to the students by the tutor which leads to accept this kind of methodology as something to be implemented and improved in the near future.

6   CONCLUSIONS

After three years of experience in this teaching/ learning methodology we verify that the tutors contribute a great deal to the following parameters: support, availability, guidance, organization.

However, in the expectation level we cannot draw any conclusions because the number of replies was low. We must highlight some parameters such as the commitment and interest in the work of the group by the tutor as weak points.

This teaching model becomes a mediating process in academic training as the student takes responsibility for himself, while the teacher does participate for their freedom of intellectual creation.

This process aims at allowing academic and personal emancipation, in which students assume responsibility for themselves, while the tutor does participate for their freedom of intellectual creation. This teaching methodology encourages humanistic and technical-scientific in an environment of accountability.

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