



**Universidade do Minho**  
Instituto de Educação

**Conceptions and Practices of Assessment  
in Higher Education:  
A Study of University Teachers**

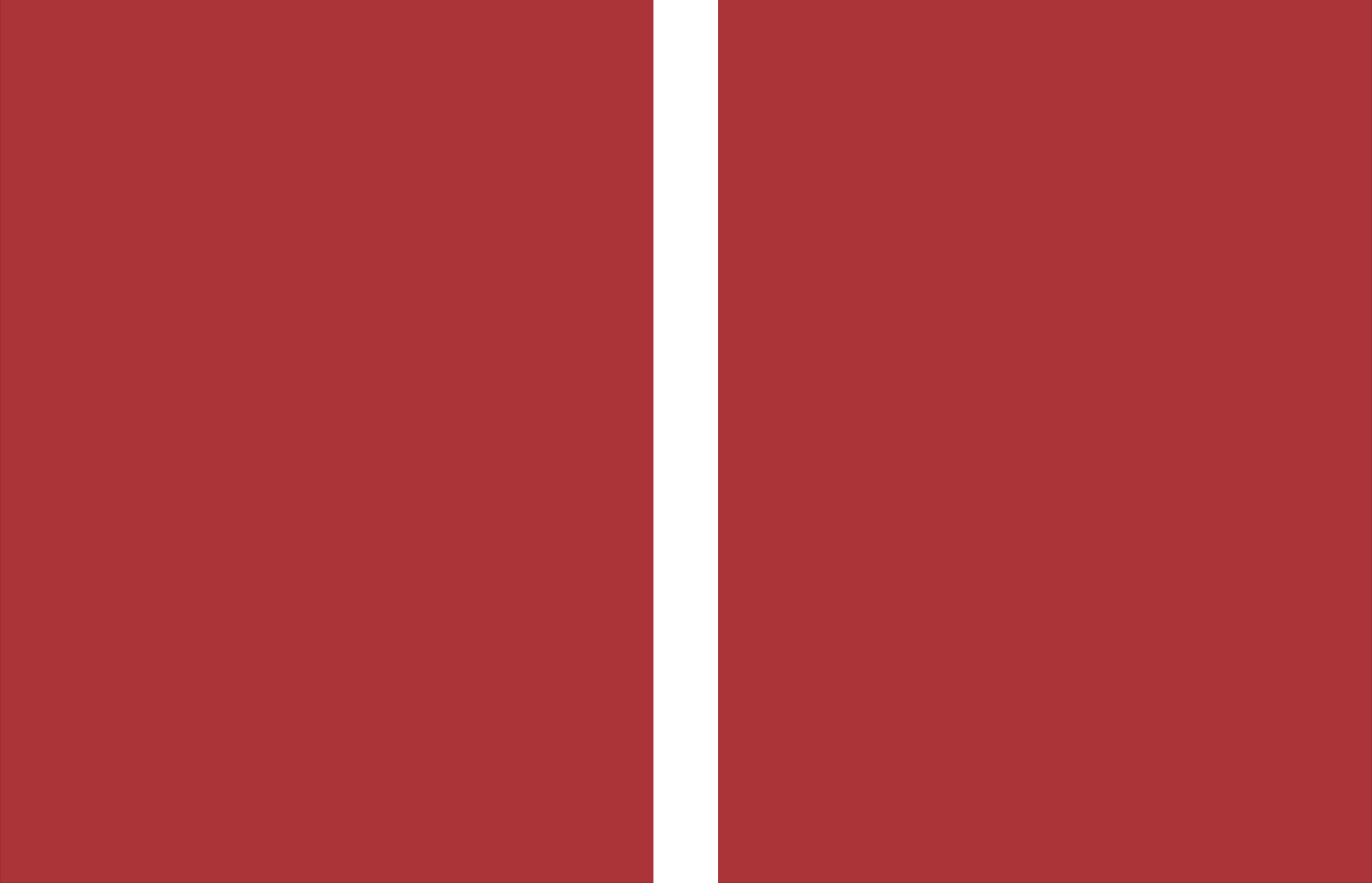
Eva Maria Lopes Fernandes

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Tese de Doutoramento  
Doutoramento em Ciências da Educação  
Especialidade em Desenvolvimento Curricular

Trabalho efetuado sob a orientação da  
**Professora Doutora Maria Assunção Flores**

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## ABSTRACT

### **Conceptions and Practices of Assessment in Higher Education: A Study of University Teachers**

The higher education system is considered to be a cornerstone for building a European democratic society within the context of an increasingly complex world. Over the last two decades, the European higher education has gone through several changes in terms of the reorganisation of courses, study programmes, and curricula as a result of the Bologna Process, with implications for training projects, teaching, learning and assessment practices.

This study aimed at analysing conceptions and practices of assessment from the perspective of university teachers after the implementation of the Bologna Process and at understanding possible implications of the Bologna Process for teaching and assessment practices. The participants were 185 teachers from five Portuguese public universities and 38 teachers from one of the universities participating in the study (sub-study 1); sixty programme coordinators from one of the universities participating in the study (sub-study 2); and two teachers and 34 students enrolled in two curricular units of Master's Degree programmes in teacher education from one of the universities participating in the study (sub-study 3). The participants taught in different areas of knowledge. The research design was based on a mixed method approach, combining both qualitative and quantitative methods, and focusing on different techniques and data collection procedures, as well as on the perspective of different stakeholders. The research project included three sub-studies which point to the existence of a diversity of assessment conceptions and practices and the recognition of the need to update and innovate assessment practices.

Findings from the first sub-study indicated that Portuguese university teachers held multiple, potentially contradictory, conceptions of assessment simultaneously. They also use a variety of assessment methods. However, a greater valorisation and use of written tests and exams and a lower valorisation and use of portfolios and reflections were identified. Data suggest statistically significant differences in the use of assessment methods according to the cycles of study, the area of knowledge and pedagogical training. Findings also indicate the existence of a diversity of assessment practices, with a prevalence of assessment practices associated with the use of assessment by the teacher, and lower incidence of assessment practices associated with assessment determined by external factors. They also point to the influence of study cycles and area of knowledge in terms of the use of different assessment practices by the participating teachers. Findings from the qualitative data suggest an optimistic vision of the teachers about their future, looking forward to the involvement in improvement projects and decision-making processes and the improving of the assessment methodologies. The university teachers identified difficulties and challenges related to the pedagogical interaction and assessment practices. However, innovative projects (under the Bologna framework) and the work with the students, among others, are identified as factors that enhance teachers' work. This research project identifies some tensions regarding the impact of Bologna on assessment practices.

Findings from the sub-study 2 also indicate the use of a variety of assessment methods, through a mix of learner-centred and traditional methods. The year of study, the type of course, the nature of the programmes, and the institutional regulations are identified by coordinating teachers as factors that may influence the selection of the assessment methods.

Lastly, the findings from the third sub-study identify the existence of feedback practices and student involvement in assessment practices.

Implications from the findings emerged which represent opportunities for future research, expanding the possibility of obtaining new answers and a more complete understanding of the complex and multifaceted nature of assessment in higher education in Portugal.

**Keywords:** Bologna Process, conceptions of assessment, higher education, practices of assessment, university teachers.

## RESUMO

### **Conceções e Práticas de Avaliação no Ensino Superior após a Implementação do Processo de Bolonha: Um Estudo com Professores Universitários**

O ensino superior é um dos pilares da construção de uma sociedade democrática europeia no contexto de um mundo cada vez mais complexo. Nas últimas duas décadas, o ensino superior europeu passou por várias mudanças em termos da reorganização dos cursos, ciclos de estudos e currículos como resultado do Processo de Bolonha, com implicações para os projetos de formação, para as práticas de ensino, de aprendizagem e de avaliação.

Este estudo teve como objetivo analisar as conceções e práticas de avaliação na perspetiva de professores universitários após a implementação do Processo de Bolonha e compreender as possíveis implicações do Processo de Bolonha nas práticas de ensino e de avaliação. Os participantes deste projeto de investigação foram 185 professores de cinco universidades públicas portuguesas e 38 professores de uma das universidades em estudo (sub-estudo 1); 60 coordenadores de curso de uma das universidades em estudo (sub-estudo 2); e dois professores e 34 alunos de duas unidades curriculares de cursos de mestrado de formação de professores de uma das universidades em estudo (sub-estudo 3). Os participantes lecionavam em diferentes áreas de conhecimento. O *design* de investigação assentou numa abordagem mista, combinando métodos qualitativos e quantitativos, assente em diferentes técnicas e procedimentos de recolha de dados, assim como na perspetiva de diferentes informantes-chave. O projeto incluiu três sub-estudos cujos dados apontam para a existência de uma diversidade de conceções e práticas de avaliação e o reconhecimento da necessidade de atualizar e inovar as práticas de avaliação.

Os resultados do sub-estudo 1 indicam que os professores universitários Portugueses possuem múltiplas conceções de avaliação, potencialmente e simultaneamente contraditórias, e utilizam uma variedade de métodos de avaliação. No entanto, identificam uma maior valorização e uso de testes e exames escritos e uma menor valorização e uso de portefólios e reflexões. Os dados também sugerem diferenças estatisticamente significativas no uso de métodos de avaliação de acordo com os ciclos de estudo, a área de conhecimento e a formação pedagógica. Os resultados indicam também a existência de uma diversidade de práticas de avaliação, com prevalência das práticas de avaliação associadas ao uso da avaliação pelo professor e menor incidência das práticas de avaliação associadas à avaliação determinada por fatores externos. Identificam igualmente a influência dos ciclos de estudos e da área de conhecimento no uso de diferentes práticas de avaliação pelos professores participantes. Os dados qualitativos sugerem uma visão otimista dos professores sobre o seu futuro, no que concerne ao envolvimento em projetos de melhoria e processos de tomada de decisão e à melhoria das metodologias de avaliação. Os professores universitários identificaram dificuldades e desafios relacionados com as práticas pedagógicas e de avaliação. No entanto, identificam como fatores de melhoria o envolvimento em projetos inovadores (proporcionados por Bolonha) e o trabalho com os alunos. Relativamente ao Processo de Bolonha, este projeto de investigação identifica algumas tensões em relação ao impacto de Bolonha nas práticas de avaliação.

Os resultados do sub-estudo 2 também identificam o uso de uma variedade de métodos de avaliação, através da combinação de métodos tradicionais e de métodos mais centrados no estudante. O ano do curso, o tipo de curso, a natureza dos programas e os regulamentos institucionais são identificados pelos coordenadores como fatores que podem influenciar a seleção dos métodos de avaliação.

Por último, os resultados do terceiro sub-estudo identificam a existência de práticas de feedback e o envolvimento do aluno nas práticas de avaliação.

As implicações que emergem deste estudo podem representar oportunidades futuras de investigação, no sentido de ampliar a possibilidade de obter novas respostas e uma compreensão mais completa da natureza complexa e multifacetada da avaliação no ensino superior em Portugal.

**Palavras-chave:** Conceções de avaliação, ensino superior, práticas de avaliação, Processo de Bolonha, Professores universitários.



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## ABBREVIATIONS AND ACRONYMS

A3ES – Agência de Avaliação e Acreditação do Ensino Superior (Agency for Assessment and Accreditation of Higher Education)  
AaL - Assessment as Learning  
AEHE – Assessment and Evaluation in Higher Education  
AFA - Alternative formative assessment  
AfL - Assessment for Learning  
AIC - Akaike Information Criterion  
AoL - Assessment of Learning  
BFUG – Bologna Follow-up group  
CAI - Conceptions' of Assessment Inventory  
CCSF - Conceptual change/student-focused approach  
CFA - Confirmatory factor analysis  
CFI - Comparative fit index  
CNAPPES - Congresso Nacional de Práticas Pedagógicas no Ensino Superior (National Congress of Pedagogical Practices in Higher Education)  
CNE – Conselho Nacional de Educação (NCE – National Council of Education)  
CRUP - Council of Rectors of Portuguese Universities  
ECIU - European Consortium of Innovative Universities  
ECTS – European Credit Transfer and Accumulation System  
EFA - Exploratory factor analysis  
EHEA – European Higher Education Area  
ENQA - European Association for Quality Assurance in Higher Education  
ES - Exact Sciences  
ET 2020 – Education and Training 2020  
ETS - Engineering and Technology Sciences  
EU – European Union  
EUA – European Universities Association  
H – Humanities  
HE – Higher Education  
ICT – Information and Communication Technology  
ITP - Intervention and Training Project  
ITTF - Information transmission/teacher-focused approach  
IVET – Initial Vocational Education and Training  
KMO - Kaiser-Meyer-Olkin  
MANOVA - Multivariate analysis of variance  
MCTES – Ministério da Ciência, Tecnologia e Ensino Superior (Ministry of Science, Technology and Higher Education)  
MHS - Medical and Health Sciences;  
MIMIC - Multiple indicator, multiple causes  
MLE - Maximum likelihood estimation  
NEIP.IE - Núcleo de Estudos e Inovação da Pedagogia no Instituto de Educação (Nucleus for Education and Innovation of Pedagogy at the Institute of Education)  
OECD - Organisation for Economic Co-operation and Development  
PCA - Principal component analysis  
RMSEA - Root mean square error of approximation  
SPSS - Statistical Package for the Social Sciences  
SRMR - Standardised root mean residual  
SS - Social Sciences  
TCoA Inventory – Teachers conceptions of assessment inventory  
UC – Unidade Curricular  
UNESCO - United Nations Educational, Scientific and Cultural Organisation

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## **INTRODUCTION**



## **Introduction**

Over the last two decades, the European higher education has gone through several changes in terms of reorganisation of courses, study programmes, and curricula. These occurred as a result of the Bologna Process and they entailed a number of changes at the Portuguese universities with implications for training projects, teaching, learning and assessment practices.

The Bologna process represents a milestone in the European higher education recent history. Developed with the intention of building a European Area of Higher Education enabler of mobility, employability and competitiveness (Simão, Santos & Costa, 2003; Sobrinho, 2005), the Bologna Process based on a "new" paradigm centred on the active role of the student and on learning (Simão, Santos & Costa, 2003), encompasses different roles for teachers and students with impact on teaching/learning methods and assessment practices. These implied a pedagogical reorganisation, marked by greater curricular flexibility, new forms and pedagogical assessment processes and also a differentiated organisation of the teachers and students' work (Lima, 2006; Pereira & Flores, 2012).

Along with the Bologna Process there are various challenges that higher education institutions have faced in recent decades. Some authors even point to a crisis scenario that has been plaguing the universities. Boaventura Sousa Santos (1994) in the text "Da ideia da Universidade à Universidade das Ideias" (From the idea of a University to the University of Ideas) spoke of a scenario in which universities were dipped in a number of crisis: "hegemony crisis", "legitimacy crisis" and "institutional crisis". On the one hand, the university is no longer the unique institution of higher education to produce knowledge and to do research, which led to a hegemony crisis. The contradictions in access and the accreditation of competencies, especially for the most underprivileged sections of the population, were at the origin of a legitimacy crisis. Finally, from an institutional point of view, the author identified another crisis in the contradiction between the demand for greater autonomy and the growing submission to the demands of productivity and market efficiency, and also of social responsibility. The universities have been responding reactively to these challenges, managing the crises, without being able to solve them (Santos, 2011). The attempt to respond to these challenges has been concentrated mainly in the institutional domain, with the institutional crisis being aggravated by the last global economic crisis, which increased the public divestment (Santos, 2011). On the other hand, the globalisation and transnationalisation of training, particularly in the context of higher education, also generated challenges, such as public disinvestment, the implementation of information and communication technologies as teaching instrument, and the consequent introduction of e-learning, and the "transnationalisation" of higher education.

The University, formerly the sacred place for the production of knowledge, faces today the growing pressure from the society and from its increasing challenges, in a pace that often exceeds its capacity of responding. However, this loss of legitimacy may be restored through the strengthening of universities social responsibility (improving and promoting the relationship between universities and public school and industry) and through networking and democratisation of processes and mechanisms (Santos, 2011).

Higher education must take an active part in satisfying the needs and requirements of today's increasingly and complex society in the context of the labour market and, more generally, in the different contexts of collective life. This requires an adjustment of the traditional standards of teaching and learning, based on the transmission of knowledge tested and accumulated, and a major investment on problem-finding and problem-solving methodologies (Almeida & Castro, 2017). This adjustment also implies reflecting, rebalancing and readjusting the assessment methodologies.

In higher education, traditional and prescriptive assessment tools are often used (mainly the written exam), within a grading system which reinforces hierarchies (Perrenoud, 1999; Pereira & Flores, 2012). Other perspectives, for instance, Assessment for Learning (McDowell, Wakelin, Montgomery & King, 2011) suggest that students are not mere consumers of classes and tests (Flores & Veiga Simão, 2007; Pereira & Flores, 2012), as they may assume a greater role and responsibility in the assessment process. Teachers also need to look at teaching and learning in a more autonomous, collaborative and integrated way, through shared projects; social production of knowledge; making the teaching and learning process more motivating (Flores & Veiga Simão, 2007). This view entails an understanding of assessment as an integrant part of teaching and learning.

In this context university teachers stand as "central figures in the teaching and learning process", active constructors of learning situations making use of "new teaching/learning methodologies, which have their origins in greater curricular flexibility and, consequently, in new ways of assessing" (Pereira & Flores, 2012, pp. 531-2).

This paradigm transition from a system based on the "transmission of knowledge" to the "development of competencies", in which experimental work, project work and transversal skills are particularly important (Decree-Law 107/2008), suggests the urgent need to identify and understand potential changes in assessment practices and the teaching learning process. This paradigm refers to most competitive learning environments (Reimann & Wilson, 2012), recognising the key role of student

based on autonomy, teamwork and active learning (Flores & Veiga Simão, 2007); implying the transdisciplinarity of knowledge, pedagogical innovation and student-centred education as fundamental condition for educational excellence (Edwards, 2008), with implications for assessment practices. Within the framework of the Bologna Process, the introduction of this educational paradigm implied a "profound reorganisation in terms of curricular flexibility and the organisation of teachers and students work" (Pereira & Flores, 2012, p. 531) through the promotion of tutorial and support strategies; the renewal of assessment strategies; the recognition of feedback as a key element for learning (Pereira & Flores, 2013); and, by strengthening the link between attending higher education and developing research work (Lima, 2006; Pereira & Flores, 2012).

The changes arising from the Bologna Process have been widely discussed and analysed in the literature which, among other aspects, points to learning outcomes, but also to the development of softskills which will enhance the success in the labour market (Dochy, Segers & Sluijsmans, 1999). These have implications for teaching methodologies and learner-centred assessment methods (Webber, 2012) that enable the development of problem-solving skills (which are key for professional and personal success). In this context there is an emphasis on alternative assessment methods that highlight professional autonomy, collaboration and accountability, ensuring constructive feedback, interaction with peers and knowledge construction (Webber, 2012; Pereira & Flores, 2013). Other authors, such as Hadji (2011), emphasise the communication/negotiation process provided by assessment, in which assessment is supported by an exchange process between the assessor and the assessee, and is strongly influenced by the context resulting from the confrontation between a given actual situation and the expectations regarding that the same situation. Light and Cox (2003) highlight the emotional dimension of assessment. They state that assessment is not only a scientific and intellectual challenge but may also, in some situations, cause divisions and disturb the relationship between students and between students and university teachers. In higher education, traditional and prescriptive assessment tools are often used (with the primacy of the exam) (Knight & York, 2003; Carless, 2009). This perspective leads to grading system which simply indicates which student is good or bad in a particular field (Carnoy & Levin, 1985).

In higher education assessment practices play a key role for the quality of the teaching-learning process (Fernandes, Flores & Lima, 2012; Flores et al., 2015). As such it is necessary to look at them in order to find out in to what extends changes in assessment have occurred as a result of the Bologna process and if so, their effects on teaching, learning and student achievement. Recent studies point to

the need for further research in this field, namely on the most commonly used assessment methods and their impact on student learning (Watering, Gijbels, Dochy & Ritjt, 2008), the comparison between assessment practices in different areas, institutions and countries (Gilles, Detroz & Blais, 2011), the effectiveness of so-called alternative or student-centred assessment methods (Segers, Gijbels & Thurlings, 2008) and the need to analyse assessment practices in articulation with feedback mechanisms (Flores et al., 2015). Despite the existence of studies in this field, further research is needed in order to understand the conceptions and assessment practices of university teachers in the Portuguese context.

This work reports on findings from a research project entitled “Conceptions and Practices of Assessment in Higher Education: A Study of University Teachers”, carried out in the context of the Doctoral Degree in Educational Sciences, Specialisation in Curriculum Development at the University of Minho. This study was funded by FCT (*Fundação Portuguesa para a Ciência e a Tecnologia* - ref. SFRH/BD/103291/2014). This project was part of a broader Research Project - “Assessment in higher education: the potential of alternative methods” (funded by FCT with Ref. PTDC/MHCCED/2703/2014).

This study aimed at analysing conceptions and practices of assessment from the perspective of university teachers after the implementation of the Bologna Process in order to contribute to improving the quality of learning and assessment practices and to understanding possible implications of the Bologna Process for teaching and learning practices. To achieve these goals, a research design was developed which included three sub-studies. The three sub-studies involved different research methodologies, combining both quantitative and qualitative methods, as well as the perspective of different stakeholders. The first sub-study addressed the perceptions of university teachers about assessment. In the second sub-study, this theme was investigated further through the perceptions of the programmes’ coordinators. And, finally, in the third sub-study, the research was complemented with the perspectives of teachers and students of two courses from teacher education programmes.

The structure of this work consists of seven chapters. The first two chapters are intended to describe the conceptual framework of the research. The first chapter characterises the Bologna Process and the Portuguese higher education context focusing on the European Higher Education Area and the emergence of the student-centred learning perspective. In this chapter, the main teaching and learning implications of the implementation of the Bologna Process in Portugal and some examples of pedagogical innovation are also presented.

The second chapter describes the main perspectives, conceptions and approaches to assessment in the higher education context with a focus on the different assessment methods and feedback practices. Different approaches to teaching and learning are also described in this chapter, which ends with the review of the main national and international studies on assessment in higher education.

In chapter three the research framework is presented. The research questions, research goals, research design, methods and procedures for the data collection and analysis are described. The detailed account of the three studies is also done including the participants as well as data collection and data analysis of each study. Ethical considerations and limitations of the study are also addressed in this chapter.

Chapter four presents findings of the first sub-study. The first sub-study addresses the perceptions of university teachers about assessment in higher education after the Bologna Process. Data of this study were collected through a questionnaire with 185 university teachers from five public universities and nine focus groups with 38 teachers from one of the universities participating in the survey.

Chapter five presents findings from the second sub-study which addresses the perceptions of 60 programme coordinators/supervisors from one of the universities participating in sub-study 1 about assessment in higher education after the implementation of the Bologna Process.

Chapter six presents findings of the third sub-study and reports on an intervention and training project developed in the context of two courses in two different teacher education programmes from one of the universities participating in the survey. Data from this study are presented as a case study approach. Presenting the findings as independent studies allow a better organisation and an analytical overview of the data, regarding the participants involved in the study and the dimensions under analysis.

In the seventh chapter, the main findings of the three sub-studies are discussed. Finally, the conclusions and implications of the study are presented, seeking to respond to the initial research questions and goals. Suggestions for future research on assessment in higher education are also identified.

## **CHAPTER I**

### THE BOLOGNA PROCESS AND THE PORTUGUESE HIGHER EDUCATION CONTEXT

## **Chapter I - The Bologna Process and the Portuguese Higher Education Context**

The role of universities has changed over the last two decades or so and has been constantly challenged. The University, formerly the “sacred place” for the production of knowledge, faces today growing pressure stemming from the society and its challenges, with a pace that often exceeds its capacity of responsiveness (Santos, 2011). One of the major changes in higher education in Europe, 20 years ago, was the Bologna Process. It entailed the transition from a system based on "transmission of knowledge" to the “development of students' competencies”, with an emphasis on experimental work, project work and transversal skills (Decree-Law 107/2008). This paradigm points to more competitive learning environments and changes in the conceptions of teaching (Reimann & Wilson, 2012), recognising the central role of the student within a logic of autonomy, teamwork and active learning (Flores & Veiga Simão 2007; Segers & Dochy 2001). It also highlights transdisciplinarity, pedagogical innovation and student-centred teaching as a key condition for pedagogical excellence (Esteves, 2008) with strong implications for assessment practices.

The implementation of the so-called “new educational paradigm” within the Bologna process implied a profound reorganisation in terms of curricular flexibility and teaching and student work involving the promotion of tutorial support strategies and the renewal of assessment methods and feedback seen as an essential element for learning (Pereira & Flores, 2013; Pereira, Flores, Veiga Simão & Barros, 2016).

On top of Bologna, the Portuguese higher education (HE) system, based on a binary system with university and polytechnic education, including public and private higher education institutions, has experienced profound changes over the last two decades, particularly the democratisation of access to higher education, visible in a significant increase of the number and diversity of graduates (Dima & Dima, 2005). Nevertheless, the Portuguese HE system is marked by fragmentation and dispersion, vertical organisation, curriculum based on linearity, selection and certification as central aspects. Portuguese higher education system faces a set of challenges, for instance, the low rate of employability of recent graduates, and the still existing gap between student demand and the areas that offer greater opportunities for employability (European Commission, 2017).

In this chapter, a characterisation of the Bologna Process and the concretisation of the European Higher Education Area are described. In addition to the European perspective, the implementation of the

Bologna principles is also analysed and complemented with examples or initiatives of pedagogical innovation in the Portuguese context.

### **1.1. The Bologna Process and the European Higher Education Area (EHEA)**

The Bologna Declaration represents a solid convergence in European higher education. It represented the formalisation of an important process that aims to create a "solid convergence in European higher education" (Sobrinho, 2007, p. 112). The Bologna Process is probably one of the most important educational reforms of the last decades. The educational reforms are "constructions of a legal and bureaucratic framework, usually proposed by politicians, to respond to certain problems and to produce effects more or less consistent with broader government or power system projects." (Sobrinho, 2007, p. 108). This implies a process of overcoming of certain status. An educational reform always produces some effects, to a great or less extent. It is not innocuous, it develops in the contradictions of society and interferes with the interests and values of the educational community and the population in general (Sobrinho, 2007). The Bologna declaration also implies the development of a united and strong Europe that provides the foundations for higher education innovation, competitiveness and productivity.

The challenges posed by the working conditions of recent decades and the need to ensure lifelong education and training, combined with the centuries-old tradition and prestige of European universities, have led European leaders to mobilise efforts to build a system of higher education which will provide European students with better training and working opportunities and a Europe of knowledge.

Figure 1 represents the timeline of the Bologna Process, identifying the main declarations and Ministerial Conferences. After the Bologna Meeting (1999), every two or three years, Ministerial Conferences were organised to evaluate the Bologna progress and to decide about new initiatives. A communiqué is adopted at each Ministerial Conference that outlines decisions taken by the Ministers. It includes central aspects of the EHEA, for example, further developments and commitments by its member countries.



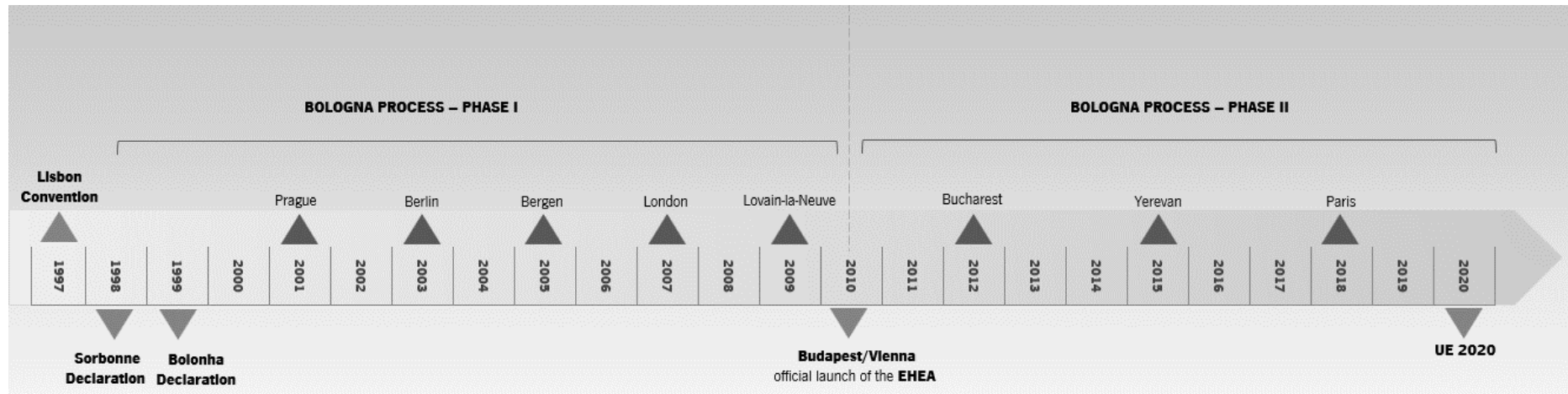


Figure 1. Timeline of the Bologna Process

### **1.1.1. The Lisbon Convention and the construction of the European Higher Education Area (EHEA)**

The *Convention on the Recognition of Qualifications concerning Higher Education in the European Region* is an international convention designed together by the Council of Europe and UNESCO. The 1997 Lisbon Convention, ratified by Portugal, reinforces the right to education as a fundamental human right and highlights the role of higher education in the acquisition and in the advancement of knowledge by boosting the cultural and scientific enrichment of individuals and society, and by assuming a fundamental role in the promotion and maintenance of peace.

The Portuguese Republic Assembly Resolution 25/2000 approves the Convention on the Recognition of Qualifications for Higher Education in the Europe Region, opened for signature by the member states of the Council of Europe in Lisbon on 11 April 1997. In total, 56 countries and international organisations ratified the convention.

Aware of the great diversity of education systems in Europe and the common desire of facilitating access to European education institutions and educational resources for all European citizens, and taking into account the necessity of finding solutions for European level problems on the recognition of academic degrees in Europe, the Lisbon Convention defines:

- (1) Competence of the authorities (establishes the competencies of those involved in qualification recognition processes);
- (2) Basic principles related to the assessment of qualifications (non-discrimination, obligation to assess recognition of qualifications based purely on acquired knowledge and skills);
- (3) Recognition of qualifications giving access to higher education (recognising the qualifications granted by other institutions/countries to access higher education programmes);
- (4) Recognition of periods of study (reinforcing the facilitation of the process);
- (5) Recognition of higher education qualifications (recognition of qualifications for further study, the use of the academic title and the access to the labour market);
- (6) Recognition of qualifications held by refugees, displaced persons and persons in a refugee-like situation;

(7) Information on the assessment of higher education institutions and programmes (requires each state to provide relevant information about its higher education institutions and their programmes);

(8) Information on recognition matters (transparent systems that allow access to “relevant”, “up-to-date” and “accurate” information; creation of “national information centres”; implementation of the diploma supplement);

(9) Implementation mechanisms (establishes the role of the “Committee of the Convention on the Recognition of Qualifications concerning Higher Education in the European Region” and the “European Network of National Information Centres on academic mobility and recognition (the ENIC Network)” as promoters and facilitators of the implementation of the Convention).

(adapted from Lisbon Convention, 1997)

Under Lisbon Convention students and graduates have guaranteed fair procedures in degree recognition. The degrees and cycles of study must be recognised unless *substantial differences* can be proved by the institution responsible by the recognition process (Lisbon Convention, 1997). The Lisbon Recognition Convention represents a major important instrument for the Bologna Process, particularly in order to create the EHEA degree standards and quality assurance standards compatible and more comparable throughout Europe.

### **1.1.2. The birth of the European Higher Education Area (EHEA) – from Sorbonne to Bologna**

The Sorbonne Declaration (signed by France, Germany, Italy and the United Kingdom in May 1998) expresses the need to promote cooperation, mobility and international recognition of higher education systems in the European countries. It highlights the key role of European universities in culture development. It also proposes the organisation of the European higher education system into two major cycles; the organisation of semesters; and, the implementation of a credit system (ECTS - European Credit Transfer and Accumulation System) based on a semester curriculum. In addition to these changes, the Bologna Process reinforces the importance of student mobility experiences (e.g. Erasmus Programme) and the possibility of following multidisciplinary studies (Sorbonne Declaration, 1998).

From the Sorbonne meeting emerges the desire to create a European Higher Education Area (EHEA) "with the aim of making the different European higher education systems more comparable, compatible and coherent with a view to promoting the mobility and employability of human resources"

(Justino, Machado & Oliveira, 2017, p. 1). This was ratified in the following year in Bologna by 29 European countries.

The Bologna Declaration<sup>1</sup> (1999) reinforces the principles referred to in the Sorbonne Declaration.. It is based on academic uniformity that allows to match and compare European higher education systems. It is an intergovernmental process involving 47 member countries of the Council of Europe's European Cultural Convention, whose education ministers meet periodically (every two years) to monitor, guide and set new goals for the construction of the EHEA. The European Commission, the Council of Europe, the UNESCO European Centre for Higher Education (UNESCO-CEPES), the European Universities Association (EUA), the European Students Union (ESU), and the Bologna Follow-up Group<sup>2</sup> (BFUG) are also part of Bologna (Justino, Machado & Oliveira, 2017).

From the formal document, published in 1999, emerges the need to reconcile and compare the different European higher education systems and, above all, to increase competitiveness in the European higher education system. It aims to develop a Europe of knowledge, consolidating its intellectual dimension, cultural, social, scientific and technological:

“A Europe of Knowledge is now widely recognised as an irreplaceable factor for social and human growth and as an indispensable component to consolidate and enrich the European citizenship, capable of giving its citizens the necessary competencies to face the challenges of the new millennium, together with an awareness of shared values and belonging to a common social and cultural space.” (Bologna Declaration, 1999, p.1).

These dimensions are reaffirmed in the goals of the Declaration to consolidate the European Higher Education Area (cf. figure 2) (adapted from Bologna Declaration, 1999, p. 2):

- Adoption of a system of easily readable and comparable degrees (through the implementation of the Diploma Supplement) in order to promote European citizens' employability and the international competitiveness of the European higher education system;
- Adoption of a system essentially based on two main cycles, undergraduate and graduate (the access to the second cycle shall require successful completion of first cycle studies, lasting

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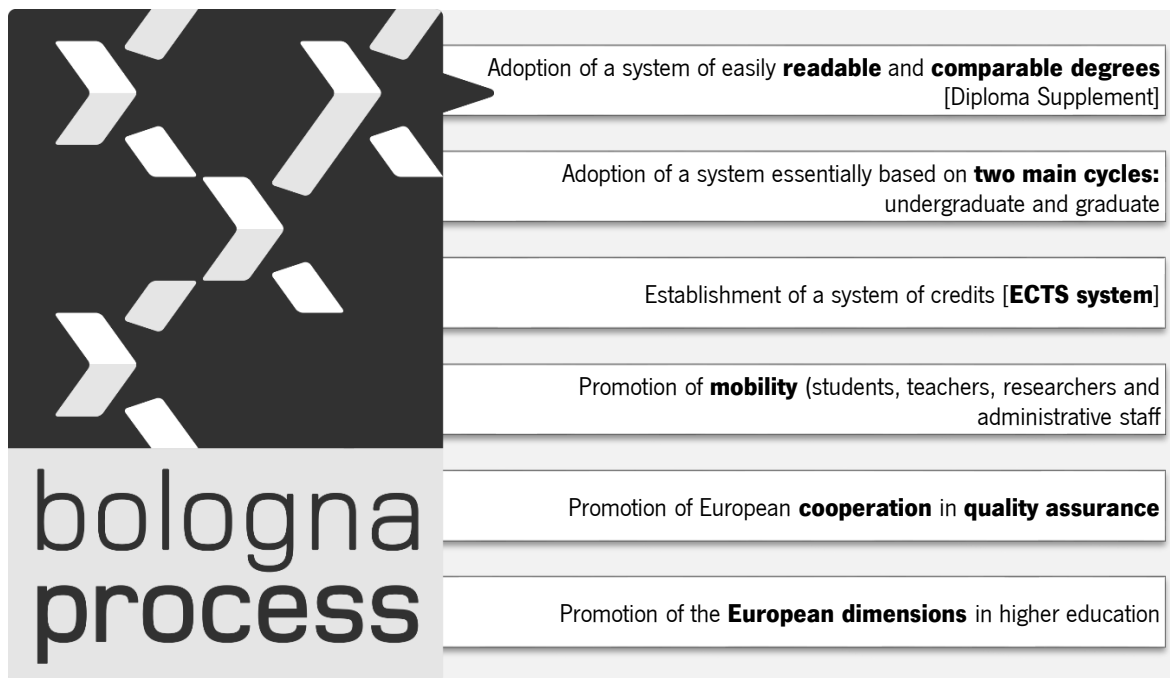
<sup>1</sup> The 'Bologna movement' has its genesis in the previous decade in the same city, at the meeting which resulted in the *Magna Charta Universitatum* (1988). The Magna Charta Universitatum was signed by 388 European university rectors and heads on the 18th September 1988, date of the 900th anniversary of the University of Bologna. It aims to celebrate the deepest values of University traditions and to encourage strong bonds among European Universities.

<sup>2</sup> The BFUG is composed, among others, of officials from 47 countries. It conducts studies, seminars, projects and official Conferences.

at least three years). The degree awarded after the first cycle shall be relevant to the European labour market and should lead to the master and/or doctorate degree;

- Establishment of a system of credits - ECTS system - as a proper means of promoting student mobility. Credits could also be acquired in non-higher education contexts, including lifelong learning, provided they are recognised by receiving Universities concerned;
- Promotion of mobility of students (access to study and training opportunities and to related services) and for teachers, researchers and administrative staff (recognition and valorisation of periods spent in a European context researching, teaching and training, without prejudicing their statutory rights. Promotion of European co-operation in quality assurance with a view to developing comparable criteria and methodologies);
- Promotion of European co-operation in quality assurance with a view to developing comparable criteria and methodologies;

Promotion of the necessary European dimensions in higher education, particularly with regards to curricular development, interinstitutional co-operation, mobility schemes and integrated programmes of study, training and research.



(adapted from Bologna Declaration, 1999, p.2)

**Figure 2.** Bologna Goals

After Bologna, several meetings and initiatives were promoted towards the realisation of the EHEA. With the awareness that the creation of the EHEA implies "promoting concrete measures to achieve tangible forward steps" (Bologna Declaration, 1999, p.2), fundamental aspects of EHEA were addressed, such as the role of lifelong learning, the participation of students in the higher education institutions, quality assurance, the organisation of the two-cycle education system and the organisation of a European degree recognition system (Justino, Machado & Oliveira, 2017).

### **1.1.3. The launch of the European Higher Education Area (EHEA) – from Prague to Budapest/Vienna**

The Bologna meeting was followed by Prague (May 2001), Berlin (September 2003), Bergen (May 2005), London (May 2007) and Leuven-a-Nova (April 2009), Budapest/Vienna (2010).

In Prague (2001), the 32 signatories Ministers of the Prague Communiqué reaffirmed their commitment to the goal of establishing the European Higher Education Area by 2010. The communiqué reinforces the idea that "higher education should be considered as a public good and is and will remain a public responsibility (regulations etc.)", as well as the role of students as "full members of the higher education community" (Prague Communiqué, 2001, p. 1). Further actions following the six objectives of the Bologna process were also identified as well as the recognition of the importance of lifelong learning strategies, institutional and students' involvement, and, promoting the attractiveness of the European higher education.

The Berlin Communiqué (2003) - *Realising the European Higher Education Area* -, reaffirms the importance of the social dimension of the Bologna Process: "higher education is a public good and a public responsibility" (Berlin Communiqué, 2003, p. 1). At this Conference, the quality assurance system was highlighted, as well as the commitment to achieve the goals set for 2010, namely the adoption of a system essentially based on two main cycles and the cooperation between the European Higher Education Area and European Research Area – "two pillars of the knowledge-based society" (Berlin Communiqué, 2003, p. 7).

In Bergen (May 2005), the ministers responsible for higher education underline the central role of higher education institutions, their staff and students in the Bologna enterprise. The Bergen Communiqué (2005) - *The European Higher Education Area - Achieving the Goals* -, acknowledges the good results achieved on the degree system, quality assurance and the recognition of degrees and periods

of study. It also establishes as further challenges and priorities: the connection between higher education and research, the social dimension, mobility, attractiveness of the EHEA and cooperation with other parts of the world.

The London Communiqué (2007) - *Towards the European Higher Education Area: responding to challenges in a globalised world* -, marks the main progress towards the EHEA and sets as priorities for 2009: the mobility, social dimension, data collection on both mobility across Europe and social dimension, employability, and, the continuous monitoring of the process.

In Louvain-la-Neuve (2009), beyond the usual follow-up of EHEA, it was also established the priorities for the EHEA for the next decade. The ministers responsible for higher education recognises the key role of higher education in the pursuit of a highly creative and innovative Europe of knowledge and to face the changes of the ageing population of Europe; the globalisation and accelerated technological developments, the global financial and economic crisis.

The Louvain-la-Neuve Communiqué highlights student-centred learning and teaching role as higher education priorities for the decade to come. The student-centred learning and mobility will help students to “develop the competencies they need in a changing labour market and will empower them to become active and responsible citizens.” (Louvain-la-Neuve Communiqué, 2009, p. 1). In the same spirit, the importance of the teaching mission is recognised, with clear concerns with the quality of teaching within the scope of student-centred learning:

“Student-centred learning requires empowering individual learners, new approaches to teaching and learning, effective support and guidance structures and a curriculum focused more clearly on the learner in all three cycles.”  
(Louvain-la-Neuve Communiqué, 2009, p. 3)

One of the major contributions of this meeting was the prioritisation of the improvement of teaching quality of all levels of the study programmes in the further implementation of the European Standards and Guidelines for quality assurance.

The Ministerial Conference in Budapest/Vienna (2010) was considered the official conference for the launch of the EHEA and the conclusion of the first phase of the Bologna Process. The Budapest/Vienna Communiqué (2010) recognises the Bologna Process and the resulting European Higher Education Area, as unprecedented examples of regional, cross-border cooperation in higher

education. This conference takes a step further and reinforces Bologna Process, intending to achieve the Louvain-la-Neuve agenda for 2020, namely through student-centred learning strategies and the articulation between teaching and researching:

“We call upon all actors involved to facilitate an inspiring working and learning environment and to foster student-centred learning as a way of empowering the learner in all forms of education, providing the best solution for sustainable and flexible learning paths. This also requires the cooperation of teachers and researchers in international networks.” (Budapest/Vienna Communiqué, 2010, p. 2)

Nevertheless, the reports presented in Budapest draw attention to different levels of implementation of Bologna's goals, namely in terms of curriculum reform, quality assurance, degree recognition, mobility, and, also social level (Budapest/Vienna Communiqué, 2010).

#### **1.1.4. The consolidation of the European Higher Education Area (EHEA)**

The central mission of the Bologna Process was to improve the quality and relevance of teaching and learning in higher education (Paris Communiqué, European Commission, 2018). This mission was reinforced at the Ministerial Conference of Louvain-la-Neuve (2009), where the 2020 goals were launched, reiterated in Bucharest (2012) and strengthened in Yerevan (2015).

Bucharest (2012) inaugurates the designated second phase of the Bologna Process. It is in Romania that the assumptions of quality higher education for all are reaffirmed through student-centred learning, quality assurance, and, improving employability to meet European employment needs. The Bucharest Communiqué (2012) establishes the Bologna action lines for 2012-2015: to provide quality higher education for all, to enhance graduates' employability and to strengthen mobility as a means for better learning. Promoting equal opportunities for all; promoting student-centred learning (with innovative methods of teaching that involve students as active participants in their learning); and, promoting a supportive and inspiring working and a learning environment that potentiates critical thought, are the means to achieve a quality higher education service:



“We reiterate our commitment to promote student-centred learning in higher education, characterised by innovative methods of teaching that involve students as active participants in their own learning. Together with institutions, students and staff, we will facilitate a supportive and inspiring working and learning environment. Higher education should be an open process in which students develop intellectual independence and personal self-assuredness alongside disciplinary knowledge and skills. Through the pursuit of academic learning and research, students should acquire the ability confidently to assess situations and ground their actions in critical thought.” (Bucharest Communiqué, 2012, p. 2).

In Yerevan (Armenia, 2015) quality assurance remains one of the key themes and the following goals were reinforced: improving the quality and relevance of the teaching and learning process; promoting the employability of higher education graduates in a context of constantly changing labour markets; making higher education more inclusive; and, implementing structural reforms vital to the long-term consolidation and success of EHEA (Yerevan Communiqué, 2015).

The 2015 Yerevan Communiqué emphasises that “enhancing the quality and relevance of learning and teaching is the main mission of the EHEA” (Yerevan Communiqué, 2015, p. 2). It includes the following aspects: encouraging and supporting higher education institutions and staff in promoting pedagogical innovation in student-centred learning environments; promoting a stronger link between teaching, learning and research at all study levels; and, providing incentives for institutions, teachers and students to intensify activities that develop creativity, innovation and entrepreneurship. The study programmes should allow students to develop competencies which meet their aspirations and societal needs, through effective learning activities. The learning outcomes and workload should be clearly defined and assured by flexible learning paths and appropriate teaching and assessment methods.

Another central theme of the communiqué is the recognition and supporting of teaching quality along with opportunities for enhancing university teachers’ competencies. It is essential to recognise and support quality teaching, and to provide opportunities for enhancing academics’ teaching competencies', promoting “a stronger link between teaching, learning and research at all study levels, and provide incentives for institutions, teachers and students to intensify activities that develop creativity, innovation and entrepreneurship” (Yerevan Communiqué, 2015, p. 2). The Yerevan Communiqué also stresses that it is necessary to “actively involve students, as full members of the academic community, as well as other stakeholders, in curriculum design and quality assurance” (Yerevan Communiqué, 2015, p. 2).

At the most recent meeting (Paris, 2018), and 20 years after signing the Sorbonne Declaration, the ministers responsible for higher education celebrated the progress made in building the EHEA and made commitments for its further development. Over the last two decades, the main mission of the Bologna Process and the core goal of structural reforms have been to “ensure and enhance the quality and relevance of learning and teaching” (Paris Communiqué, 2018, p.4). The communiqué reinforces the importance of lifelong learning and innovative teaching and learning as future hallmark of the EHEA.

One of the contributions of this meeting in the development of innovative teaching and learning practices, in addition to measures at national level, is the developing of “European initiatives to support and stimulate a wide range of innovative learning and teaching practices, building on existing good practice in our countries and beyond” (Paris Communiqué, 2018, p.3). The programmes that provide a diversity of learning methods and flexible learning “can foster social mobility and continuous professional development whilst enabling learners to access and complete higher education” at any stage of students’ lives (Paris Communiqué, 2018, p.3).

The Paris communiqué also stresses the importance of promoting high-quality teaching in European university institutions based on appropriate career advancement conditions and opportunities for continuous professional development:

“As high-quality teaching is essential in fostering high-quality education, academic career progression should be built on successful research and quality teaching. It should also take due account of the broader contribution to society. We will promote and support institutional, national and European initiatives for pedagogical training, continuous professional development of higher education teachers and explore ways for better recognition of high quality and innovative teaching in their career.” (Paris Communiqué, 2018, p.4)

Along the same line, the European Higher Education Area Bologna Process Implementation Report (European Commission, 2018), highlights national and community strategies for improvement of the teaching and learning practices. The previous 2013 report pays particular attention to the teaching process, defined as “a core mission” and therefore as a “core responsibility” (European Commission, 2013, p.13). Quality teaching should be a priority of every higher education institution, “a daily lived priority and not just worthy words in a mission statement” (European Commission, 2013, p.13). The High-Level Group on the Modernisation of Higher Education of the European Commission (2013)

identified teaching as a high-priority and highlights the importance of professional training in higher education contexts:

“The need for professional training as a teacher at primary and secondary school level is generally taken for granted but remarkably, when it comes to higher education there seems to be an all too common assumption that such professional teacher training is not necessary, as if it is somehow an idea unworthy of the professional academic.” (European Commission, 2013, p.18)

Teaching and learning are not isolated processes, they are shared processes with shared responsibilities both by university teachers and students. Higher education should engage students in the teaching and learning process in order to enhance their full potential and to overcome their difficulties:

“The best teaching helps students to question their preconceptions, and motivates them to learn, by putting them in a situation in which their existing model does not work – and in which it matters to them that it does not work and in which they come to see themselves as authors of answers, as agents of responsibility for change. That means that students need to be faced with problems which they think are important. They need to engage with new questions which are bigger than the course itself, which have relevance to their own lives and which provoke a lively participation far beyond simply getting through assessment or exams.” (European Commission, p.18)

The Bologna Process brings about a paradigm shift and profound changes in how we view higher education teaching and learning process. The shift from teaching to learning involves core issues as the quality of the learning environment and teaching quality. Despite the acknowledged advances, some barriers to the quality of teaching are still identified, namely the overfocus on research that may “overshadowed the core value and seminal importance of teaching”. It is therefore necessary to look at “how important teaching is and how dangerously close we are to taking it for granted” (European Commission, 2013, p.22).

The High-Level Group on the Modernisation of Higher Education of the European Commission nominate as main barriers to the quality of teaching: the lack of institutional and governmental support; the inadequate cooperation between institutional leadership; as well the need to acknowledge teaching

as a skill; to reward teaching skills and engagement; to involve students as a partners on curriculum design and in teaching and learning process; and, knowing students. The multidisciplinary, technology and new pedagogical tools as well as the internationalisation, globalisation, and mobility of staff and students also emerge as key elements to higher education better outcomes (European Commission, 2013). This group endorse a set of 16 recommendations to improving the quality of teaching and learning in Europe's higher education institutions in particular “the implementation of a strategy for the support and on-going improvement of the quality of teaching and learning” (European Commission, 2013, p. 27); student feedback; continuous professional education as teachers as a requirement for teachers in the higher education sector; the recognition and rewarding of university teachers “who make a significant contribution to improving the quality of teaching and learning” (European Commission, 2013, p. 37); the promotion of “cross-, trans- and interdisciplinary approaches to teaching, learning and assessment” (European Commission, 2013, p. 47); and, the “design and implementation of programmes relevant to social and labour market needs, and the strengthening of partnerships between higher education, business and the research sector” (European Commission, 2013, p. 61). Figure 3 identifies the barriers to the quality of teaching as well as the European Commission recommendations to overcome these constraints:

BARRIERS	RECOMMENDATION
<p><b>(1) Teaching and learning require full institutional and governmental support</b></p>	<p>“Public authorities responsible for higher education should ensure the existence of a sustainable, well-funded framework to support higher education institutions’ efforts to improve the quality of teaching and learning.” (European Commission, 2013, p. 25)</p> <p>“Every institution should develop and implement a strategy for the support and on-going improvement of the quality of teaching and learning, devoting the necessary level of human and financial resources to the task, and integrating this priority in its overall mission, giving teaching due parity with research.” (European Commission, 2013, p. 27)</p>
<p><b>(2) Institutional leadership: top-down and bottom-up approaches have to go hand in hand</b></p>	<p>“Higher education institutions should encourage, welcome, and take account of student feedback which could detect problems in the teaching and learning environment early on and lead to faster, more effective improvements.” (European Commission, 2013, p. 29)</p>
<p><b>(3) Acknowledging teaching as a skill</b></p>	<p>“All staff teaching in higher education institutions in 2020 should have received certified pedagogical training. Continuous professional education as teachers should become a requirement for teachers in the higher education sector.” (European Commission, 2013, p. 31)</p> <p>“Academic staff entrance, progression and promotion decisions should take account of an assessment of teaching performance alongside other factors.” European Commission, 2013, p. 33)</p>

**(4) Which skills must 21<sup>st</sup> century teachers have to promote high quality learning?**

**Focus on soft skills**

*An excellent teacher should promote creative skills and learning outcomes such as complex thinking, problem-solving, reciprocal learning, experiential learning, social skills and participatory learning (interaction with tutors and other learners, active participation in learning, interdependence; and personal shaping of knowledge), progressive mastery, individual pacing, self-correction, critical reflection, active seeking of meaning, empowered self-direction, internal drive/motivation.*

**Rewarding teaching skills and engagement**

“Heads of institutions and institutional leaders should recognise and reward (e.g. through fellowships or awards) higher education teachers who make a significant contribution to improving the quality of teaching and learning, whether through their practice, or through their research into teaching and learning.” (European Commission, 2013, p. 37)

**(5) Curriculum design: involving students as partners in teaching and learning**

“Curricula should be developed and monitored through dialogue and partnerships among teaching staff, students, graduates and labour market actors, drawing on new methods of teaching and learning, so that students acquire relevant skills that enhance their employability.” (European Commission, 2013, p. 41)

“Student performance in learning activities should be assessed against clear and agreed learning outcomes, developed in partnership by all faculty members involved in their delivery” (European Commission, 2013, p. 43)

**(7) Knowing your students**

“Higher education institutions and national policy makers in partnership with students should establish counselling, guidance, mentoring and tracking systems to support students into higher education, and on their way to graduation and beyond.” (European Commission, 2013, p. 45)

**(8) Multidisciplinarity for better outcomes**

“Higher education institutions should introduce and promote cross-, trans- and interdisciplinary approaches to teaching, learning and assessment, helping students develop their breadth of understanding and entrepreneurial and innovative mind-sets.” (European Commission, 2013, p. 47)

**(9) Technology and new pedagogical tools**

“Higher education institutions – facilitated by public administrations and the EU – should support their teachers so they develop the skills for online and other forms of teaching and learning opened up by the digital era, and should exploit the opportunities presented by technology to improve the quality of teaching and learning” (European Commission, 2013, p. 49)

**(10) Internationalisation, globalisation, and mobility of staff and students**

“Higher education institutions should develop and implement holistic internationalisation strategies as an integral part of their overall mission and functions. Increased mobility of student and staff, international dimension of curricula, international experience of faculty, with a sufficient command of English and a second foreign language and intercultural competencies, transnational delivery of courses and degrees, and international alliances should become indispensable components of higher education in Europe and beyond” (European Commission, 2013, p. 51)

**Figure 3.** Barriers to the quality of teaching (adapted from European Commission, 2013)

In response to these challenges, some strategies have been defined as the Marie Curie Fellowships<sup>3</sup> or the European Education and Training Programme<sup>4</sup> (launched in 2014) which proposed two key actions: Strategic partnerships and policy support. The European Commission (2013) also suggests the promotion of innovative teaching and learning methodologies and pedagogical approaches; guidance, counselling and coaching methods; improved programme design, taking account of the latest research on human learning; the professionalisation and development of teachers, trainers and staff; mobility and exchanges of academic staff for long term teaching assignments; and, systematic and regular data collection on issues affecting the quality of teaching and learning.

Teaching and learning have been on the political and institutional agenda at European level. The fundamental role of university teachers in the development of student learning is also recognised. However, in most countries and most academic careers, no pedagogical training is required for the development of the teaching profession. In many cases, teaching performance does not seem to play a major role in the career advancement of university teachers.

“some academic staff categories – in particular professors, associate professors, lecturers and researchers – are commonly required to hold the doctorate or a post-doctoral degree, programmes leading to these qualifications do not necessarily include courses in teaching or teaching practice. Moreover, regulations generally do not require academics with teaching responsibilities to hold a teaching qualification, i.e. a degree, diploma or a certificate that validates a programme targeting the development of teaching skills. This suggests that the development of teaching skills in academia essentially consists of 'learning on the job'.” (European Commission, 2013, p. 92)

To fill this gap, higher education institutions commonly offer optional courses and training opportunities, which are frequently followed by research activities on teaching and learning. In general, higher education teaching emerges as an area of policy interest in both the national and institutional level. The courses for developing teaching skills seem to be common, and, there is a quite high students' satisfaction with the

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<sup>3</sup> Marie Curie Fellowships are “European research grants available to researchers regardless of their nationality or field of research. In addition to generous research funding scientists can gain experience abroad and in the private sector, and to complete their training with **competencies** or disciplines useful for their careers.” (European Commission, 2013, p. 58)

<sup>4</sup> Launched by the EUA.

quality of teaching. Nevertheless, the requirements for teaching in tertiary institutions are still “less clearly defined compared to other educational levels and research performance of academics remains the key career component in most higher education systems (European Commission, 2013, p. 92).

### **1.1.5. The shift from teaching to learning**

The higher education system emerges as a “key building block” of the European democratic societies in which the “best teaching and learning environments encourage students to develop confidence in their creative abilities, strong community engagement and a sense of ethical responsibility allied to the humility that comes from understanding that learning is a lifelong phenomenon that demands a lifelong curiosity and commitment” (European Commission, 2013, p.13). The High-Level Group on the Modernisation of Higher Education of the European Commission draws attention to the need to “shift from teaching to learning” (European Commission, 2013, p. 22). This approach has been extensively discussed through the Bologna Process and endorsed by the European Credit Accumulation and Transfer System (ECTS), the qualification frameworks, and, the Diploma Supplement.

As such, the teaching and learning process in higher education can be seen as a “shared process, with responsibilities on both student and teacher to contribute to their success” (European Commission, 2013, p.18). Previous research indicates the ineffectiveness of the teaching process through the transmission of knowledge (ESU, 2015). In compensation, student-centred learning perspectives have arisen, placing students in the centre of the learning experience and fostering the process of learning to learn.

The diversity of the growing population of higher education students and their multiplicity of characteristics and expectations presents challenges to the traditional methods of teaching and learning, “making it necessary to adapt the classroom to focus on the diversity of students' experiences, engage with many different types of learners and inspire students through a mutual learning experience” (ESU, 2015, p. 1). This means taking students seriously, giving them real choices, autonomy and responsibility in their learning process and involving them in decision-making through effective feedback mechanisms (ESU, 2015).

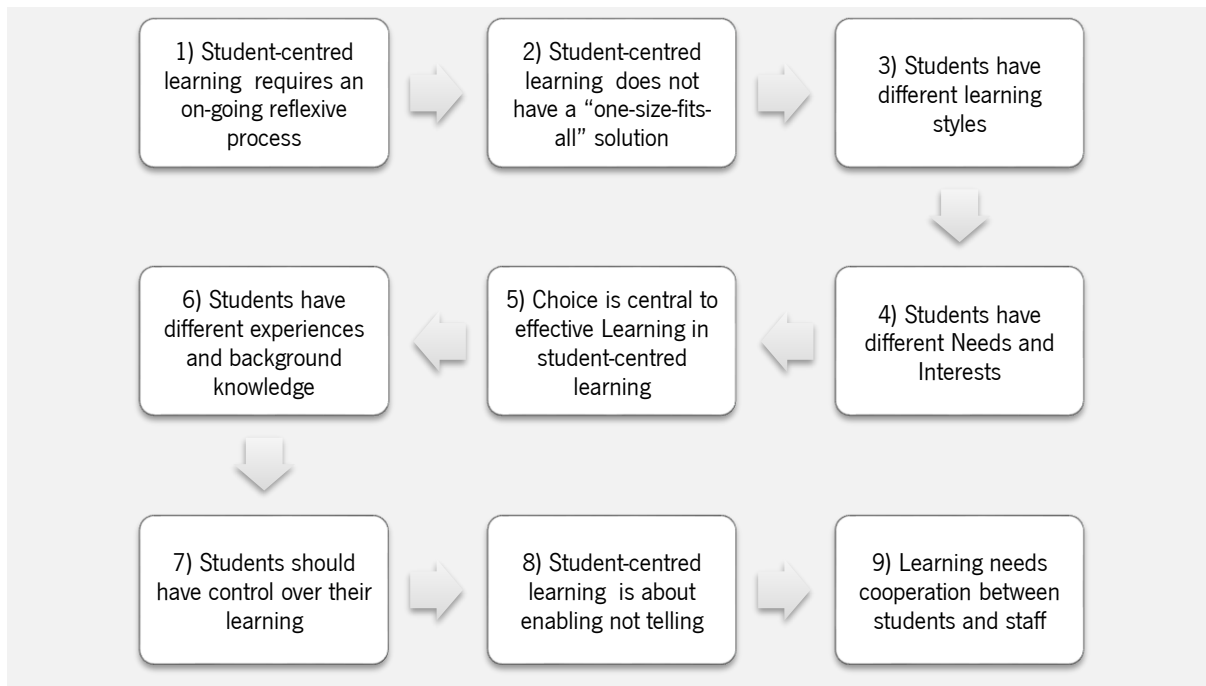
The learner-centred perspective gained political recognition in the Louvain-la-Neuve Ministerial Conference (2009):

“We reassert the importance of the teaching mission of higher education institutions and the necessity for ongoing curricular reform geared toward the development of learning outcomes. Student-centred learning requires empowering individual learners, new approaches to teaching and learning, effective support and guidance structures and a curriculum focused more clearly on the learner in all three cycles. Curricular reform will thus be an ongoing process leading to high quality, flexible and more individually tailored education paths. Academics, in close cooperation with student and employer representatives, will continue to develop learning outcomes and international reference points for a growing number of subject areas. We ask the higher education institutions to pay particular attention to improving the teaching quality of their study programmes at all levels. This should be a priority in the further implementation of the European Standards and Guidelines for quality assurance.” (Louvain-la-Neuve Communiqué, 2009, pp. 3-4)

Three years later, the Bucharest Ministerial Meeting (2012) reiterates the importance of student-centred learning and learning-outcomes based learning. Student-centred learning is a key feature of quality assurance processes. The quality assurance mechanisms underline the importance of teaching, with a particular focus on the interaction between teacher and student; students as co-producers of knowledge and members of the academic community; and, curricula design based on learning outcomes (ESU, 2015). In Bucharest (2012) the student-centred learning was widely discussed and a list of nine general principles underlying the student-centred learning was created (cf. Figure 4).

These principles reinforce the diversity of higher education students, their interests and learning paces, and the need to adapt curricula and pedagogical experience to this diversity, always based on student involvement and centrality. Since the beginning of the Bologna Process, major progress has already been made at the role of students and teachers and learning environment to accomplish the student-centred learning. The EHEA 2020 targets identify the realisation of strategies for student-centred learning in all Bologna countries as well as the implementation of curricula based on students' learning outcomes. Achieving this goal requires an effort from higher education institutions (staff and management) and the involvement of students in programme design, in line with institutional governance and quality assurance agencies.





**Figure 4.** General principles of the student-centred learning (adapted from ESU, 2015)

## 1.2. The Portuguese Higher Education Context

The Bologna Process and the creation of the European Higher Education Area challenged European countries, including Portugal, to change their teaching-learning practices, focusing on student-centred pedagogies, problem-solving initiatives and innovative assessment practices. Higher education must take an active part in satisfying the needs and requirements of today's increasingly complex society in the context of the labour market and, more generally, in the different contexts of collective life. This requires an adjustment of the traditional standards of teaching and learning, based on the transmission of knowledge tested and accumulated, and a major investment in problem-finding and problem-solving methodologies (Almeida & Castro, 2017).

### 1.2.1. The Portuguese Higher Education System and the implementation of the Bologna Process

Portuguese higher education system is based on a binary system with both, university and polytechnic education, and is ensured by public and private higher education institutions. Portugal has a higher education system with two pillars:

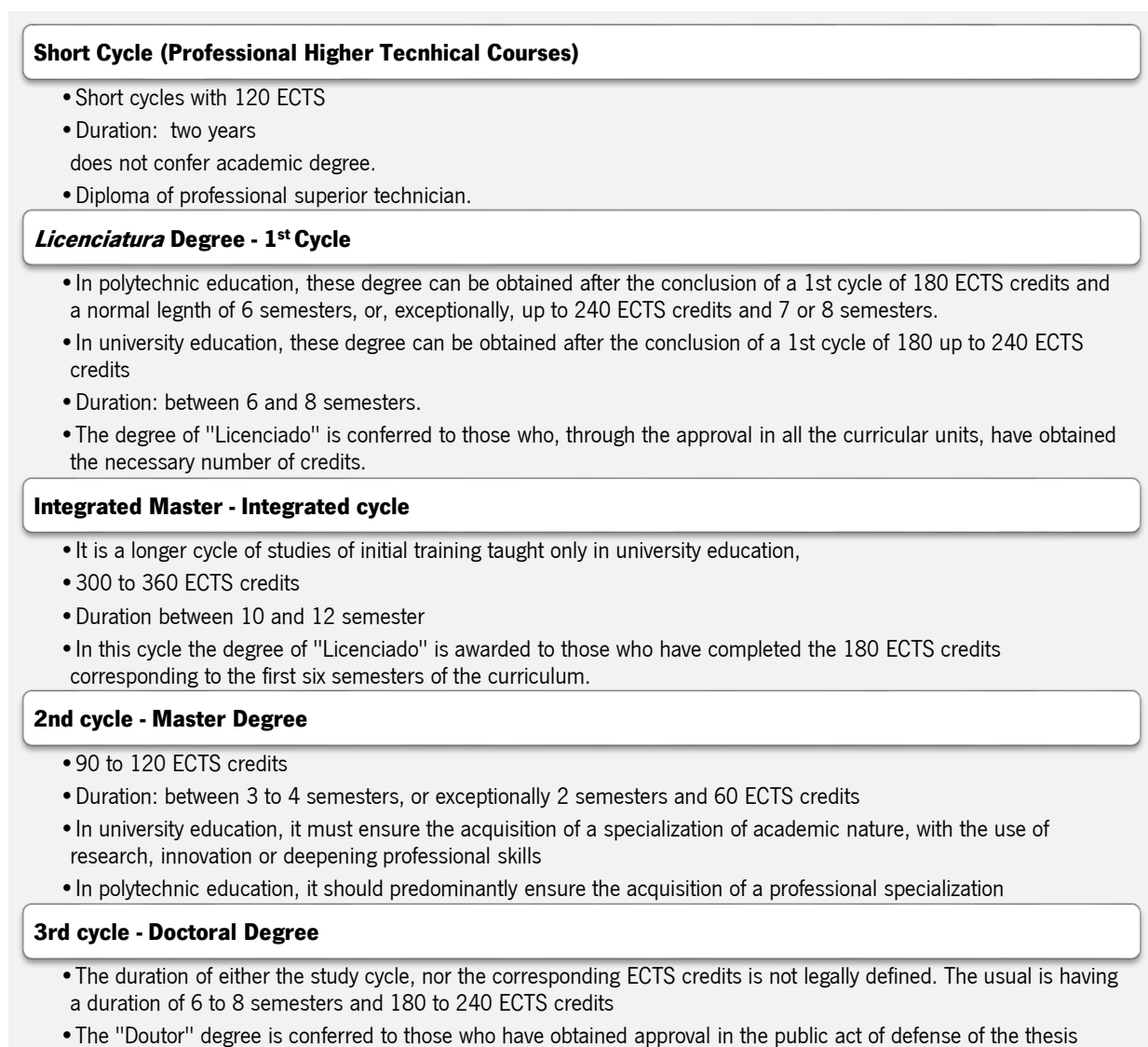
“one organised by areas of conceptual knowledge (universities) and the other driven by professional knowledge (polytechnics). Both pillars are equal in importance for policy and the Government refuses to consider any one of them higher than the other. Although equal in importance, they have different public missions and should not converge in only one of the models. Differences between both pillars should be based on their different missions and their capacity to answer different societal needs.” (MCTES, 2017, cited by OECD, 2019a)

University education is guided by the perspective of promoting research and creating knowledge. It aims to ensure solid scientific and cultural preparation and to provide technical training enabling them to pursue professional and cultural activities and to foster the development of design, innovation and critical analysis skills (Decree-Law 49/2005 of August 30). Therefore, the university's mission is to produce ideas and not make them available to be passively consumed by students (Nóvoa, 2014). The goal is to develop a society of communication and learning that is formed through “autonomous study, group study, work and research, collaboration, and, relationships”. Those are central aspects that define the work in the “major universities of the world, unfortunately, this is not yet what defines work in most universities in Portugal” (Nóvoa, 2014). Polytechnic education is guided by a constant perspective of applied research and development, aimed at understanding and solving concrete problems. It aims to provide a solid cultural and technical education at the highest level, to develop the capacity for innovation and critical analysis and to provide theoretical and practical scientific knowledge and its applications for the pursuit of professional activities (Decree-Law 49/2005 of August 30).

The training provided by the Portuguese higher education institutions adopted the European credit system. Portuguese higher education has a structure based on four cycles: a short cycle of study, which does not confer an academic degree and three study cycles leading to the academic degrees of *Licenciatura*, master and doctor. (cf. figure 5).

Recently, the Decree-Law 157/2018 of August 30 changed the legal regime for higher education degrees and diplomas in an attempt to promote quality, internationalisation and international recognition of the Portuguese higher education system. The end of integrated master's degrees in most programmes is expected, with a particular impact on the Engineering and Technology Sciences. The integrated master was a specificity of the Portuguese context in the implementation of the Bologna Process, being restricted, after the transitional period, to the areas internationally recommended in this regard, e.g. Medicine. This

legislative change also provides the maintenance of the tuition fees when the combination of the degree of graduate and master is indispensable for access to the exercise of a professional activity.



**Figure 5.** Degrees and diplomas of Portuguese higher education<sup>8</sup>

The Decree-Law 49/2005 of August 30 redefine the goals of Portuguese higher education System in order to:

- Encouraging cultural creation, reflective thinking and the development of scientific and entrepreneurial spirit;
- Graduating professionals in different areas of knowledge, suitable for insertion in professional sectors and participation/developing society, and to collaborate in their continuous formation;

<sup>8</sup> Adapted from DGES - <https://www.dges.gov.pt/en/pagina/portuguese-higher-education-system?plid=1529>, visited 02.12.2019

- Encouraging research aimed at the development of science and technology, humanities and arts;
- Promoting the dissemination of cultural, scientific and technical knowledge, which constitute the heritage of humanity, and communicate knowledge through teaching, publications or other forms of communication;
- Promote critical thinking and freedom of expression and research.

Portuguese higher education institutions enjoy scientific, pedagogical, cultural and disciplinary autonomy (Decree-Law 62/2007 of September 10; Decree-Law 108/88 of September 24). They have the right to create, suspend or cancel programmes, and have autonomy to designing study programmes and subject contents (defining educational methodologies, selecting assessment methods and introducing pedagogical innovations). Higher education institutions should also guarantee the existence of a plurality of perspectives and methods, safeguarding teaching and learning freedom. In the international scene, the higher education institutional autonomy and responsibility have expanded, but remain insufficient (OECD, 2019b). According to the 'OECD Review of Higher Education, Research and Innovation: Portugal 2019', Portuguese higher education institutions have a moderate level of institutional autonomy in organising their internal management and structures. However, they are caught in a squeeze between employment legislation, public demand and financial management.

The Portuguese Constitutional Government Programme (2005) proposes the realisation of four purposes for the period 2005-2009:

- (1) To guarantee the qualification of the Portuguese in the European area, implementing the Bologna Process, a unique opportunity to increment higher education attendance; improve the quality and relevance of the educational offer; and, foster mobility and internationalisation.
- (2) To strengthen the higher education system with autonomous institutions (facilitating the reform of institutions system of governance and developing a culture of accountability and flexible forms of organisation and management).
- (3) To promote quality assurance, developing internationally recognised quality assurance system
- (4) To promote fair opportunities in the access to higher education, improving both attendance and graduating levels, attracting new profiles of students in a lifelong learning perspective.
- (5) To guarantee the qualification of the Portuguese population in the European area, accomplishing the Bologna process.

In the pursuit of these goals, the organisation of higher education was changed in the Education System Basic Law (Decree-Law 49/2005, of August 30), adopting a model of the organisation of higher education in three cycles. Additionally, the transition from an education system based on the idea of knowledge transmission to a system based on skills development; and the adoption of the European Credit Transfer and Accumulation System (ECTS) based on student work was also developed.

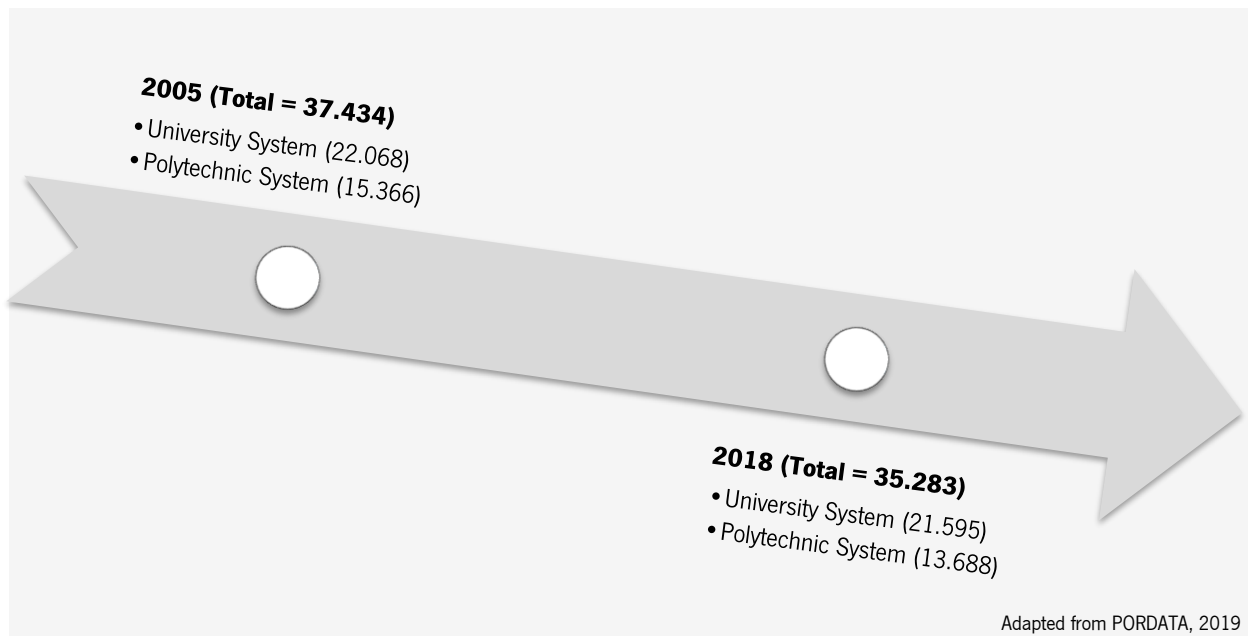
The first generation of Bologna Process graduates' dates from 2016. The Law 74/2006 (Decree-Law 74/2006, of March 24<sup>th</sup>, later amended by Decree-Law 107/2008, of June, 25<sup>th</sup>) provided the application of Bologna Principles in Higher Education Institutions, although allowing for their adaptation up to the 2009/10 school year. Formally, Portugal has followed structural changes in the structure of study cycles, standardised criteria by European patterns, and made room for the implementation of a quality improvement system. The study, requested by the Minister of Education and Higher Education, Professor Mariano Gago, to the OECD on the higher education system in Portugal in 2005 (OECD, 2007), recognises the Bologna Process as a unique possibility for improving the quality of higher education and achieve excellence:

“It should be fully used the unique opportunity offered by the application of the Bologna Process for curriculum renewal and re-examination of the teaching process, with greater attention to the acquisition of knowledge; to the results of the students; and, a greater interest into the relationship between study programmes and the labor market.” (OECD, 2007, p. 162).

The OECD study, in 2007, commissioned by the Portuguese government and based on a national report (MCTES, 2006), identified several challenges to Portuguese higher education system in the context of the Bologna commitment. These challenges point to the demand for scientific excellence, governance and institutional autonomy, and the necessity of increasing the qualifications of the Portuguese population (OECD, 2007). In addition, there are other challenges such as the update of its programmes and curriculum matrices in the sense of a decrease in disciplinary compartmentalisation, of greater scope in terms of skills to be developed by graduates (Almeida & Castro, 2017), and the promotion of diversity and quality within the required specialisation criteria (OECD, 2007). The same report highlights the opportunity provided by the Bologna Process to “curriculum renewal and re-examination of the teaching process” (OECD, 2007, p. 162) considering the acquisition of knowledge process, students' outcomes; and, a greater and further interconnection between study programmes and the labour market. This last concern is specially reinforced in the OECD state of higher education publications' (OECD, 2014; 2017).

Bologna has contributed to the recognition that “active student learning outside the classroom is much more important and effective than traditional classroom teaching” (Powell, 2007, p. 5). The Bologna Process has accelerated the need to rethink higher education, both in “its foundations, structures and purposes” (Damásio, 2005, p. 55). This perspective emphasises the role of the university teachers, mainly in regard to continuous pedagogical practices' questioning and improving.

The academic staff are the 'backbone' of public higher education and research systems across the world (OECD, 2019b). In general, in higher education the teaching population has been declining. Recent data (cf. Figure 6) point to a decrease in the teaching population between 2005 and 2018, more accentuated in the university system. Paradoxically, these figures contrast with the growing number of the student population in recent years (CNE, 2019). Also, statistics point to the ageing of the higher education teaching population.



**Figure 6.** Higher education teachers (total number of university teachers and number of university teachers by system of education)

Currently, Portuguese academic higher education staff are the top qualified ever. However, they have to face limited employment opportunities, precarious contracts and unrealistic expectations, the access to permanent academic positions are limited, and, many junior academics work in precarious post-doctorate positions with limited opportunities for career evolution (OECD, 2019b).

The 'OECD *Review of Higher Education, Research and Innovation: Portugal 2019*' alerts to the increasingly difficult access to academic careers in Portugal in recent years. This results of the increasing

supply of potentially qualified candidates for academic positions and the falling demand for new academic staff in public higher education and research sector. In addition, the underdeveloped evaluating and rewarding systems and the rigid employment rules (in general, academic staff careers are strongly regulated by law, salaries are national, and, the values are ruled by law) make it harder to develop specialised professional profiles (OECD, 2019b). On the top of these pressures, the overemphasis on scientific production may also represent a focus of tension in the work of university teachers:

“Nowadays, sometimes (forgive me the caricature) it seems that the good teacher is the one who has devoted the least time possible to, this pointless task for some, teaching, to devote as much time as possible to publish articles and more articles, often mere distributions of articles already several times published” (Nóvoa, 2014).

Interestingly, teaching performance, which is commonly assessed through student feedback surveys, seems to have a negligible role in the promotion and career development despite its positive achievements. Data from European Commission (2018) revealed the general satisfaction of students with the quality of teaching both in Europe and Portugal.

Being a teacher can be a stimulating but also challenging activity, which requires specific skills, particularly in the context of the Bologna reform. Under the assumption of the existence of “specific knowledge crucial to teaching” (Leite, 2007, p.76), the pedagogical training emerges as a key issue in the formation of university teachers and can help them to meet the challenges of Bologna (Marques & Rosado-Pinto, 2012). In Portuguese higher education, like the majority of the European countries, most of the academic positions require a doctorate or a post-doctoral degree. However, most of the “programmes leading to these qualifications do not necessarily include courses in teaching or teaching practice” (European Commission, 2018, p. 92). Furthermore, regulations generally do not require a teaching qualification (i.e. a diploma, degree, or a certificate that validates the development of teaching skills), which suggests that “the development of teaching skills in academia essentially consists of ‘learning on the job’” (European Commission, 2018, p. 92).

In addition, the academic and research careers in Portugal are also marked by a high degree of ‘endogamy’ or ‘in-breeding’. Institutions tend to hire their doctoral graduates and staff may go on to pursue their entire career within the same institution (OECD, 2019b). The 2016 scientific employment initiative aims to promote more stable research posts in the academic sector and to reduce the precarious

situation of post-doctoral fellows in Portugal. However, this temporary contract may perpetuate unrealistic expectations about obtaining a permanent academic post (OECD, 2019b).

Another key aspect of the Bologna project is quality assurance. In Portugal, the quality assurance system established by Law 38/94 (Decree-Law 38/94 of November 1994), was implemented over the last two decades into two phases: (1) self-evaluation and (2) external evaluation. The quality assurance system intends to achieve higher education quality improvement in the different fields of study, taking special attention to the nature and typology of the programmes, the qualification of the academic staff and functioning conditions. The A3ES – Portugal's independent quality assurance agency for higher education – is responsible for the quality assurance in higher education. It began its activities in 2009, establishing criteria and procedures for accreditation of new study programmes and launching its first cycle of reviews of programmes. These processes have led to a significant reduction in the number of study programmes, especially in the private sector. Higher education institutions have also implemented internal quality assurance processes (OECD, 2019b). The on-going reform of the quality assurance system, based upon the institution-level review, could be a challenge and an opportunity to foster a greater diversification and innovation in the development of new programmes, teaching and assessment methods, curriculum and delivery modes (OECD, 2019b).

Concerning the costs, in Portugal, attending tertiary education implies costs for students and to their families. Portuguese public higher education students' have to bear the costs of both tuition fees and living expenses, although they may receive financial support to afford these costs. In recent years, public higher education institutions have been pushed out of the public sphere and required to diversify their funding sources. These controversial transformations in the financing of Portuguese public higher education institutions reach their exponent in the figure of the 'foundation'. The 'OECD Review of Higher Education, Research and Innovation: Portugal 2019' claims that Portugal should aim to develop a higher education funding regime with multi-year commitments and deliver stable institutional funding. Changes in access to public higher education are also recommended in particular as regards the payment of tuition fees.

In public higher education<sup>6</sup>, tuition fees are to be set according to the nature of the courses and their quality, with a minimum value corresponding to 1,3 of the current national minimum wage and a maximum value calculated from the application of the Consumer Price Index of the National Institute of

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<sup>6</sup> Source: <https://www.dges.gov.pt/pt/pagina/propinas>, consulted 02.12.2019



Statistics. The maximum amount established to the 2019-2020 school year is 871.52 euros. This amount is fixed for higher vocational-technical courses and study cycles leading to Licenciatura degree and integrated master's degree. It also applies to tuition fees leading to a master's degree (when its combination with a degree is indispensable for access to a professional activity). The tuition fee of the master's degree programmes and the doctoral degree programmes is fixed by the higher education institutions. In private higher education, each institution is responsible for fixing the value of tuition fees.

One of EHEA's goals is to increase the number of higher education graduates. The number of students enrolled in higher education in the last decade has been increasing. Data from the State of Education 2018 published by the National Council of Education (CNE – Conselho Nacional de Educação, 2019) indicate an increase of 5540 students in university education and a decrease of 5.789 in polytechnic education, with greater representation of female students (53.8%). Nevertheless, there are gender differences across fields of study (OECD, 2019a, p. 194): “women are under-represented in science, technology, engineering and mathematics (STEM) but over-represented in health and welfare”. Students have mainly enrolled in public higher education (CNE, 2019).

The number of students enrolled in the first year for the first time, at all levels of education, shows a growth, although there are oscillations in the intermediate years, both at university and polytechnic. Most graduates continue to come from undergraduate courses and from the fields of “Business Sciences, Administration and Law” (20.8%) (CNE, 2019). In turn, the areas with the lowest number of graduates are “Agriculture” and “Information and Communication Technologies” (2.2%) (CNE, 2019).

Regarding the average age of entry into higher education, Portugal is lower than the OECD and EU23 averages, being among the countries with a lower average age of students entering higher education for the first time (CNE, 2019). In 2018, the number of graduates reached the highest of the decade, growing about 5% over the previous year (CNE, 2019). As for the degrees awarded, there has been a slight reduction over the last few years in the proportion of undergraduate and master's degrees and an increase in doctorates and graduates in other training courses.

Overall, Portugal has responded positively to the challenge of increasing the number of students attending higher education. Yet, The Education and Training Monitor 2019<sup>7</sup> higher education goals reveal

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<sup>7</sup> The “Education and Training 2020” (ET 2020) is a strategic framework for European cooperation in education and training that builds that provides common strategic goals for European Union state-members. Eight goals have been set for Portugal to achieve by 2020:

1. An average of at least 15 % of adults should participate in lifelong learning.
2. The share of low-achieving 15-year-olds in reading, mathematics and science should be less than 15%.
3. The share of 30-34 year-olds with tertiary educational attainment should be at least 40%.

that, although tertiary education attainment for people aged 30-34 almost doubled in 10 years, the Portuguese target of achieving 40% in 2020 seems inaccessible. According 'OECD Review of Higher Education, Research and Innovation: Portugal 2019', Portugal should ensure that its higher education and public research system contributes to the growth of a more innovative and productive economy. In general, Portugal has tried to develop greater diversity in higher education offerings. However, there is still a scarcity of flexible and innovative study programmes adapted to the needs of non-traditional students. The improving of the diversity of the educational offer will be crucial to captivate a more diverse student population (OECD, 2019b).

Regarding students' mobility, studying abroad has become an important differentiating for higher education students (OECD, 2019b). For that reason, international students' mobility has received increasing policy and institutional attention in recent years (OECD, 2019b). Studying abroad can provide access to high-quality education and improve students' employability. Data from CNE (2019) and Education at a Glance (OECD, 2019c) also point to an increase in the number of students in international mobility programmes. Since 2014, the number of students in international mobility programmes has shown consistent growth in both credit mobility and degree mobility. In Portugal, most international or foreign students come from Africa and Latin America, while in OECD and EU23 countries most come from Asia and Europe. The Portuguese graduates' learning mobility is close to the European Union average as well as the proportion of secondary graduates who obtain a higher education degree outside Portugal in 2017; the proportion of graduates who participate in short-term study periods and/or work placements abroad is also close to the European average (European Commission, 2019b).

The Bologna Process led to substantial changes in European higher education and, consequently, in the Portuguese education system. The most mediatic change was the reduction of study cycles (especially undergraduate studies to 3 years). Also noted is the facilitated European recognition of academic qualifications, increased student mobility, the simplified access to higher education and the increase of graduates (CNE, 2019). However, in terms of pedagogical innovation, the advances are not

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4. The share of early leavers from education and training should be less than 10%.
  5. At least 95% of children between 4 years old and the age for starting compulsory primary education should participate in early childhood education.
  6. The share of employed graduates (20-34 year-olds) having left education and training 1-3 years before the reference year should be at least 82%.
  7. An EU average of at least 20% of higher education graduates should have had a period of higher education-related study or training (including work placements) abroad, representing a minimum of 15 ECTS credits or lasting a minimum of three months.
  8. An EU average of at least 6% of 18-34 year-olds with an initial vocational education and training (IVET) qualification should have had an IVET-related study or training period (including work placements) abroad lasting a minimum of two weeks, or less if documented by Europass.
  9. Partial data are available for the benchmark on learning mobility in higher education. First estimates of the benchmark can be found in the technical report by the Joint Research Centre. No data is available for the benchmark on learning mobility in IVET.

Source: EUROSTAT - <https://ec.europa.eu/eurostat/web/education-and-training/eu-benchmarks>, visited 30.11.2019.

so relevant with the prevalence of practices which are not aligned with the Bologna purposes (Pires et al., 2013; Flores et al., 2015; ESU, 2015; Pereira, Niklasson & Flores, 2017; European Commission, 2018):

“The assessment of learning carried out in many cases is a teacher's elusive trip to the amphitheatre or classroom to transmit a piece of subject matter; and, even the organisation of schedules and registration of the content of classes must be adapted to new methods and circumstances” (Crespo, 2005, p. 32).

At the European level, the European Commission Report (2018) revealed that the implementation of the learning outcomes approach and related credit allocation has not been achieved across higher education institutions and countries. Various institutions are becoming more secure about designing curricula based on learning outcomes and revising student assessment to align with the learning outcomes approach. In the Portuguese context, the report identifies particular difficulties concerning developing learning outcomes-based assessment practices. Also, the report identifies insufficient support to the academic staff in the implementation of the learning outcomes-based assessment (European Commission, 2018).

The study by David and Abreu (2017) provides empirical evidence about the Portuguese higher education institutions commitment to the Bologna process, as well as the great cooperation between Portugal and the European higher education institutions. However, a previous study by the same authors (David & Abreu, 2007) shows that Portuguese higher education institutions are engaged in the Bologna process, but there are some contradictions within the higher education system, namely the apparent destruction of the binary system and the implementation of the European directives and, at the same time, preserving national culture, language, education systems and institutional autonomy.

The 2006 Survey on the implementation of the Bologna process in Portugal suggests that the implementation of Bologna in Portugal has been achieved only formally (Veiga & Amaral, 2008). The authors identified, among other inconsistencies, the lack of improvement of student/staff ratio. The 2013 study by Pires and her co-workers revealed a tendency to maintain old assessment practices (Pires et al., 2013). However, mixed methods of assessment, including more traditional methods alongside more innovative practices also emerged (Pires et al., 2013; Flores et al., 2015; Pereira, Flores & Barros, 2017).

Despite the positive results achieved, the adaptation of higher education programmes to Bologna's teaching and learning perspective is still a great challenge. It implies changing the teaching

paradigm and shifting the focus from the transmission of knowledge for students' skills development. In this new paradigm, students are responsible for their learning and teachers should facilitate and guide them through their learning process (Filipe, Lourenço, Almeida, Moreira & Guedes, 2007). This represents a complex challenge for students, teachers and institutions that can only be overcome through the ability to adapt to change and by opening up to more innovative pedagogical practices. In this perspective, teaching-based activities should give way to learning-based activities and the necessity to learn how to “be a teacher” should be recognised (Leite, 2007, p.4).

### **1.2.2. Examples of Pedagogical Innovation in Portuguese Higher Education**

All university work has a formative and, therefore, a pedagogical dimension which is the most universal, permanent and also key dimension of the university (Sobrinho, 1995). Innovation represents the introduction of something new, a new idea, method, or device, a novelty. It may refer to something new or the change made to an existing product, idea, or field.

The pedagogical innovation is a wide, complex, diffuse, sometimes contradictory and polysemic field (Vieira, 2016; Miranda & Soares, 2016; Escudero Muñoz, 2012). It relates to other concepts like improvement, quality, educational reforms, among others. Bearing in mind that there is no concrete answer to 'What is pedagogical innovation?' (Vieira, 2016), some contributions to understand this concept are presented below. The innovative pedagogical practices are those who break with the traditional way of teaching, centred on the transmission of compartmentalised knowledge to a passive student (Miranda & Soares, 2016). It is not confined to the classroom (Vieira, 2016) and it presupposes the transformation of university teaching and learning processes in an emancipatory perspective that raises the dialogical and creative construction of knowledge (Miranda & Soares, 2016).

Walder (2014) proposes a pedagogical innovation conception cycle based on seven distinctive notions of the concept of pedagogical innovation: (1) novelty; (2) change; (3) techno-pedagogy; (4) reflection; (5) improvement; (6) application; and, (7) human relations. In the university context, pedagogical innovation is characterised by an “intentional action that aims to improve university students’ learning in a sustainable manner” (Walder, 2014, p. 197). It entails a new way of teaching that involves and surprises students. Pedagogical innovation must be “constructed by pedagogical thinking, in particular in human relations” (Walder, 2014, p. 201), especially in the pedagogical relationship established between teachers and students.

In Portugal, in the last decade, there have been several innovative pedagogical initiatives sponsored by higher education institutions, schools and institutes, as well as by groups of teachers. Some of these initiatives have emerged under the Bologna umbrella; others were encouraged by motivations related to the professional development of teachers, social challenges, characteristics of teachers and students, etc. There were several training initiatives, projects, study and research centres, meetings and debates that all over the country contributed to the improvement, reflection and innovation of pedagogical practices. Below there are some of these examples chosen to illustrate what has been done in this field.

At the University of Minho, in 2001, the '*Pedagogia em Campus*' Project (Campus Pedagogy Project) under the responsibility of the Teaching-Learning Quality Task Force (supported by the Rectorate) set the tone for academic reflection and discussion on the pedagogical issues of this university (Oliveira; Amaral & Sarmiento, 2002). Conferences and a seminar and a book were developed in which relevant studies in the pedagogical field were shared at the University of Minho in the previous five years.

The following year the project '*Transformar a Pedagogia na Universidade: experiências de investigação do ensino e da aprendizagem*' (Transforming Pedagogy in the University: research experiences of teaching and learning, developed between 2002 and 2004 by eight researchers from the University of Minho worked on a set of possibilities of transforming pedagogy at university (Vieira, 2005).

More recently, in 2013, the Group for Education and Innovation of Pedagogy at the Institute of Education (Núcleo de Estudos e Inovação da Pedagogia no Instituto de Educação - NEIP.IE<sup>8</sup>) was founded at the Institute of Education of the University of Minho. This group results from other projects and also from the Study Circle on the Training of Educators and Teachers at the Institute of Education (2010-2013). Its main goals are to reconfigure the status of pedagogy in the Institute of Education and to invest in its valorisation, renovation and visibility, taking into account the challenges and demands of higher education.

In 2014, the Ministry of Education and Science launched a policy initiative for the financing of projects aimed at sharing and disseminating didactic innovation experiences in Portuguese higher education (Ministry of Education and Science, 2015). This initiative would be in the genesis of CNAPPES - Congresso Nacional de Práticas Pedagógicas no Ensino Superior (National Congress of Pedagogical Practices in Higher Education) -, which is in its 5<sup>th</sup> edition. This meeting has arisen due to the need to

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<sup>8</sup> <https://www.ie.uminho.pt/pt/Instituto/necleosie/Paginas/NucleodeEstudosInovacaoPedagogiadole.aspx>, consulted on 15.10.2019

disseminate pedagogical innovation initiatives, and to valuing and promoting pedagogical excellence in higher education (university and polytechnic) in order to improve teaching and learning processes.

This governmental initiative disclosed several projects, including the project "De Par em Par" (From Pair to Pair) from the University of Porto. This project, based on classroom observation, at a multidisciplinary and interinstitutional level, focused on pedagogical improvement through reflection on teaching and learning practices (Mouraz & Pêgo, 2016).

Recently, the centre IDEA-UMinho<sup>9</sup> was created (University of Minho, 2017). It was designed to promote and value innovation and the development of teaching and learning at the University of Minho. The aims of this centre is to stimulate the improvement of teaching and learning; to support university teachers' professional development; to foster teaching practices based on innovation; to promote and disseminate innovative practices; to promote, support and design teaching & learning projects in various contexts across campus; and to participate in (multi)disciplinary partnerships and networks focused on teaching activities. The centre offers regular training activities, promotes project calls and disseminates quality practices in various contexts of teaching and learning. Additionally, it participates in (inter)national forums and projects.

Within the scope of this centre and in articulation the Pro-Rectories involved in pedagogical innovation, the first "Docência+" (Teaching +) training retreat was organised involving the Universities of Aveiro, Minho and Trás-os-Montes and Alto Douro. This retreat was an opportunity to share good practices between leaders and teachers of these three higher education institutions.

In 2018, the University of Coimbra launched PED@ES<sup>10</sup>, an online course on teaching strategies and assessment of communicative resources for university teachers. The Higher Education Pedagogy Forum is a space for reflection and debate on pedagogical practices in higher education open to teachers and students. This course covers core themes such as Internationalisation of the Curriculum and Communication and Pedagogical Relationship.

The University of Aveiro integrates the European Consortium of Innovative Universities (ECIU<sup>11</sup>). The ECIU University project, funded by the European Commission, started in November 2019 and will be implemented in three years. This concept of the European University for the future aims to establish a

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<sup>9</sup> <https://idea.uminho.pt>, consulted on 15.10.2019.

<sup>10</sup> <http://www.ed.uc.pt/pedaes/>, consulted on 15.10.2019

<sup>11</sup> <https://www.eciu.org/eciu-university>, consulted on 15.10.2019

true European University where learners, researchers, enterprises, public organisations and citizens are empowered to produce relevant innovative solutions for real-life challenges with real societal impact.

There are also research centres focused on the theme of pedagogical research, such the Pedagogical Research and Intervention Group of the University of Porto; the Centre for Studies and Innovation of Pedagogy of the University of Minho; the Centre for Pedagogical Innovation and Professional Development of Teachers at Universidade Nova de Lisboa (Rosado-Pinto, 2016); the Centre for Innovation and Study of Pedagogy in Higher Education of the Polytechnic Institute of Coimbra; among others.

This brief inventory, not intended to be exhaustive, aims to exemplify some of the initiatives that promote pedagogical innovation at the national level. Despite this effort, given the significance of innovation as transformation, much more needs to be done especially in a context of uncertainty and (re)construction and (co)construction of knowledge.

## **CHAPTER II**

### **ASSESSMENT IN HIGHER EDUCATION**



## **Chapter II – Assessment in Higher Education**

“There are no ultimate prescriptions or rules for the practice of assessing students in higher education”  
(Light & Cox, 2003, p. 192)

The landscape of the literature about assessment, especially regarding tertiary education, shows that there is no prescriptions or miraculous solutions for assessing students. Assessment is a “multifaceted and multidimensional phenomenon, positioned at the heart of teaching and its scopes for innovation and the improvement of student learning should not be underestimated” (Light & Cox, 2003, p.192). It is a complex matter with serious implications for teaching and learning processes, thus, particular attention should be devoted to understanding assessment’s implications on teachers’ work and students’ learning.

In higher education assessment has received increasing attention from policymakers, researchers, managers, teachers and other stakeholders. The assessment practices may influence the ways in which students organise their time and mobilise their efforts (Fernandes, 2015; Myers & Myers, 2015), as well as their insights about learning (Brown & Knight, 1994). For these reasons, selecting the most appropriate assessment methods according to the teaching and learning goals (Pereira & Flores, 2016) is an issue that deserves further consideration.

In this chapter, a conceptualisation of the main perspectives, conceptions and approaches to assessment in the higher education, complemented with different approaches to teaching and learning, is undertaken. A review of the main national and international studies on assessment in higher education assessment is also done.

### **2.1. Perspectives, conceptions and approaches to assessment in Higher Education**

“Assessing students is perhaps the most emotionally sensitive part of our education but at the same time intellectually demanding and can be socially disturbing and divisive for students” (Light & Cox, 2003, p. 169)

Assessing student learning is hard! It involves emotions, expectations, feelings and has an impact on the (re)construction of student knowledge. Assessment emerges, therefore, as a key element of the curriculum (Figari, 1996, 2001; Alves, 2004) and represents a challenging enterprise for teachers and students (Light & Cox, 2003). Existing literature points to different conceptions and approaches to assessment (Figari, 1996, 2001; Alves, 2004; Estrela & Veiga Simão, 2003) with different logics (Hadji, 1994), based on different functions and roles, namely: assessment as a "search for meaning" (Ardoino

& Berger, 1993); assessment as a “control of the training system” (Allal, Cardinet & Perrenoud, 1986); and assessment as a measure (Cardinet, 1986). This complexity and comprehensiveness of the concept is related to different beliefs, expectations and conceptions of the educational actors.

Different conceptions about assessment lead to different assessment practices including accreditation and verification (Perrenoud, 1999); the role of assessment as a "learning tool" (Dochy & MacDowell, 1997); the "learning-oriented assessment" (Carless, 2006); the "student-centred assessment" (Webber, 2012); the influence of assessment practices on students' learning (Gibbs, 1999; Light & Cox, 2003); and assessment for learning (McDowell et al., 2011).

Assessment in higher education has been widely studied from a variety of perspectives. Despite existing studies on teachers' and students' conceptions of assessment and their influence on teaching and learning practices (Brown & Hirschfeld, 2008; Fletcher, Meyer, Anderson & Johnston, 2012; Gibbs & Simpson, 2004), it is possible to identify a greater focus on the perceptions and experiences of students regarding assessment (e.g. Struyven, Dochy, & Janssens, 2005; Pereira, Flores, Veiga Simão & Barros, 2016; Nasser-Abu Alhija, 2017) particularly assessment quality (Gerritsen-van Leeuwenkamp, Joosten-ten Brinke & Kester, 2017). Earlier work suggests the need to analyse the impact of different methods of assessment (Watering et al., 2008), especially the so-called alternative methods (Sambell & McDowell, 1998) on student learning (Segers, Gijbels, & Thurlings, 2008), the ways in which assessment practices relate to feedback mechanisms (Flores et al., 2015), the comparison of assessment practices in different areas, institutions and countries (Gilles, Detroz & Blais, 2011), as well as the academic outcomes and teaching methods in the classroom since evidence of their effectiveness is still scarce (Pereira & Flores, 2016).

In higher education, traditional assessment is frequently used, which points to the influence of the grading system within a hierarchical logic (Perrenoud, 1999; Pereira & Flores, 2012). However, the association with “right or wrong can trigger the more primitive associations with good and bad and create fear and loss of confidence” (Light & Cox, 2003, p. 169). Other perspectives of assessment such as *Assessment for Learning* (McDowell et al., 2011) reveal that students are not mere consumers of lessons and tests (Flores & Veiga Simão, 2007; Pereira & Flores, 2012) and they may assume a greater role and responsibility in the learning and assessment process:

“Students need to feel that they have been given the best opportunity to express their ability in their discipline, but also to convey something of themselves on

what the subject means to them” – if it does not happen we are facing something close to a control system (Light & Cox, 2003, p. 169).

It is widely accepted that assessment practices should include the active participation of students, within a formative perspective (Fernandes, Flores & Lima, 2012; European Commission, 2013). This view reinforces the crucial role of feedback in the assessment and learning process (Black & Wiliam, 1998; Hattie & Timperley, 2007; Carless, Salter, Yang & Lam, 2011; Kyaruzi, Strijbos, Ufer & Brown, 2018), in particular, the so-called learning-oriented assessment (Tang & Chow, 2007; Carless, 2009, 2015) seen as a pathway to the construction of professional knowledge and self-regulated learning with implications for teaching practices (Bergh, Ros & Beijaard, 2015). Learning-oriented assessment and peer assessment emerge as basic building blocks to promote “productive student learning” (Carless, 2009, p. 80).

### **2.1.1. Conceptions of assessment**

All humans hold beliefs and teachers are no exception. This is not just related to the nature of their work, their students, subjects, roles and responsibilities (Pajares, 1992) but also to assessment itself. Beliefs are individual mental structures, value-laden and subjectively true (Opre, 2015) and they reflect “teachers' attitudes about education - about schooling, teaching, learning, and students” (Pajares, 1992, p. 316). Teachers' beliefs about assessment influence teaching and learning processes (Brown, 2004; DiLoreto, 2013). Nevertheless, assessment practices are dependent upon strong external influence (DiLoreto, 2013).

Teachers' beliefs about assessment are an issue of paramount importance and they have received the attention of researchers from across the globe (Pajares, 1992; Opre, 2015; Brown, 2002). Yet, this is a pathway “lightly travelled” in the educational research field (Pajares, 1992; Opre, 2015). Research on teachers' beliefs, in particular on beliefs about assessment, is “fundamental for the understanding of the complex nature of teaching and learning within the present educational environments” (Opre, 2015, p. 232). Teachers' beliefs are understood “as part of a complex multidimensional system” that may include “contrasting beliefs” which may produce different effects on educational practice (Opre, 2015, p. 230). Teachers' beliefs about assessment are pivotal to the teaching-learning process and are dependent on both individual and contextual factors (Opre, 2015).

Concerning the terminology used to define teachers' beliefs about assessment, the literature identifies the concept of “beliefs” to describe the “conscious or unconscious thought” considered as true by the individual and “which guides future actions and behaviours” (DiLoreto, 2013, p.9). However, the notion of “conception” is most frequently used in the literature on assessment (Brown, 2002, 2004, 2006; Opre, 2015).

Teachers' beliefs about assessment arise both from the nature of their work, their students, subjects, roles and responsibilities, as well as from their experiences of having been assessed as students (Pajares, 1992). Because assessment practices are strongly dependent upon external influences (DiLoreto, 2013), it is not surprising that teachers' practices may not be aligned with their personal conceptions of assessment (Deneen, Fulmer, Brown, Tay, Tan & Leong, 2019). While many labels have been used to describe the cognitive and affective beliefs people have (Brown, 2008), the term conception of assessment is used in this research to refer to “one's beliefs, meanings, and understandings of assessment” (Fletcher et al. 2012, p. 120) to investigate the impact of assessment on teaching and learning in higher education (Brown, 2004)

Major reviews of research into teachers' beliefs or conceptions regarding assessment point to the tension between using assessment for improvement purposes and uses of assessment to make either or both students and teachers accountable for outcomes (Barnes, Fives & Dacey 2015; Bonner, 2016). A strong case has been made for the dependence of teacher conceptions upon cultural, social, and policy contexts (Brown, Gebril & Michaelides, 2019; Harris & Brown, 2009; Fulmer, Lee & Tan, 2015). Thus clearly teachers have conceptions that are ecologically rational (i.e. they make sense and are successful in context; Rieskamp & Riemer, 2007).

Existing studies demonstrate the influence of assessment conceptions on teachers' decisions and practices (Brown 2008; Vandeyar & Killen, 2007; Opre, 2015). In other words, any change in assessment practices necessarily involves work and intervention at the level of teachers' conceptions of assessment. This is consistent with the idea that teacher's assessment literacy involves knowledge, skills and beliefs coherent with the purposes ascribed to assessment (Xu & Brown, 2016). Because conceptions of assessment are context-dependent, studies with university teachers in other jurisdictions do not necessarily generalise to a different context. For example, studies carried out in the Portuguese context (e.g. Borralho, Fialho, Cid, Alves & Morgado, 2015; Pereira & Flores, 2016) point to the influence of the field of knowledge on university teachers' conceptions of assessment. Conceptions are contextual

(DiLoreto, 2013) and they depend on the meanings and understandings of assessment held by teachers (Fletcher et. al, 2012) as well as on their past experiences (DiLoreto, Pellow & Stout, 2017). Conceptions of assessment are shaped by the attitudes, beliefs and teachers' experiences (DiLoreto, Pellow & Stout, 2017). They represent a core issue "to the current and future health of the academic process" (DiLoreto, Pellow & Stout, 2017, p. 2).

Brown and his colleagues developed several studies to analyse and understand teachers' conceptions of assessment. The premise supporting their work on teachers' conceptions of assessment is that assessment is understood as an "act of interpreting information about student performance", collected through a multitude of means or practices (Brown, 2002, p. 26). Brown's major contribution to understanding teachers' conceptions of assessment was the Teachers' Conceptions of Assessment (TCoA) inventory. The TCoA is a "self-administered, self-report opinion, attitude, or belief questionnaire" (Brown, 2017, p. 1) created by Gavin T. L. Brown (2002; 2006a; 2006b) from the University of Auckland, New Zealand.

Brown (2002, 2004, 2006b) proposes a four-facet model of teachers' conceptions of assessment that explores how *Improvement school*, *School accountability*, *Irrelevance*, and *Student accountability* are related to teachers' conceptions of learning, teaching, curriculum, and teacher effectiveness. These four major ideas aggregate teachers' beliefs about assessment (cf. figure 7). The major premise of the first conception is that assessment regulates the students' learning and improves the quality of teaching. This improvement is associated with the nature and reliability of student performance. In this perspective, "assessment is a range of techniques, including an informal teacher-based intuitive judgement of capability as well as formal assessment tools, designed to identify the architecture of student learning, including impediments to learning and unexpected strengths" (Brown G. T., 2002, p. 27).

The premise of the second conception of assessment is that assessment can be used for a teacher's, schools, or a system's accountability on the use of society's resources (Brown, 2002). The third conception of assessment assumes that students are accountable for their learning through their performance on assessments (Brown, 2002). Finally, the premise of the fourth conception of assessment is that assessment is "usually understood as a formal, organised process of evaluating student performance, has no legitimate place within teaching and learning". In this perspective, assessment is irrelevant or even rejected "because of its pernicious effects on teacher autonomy and professionalism and its distractive power from the real purpose of teaching, i.e. student learning" (Brown, 2002, pp. 43-4).



**Figure 7.** Brown's four-facet model of teachers' conceptions of assessment

The model of teachers' conceptions of assessment was widely explored around the world and in distinct education levels (e.g. Brown, 2005; 2006b; 2011; Brown, Kennedy, Fok, Chan & Yu, 2009; Brown, Lake, & Matters, 2011; Segers & Tillema, 2011; Brown & Michaelides, 2011; Fletcher et al., 2012; Muñoz, Palacio & Escobar, 2012; DiLoreto, 2013; Daniels, Poth & Hutchison, 2014; Azis, 2014; Gebril & Brown, 2014; Moiinvasiri, 2015; Gonçalves, 2016; Darmody, 2017; Yates & Johnston, 2017). However, its application in the context of higher education (Diloreto, 2013; Fletcher et al., 2012; Gonçalves, 2016; Hidri, 2016; Moiinvasiri, 2015) and the Portuguese context (Gonçalves, 2016) is still scarce.

The literature on teachers' conceptions of assessment recognises the tension between two main different purposes and uses of assessment: formative versus summative (Black & William, 1998; Coll & Remesal, 2009; Remesal & Brown, 2015); improvement versus accountability (Brown, 2004; Brown, 2006b); or educational regulation versus societal control (Perrenoud, 2001). Researchers recognise that in educational systems there are "conflicts and tensions between agents, participants, and stakeholders concerning nature, purpose, and effects of assessment" (Remesal & Brown, 2015, p. 333). Although these terms are not synonymous they have, in agreement with Remesal & Brown's (2015) perspective, a dialectical rather than polarised nature. However, additional factors need to be considered.

At a time when innovation in assessment practices is on the educational agenda, studying the conceptions of assessment is an issue of paramount importance (Segers & Tillema, 2011). Segers and Tillema (2011) identified gaps in research related to how the assessment conceptions influence student learning and teachers' practices in different assessment systems. Despite the recent advancements in

this field (e.g. Postareff, Virtanen, Katajavuori & Lindblom-Ylänne, 2012; Fletcher et al., 2012; DiLoreto, 2013), further research on university teachers' conceptions of assessment is needed.

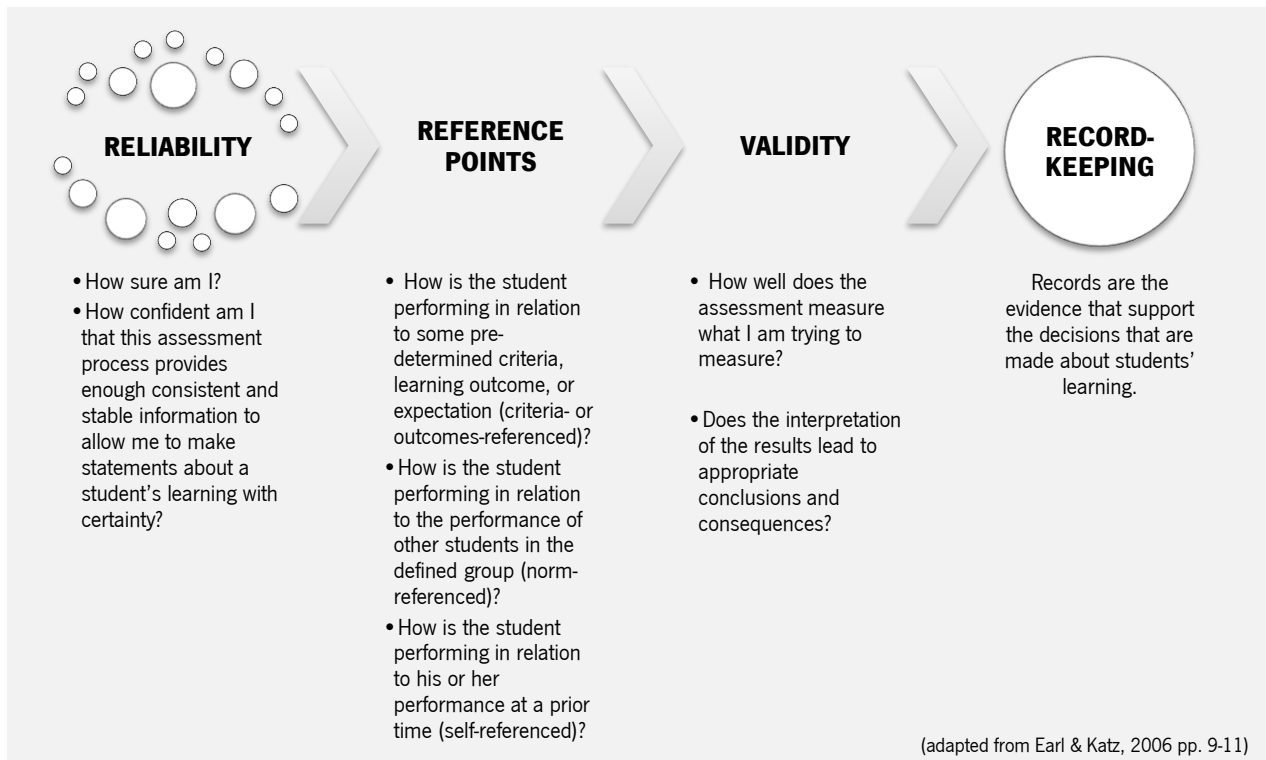
### **2.1.2. Perspectives and practices of assessment**

In the last two decades or so, higher education assessment practices' have changed. In some cases, new and innovative assessment practices have been introduced, towards a greater student-centred logic:

“There is almost certainly a greater variety of assessment practices being used in our universities today, compared with 10 or 15 years ago, many of which could be justified with reference to what the research literature tells us about the impact of assessment on student learning.” (Rust, 2002, p. 155)

Assessment is neither an easy nor a linear process. It can generate anxiety and mixed feelings. Assessment “can make all of us feel anxious and defensive whether it is through examination, appraisals, reviews, observations rating forms results or even friendly critics” (Light & Cox, 2003, p.195). Assessment is a familiar and, at the same time, a deep and complex process, which involves different actors, approaches and realities. Hadji (2001) emphasises the communication and negotiation element, in which assessment is based on a process of exchange between an evaluator and the one being evaluated. Assessment is strongly influenced by the context, resulting from the confrontation between a real situation and the expectations regarding that situation. It is a “reality reading operation” (Hadji, 2001, p. 44) which is guided “by a grid that expresses an ecosystem of legitimate expectations which constitutes the frame of reference for assessment” (Hadji, 2001, p. 45). Within this perspective, assessment is “a reality-oriented reading operation”. It does not mean “measuring an object, nor observing a situation, nor making sharp judgments of value. It entails taking sides in the way expectations are realised, i.e. about how a real situation corresponds to the desired situation” (Hadji, 2001, p. 129). In turn, Earl and Katz (2006) state that assessment is mostly a measurement process, “subject to the principles of measurement”, i.e. of “determining the degree of something” (Earl & Katz, 2006, p.9). The same authors identified four basic

principles essential in classroom assessment: reliability, reference points, validity, and record-keeping. These principles may facilitate the making of the right decisions about students (cf. Figure 8).



**Figure 8.** The assessment process (Earl & Katz, 2006)

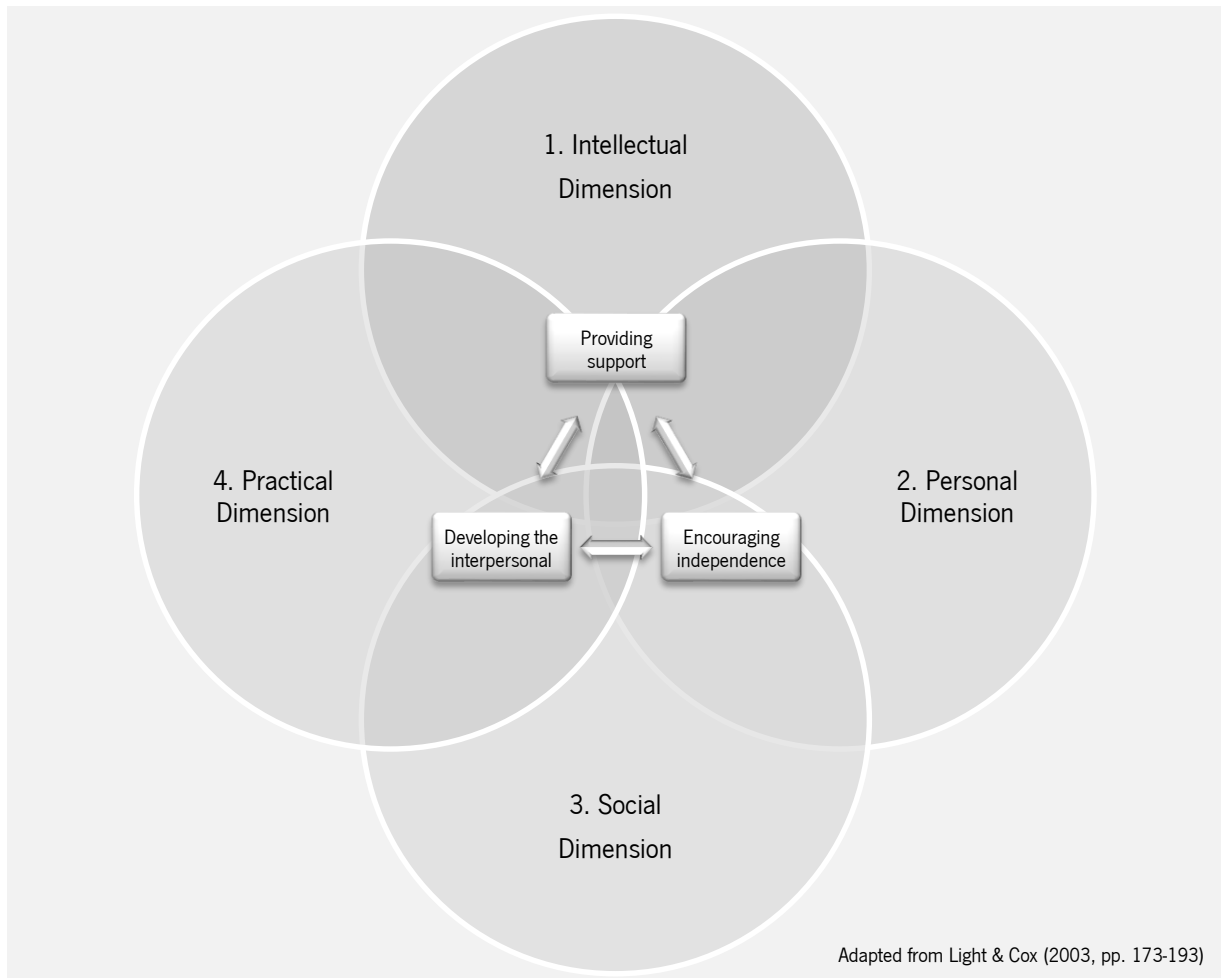
In this perspective, teachers can use a variety of assessment tasks and work collaboratively with other teachers to promote reliability. A greater range of information about students enables a more reliable and clearer picture of students' learning. Reference points are essential to interpret any kind of measurement: "Each reference point results in a different kind of interpretation about students' learning. It is only by clearly distinguishing the reference points that teachers can provide students, parents, and the general public with meaningful information about what is deemed important, and what the stages are in the journey from emergent to proficient" (Earl & Katz, 2006, p. 10).

The accurate use and interpretation of classroom assessment ensures the assessment validity. One wonders about *How well does assessment measure what teachers try to measure? How appropriate are teachers' interpretations of the results?* The validity of classroom assessment depends on several elements: (1) an accurate analysis of all assessment elements; (2) a good match between the assessment elements; (3) ensuring that assessment is adequate to the goals of the learning outcomes (content, thinking processes, skills, and attitudes); and, (4) providing several opportunities for students to show their achievements (i.e. using a range of assessment approaches) (Earl & Katz, 2006). Finally, a first-



class record-keeping is essential for guaranteeing quality in classroom assessment: “The records should include detailed and descriptive information about the nature of the expected learning as well as evidence of students’ learning, and should be collected from a range of assessments.” (Earl & Katz, 2006, p. 11).

Assessment may enable students to improve different dimensions of their learning: intellectual, personal, social and practical (Light & Cox, 2003). Assessment may contribute to improving learning through supporting students (Light & Cox, 2003) (cf. Figure 9).



**Figure 9.** How to support students learning through assessment (adapted from Light & Cox, 2003)

This improvement process involves clear knowledge of assessment’s criteria and standards; greater confidence in its reliability, validity and fairness; and providing proper and effective feedback. This dimension may also be enhanced by encouraging independence through a set of learner-centred practices: projects, portfolios, open-book exams, prior-notice exams, problem-based learning, and self-assessment. Finally, to develop interpersonal skills, peer assessment, consultant and assessors’ activities and group projects exercises are also recommended.

Teachers may be supportive by encouraging students' choices, concluding "learning contracts or agreements" or through "reflective commentaries" (Light & Cox, 2003, p. 185). These actions may help the students to have a "more secure sense of personal identity and encourage students' independence (Light & Cox, 2003, p. 186). Student individual self-knowledge will complement this dimension. Encouraging learners to identify and use their strengths and weaknesses can contribute to interact with others and also to formative assessment.

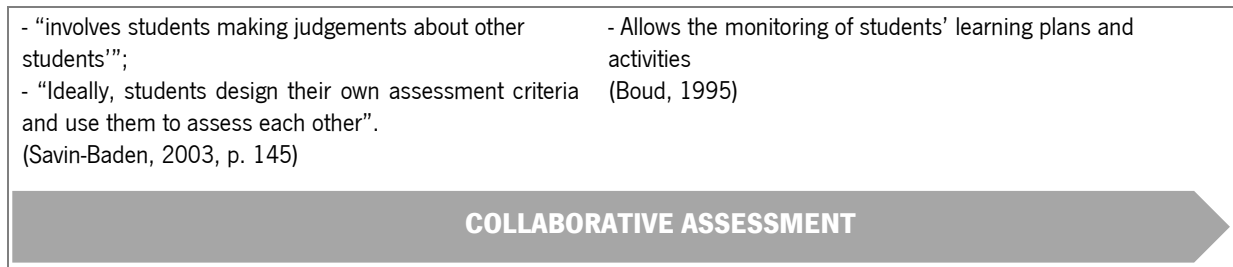
The emphasis on social activities in the academic context is not recent. There is a long academic tradition of participation in social events, however participating in learning activities such as seminars or group work is not so popular (Light & Cox, 2003). Teachers may support their students to participate in assessment discussion activities which may help students to cope with assessment feelings. Nevertheless, informal learning communities may also have a supportive important role for students. Developing students' interpersonal skills through social activities may also enhance students' independence. Group activities demand a strong emotional and intellectual climate, strong group interaction, but also independent contributions.

Finally, recent years have been fruitful in changing practices (Light & Cox, 2003). However, there is still a long way to go. Supporting practical work implies providing clear instructions, being a close tutor/supervisor, clear support documents and materials, clear correction criteria and solutions and tutor assessment for both product and process (Light & Cox, 2003). On the other hand, encouraging students' independence entails a "higher degree of student involvement in the assessment process" and involve a greater student involvement in planning and decision-making, greater student responsibility, self-assessment activities, time, creativity and risk-taking responses (Light & Cox, 2003, p. 191). Lastly, to enhance the interpersonal level it is necessary to establish practical work and projects, developing group tasks, encouraging negotiation, and involving the group in the assessment.

Across the literature, several understandings of assessment are identified given the assessment purposes and functions; the moments in which assessment occurs; the assessment results; the assessment methods; the role of educational actors; and the assessment approaches. Figure 10 summarises the main conceptions of assessment in the literature, which will be further explored below.

<b>FUNCTIONS OF ASSESSMENT</b>		
<i>Summative assessment</i>	<i>Formative assessment</i>	
<ul style="list-style-type: none"> <li>- includes “end-of-course” assessment;</li> <li>- produces a measure about students’ achievement. (Brown &amp; Knight, 1994)</li> <li>- Certification, comparative and selective. (Flores &amp; Pereira, 2019)</li> </ul>	<ul style="list-style-type: none"> <li>- to obtain an estimate of student learning that is used to improve the learning process;</li> <li>- implies feedback that helps students to improve their performance. (Brown &amp; Knight, 1994)</li> <li>- Regulation, monitoring, mentoring, supporting (Flores &amp; Pereira, 2019)</li> </ul>	
<b>ASSESSMENT APPROACHES</b>		
<i>Assessment of Learning (AoL)</i>	<i>Assessment for Learning (AfL)</i>	<i>Assessment as Learning (AaL)</i>
<ul style="list-style-type: none"> <li>- To confirm what students know;</li> <li>- Evidence of the degree of achievement of the proposed goals;</li> <li>- To certify knowledge and skills;</li> <li>- The centrality of the results. (Earl &amp; Katz, 2006)</li> <li>- Certification;</li> <li>- Accountability;</li> <li>- End of a process. (Flores &amp; Pereira, 2019)</li> </ul>	<ul style="list-style-type: none"> <li>- Part of effective planning;</li> <li>- Focuses on how students learn;</li> <li>- Central to classroom practice;</li> <li>- key professional skill;</li> <li>- Sensitive and constructive;</li> <li>- Fosters motivation;</li> <li>- Promotes understanding of goals and criteria;</li> <li>- Helps learners to know how to improve;</li> <li>- Develops the capacity for self-assessment;</li> <li>- Recognises all educational achievement. (ARG, 2002)</li> <li>- An integral part of the teaching and learning process;</li> <li>- Involves formal and informal procedures;</li> <li>- Intends to adjust and improve learning. (Black &amp; Wiliam, 1998)</li> <li>- Feedback;</li> <li>- Self-regulation;</li> <li>- Improvement. (Flores &amp; Pereira, 2019)</li> </ul>	<ul style="list-style-type: none"> <li>- Emphasis on the Learners’ development process;</li> <li>- Interdependence between learning and assessment;</li> <li>- Learners as critical active thinkers;</li> <li>- Mobilisation of previous knowledge to build new learning. (Earl, 2013)</li> <li>- Metacognition;</li> <li>- Critical thinking;</li> <li>- Self-assessment. (Flores &amp; Pereira, 2019)</li> </ul>
<b>MOMENTS IN WHICH ASSESSMENT OCCURS</b>		
<i>Prognostic</i>	<i>Process (ongoing assessment)</i>	<i>Cumulative</i>
<ul style="list-style-type: none"> <li>- Takes place before the action starts (e.g. beginning of a cycle or theme);</li> <li>- Identifies the characteristics of a student (strengths and weaknesses);</li> <li>- Start of the learning process; (Hadji, 2001)</li> <li>- Predictive assessment (anticipation of the process). (Figari, 1996)</li> </ul>	<ul style="list-style-type: none"> <li>- Formative assessment. (Hadji, 2001)</li> <li>- Occurs in action;</li> <li>- Monitorisation of the action;</li> <li>- Enables to make improvements. (Usher &amp; Edwards, 1994)</li> </ul>	<ul style="list-style-type: none"> <li>- It occurs at the end of the action;</li> <li>- Carrying out a balance at the end of a teaching cycle;</li> <li>- Verifying and certifying the acquisitions. (Hadji, 2001)</li> </ul>

<b>ASSESSMENT PRODUCT/RESULTS</b>		
<i>Norm-referenced Assessment</i>	<i>Criterion-referenced Assessment</i>	<i>Ipsative Assessment (self-reference assessment)</i>
<ul style="list-style-type: none"> <li>- Based on mark and grades;</li> <li>- Focus on differentiation and comparison;</li> <li>- “Enable effective and reliable discrimination amongst students”;</li> <li>- Does not inform about the quality of students’ thinking;</li> <li>- Its main goal is to compare students’ results.</li> </ul> <p>(Light &amp; Cox, 2003)</p>	<ul style="list-style-type: none"> <li>- Based on students’ results achievement;</li> <li>- Helps students to understand “how far their thinking and their performance has progressed.</li> </ul> <p>(Light &amp; Cox, 2003)</p>	<ul style="list-style-type: none"> <li>- Compares the actual performance with the former performance;</li> <li>- The focus is on learner progress (or absence of progress) rather than meeting external standards;</li> <li>- Informs the learner how he/she has progressed since the previous assessment;</li> <li>- Could underpin either formative assessment or summative assessment, or both.</li> </ul> <p>(Hughes, 2011)</p>
<b>ASSESSMENT METHODS</b>		
<i>Traditional Assessment</i>	<i>Mixed method assessment</i>	<i>Alternative Assessment (learner-centred methods)</i>
<ul style="list-style-type: none"> <li>- Emphasises memory;</li> <li>- Puts much stress on factual knowledge;</li> <li>- Has a “little scope for originality and sustained writing”;</li> <li>- Depends on a certain amount of luck and on the speed of writing and thinking;</li> <li>- “Too little opportunity for constructive feedback”</li> </ul> <p>(Light &amp; Cox, 2003, pp.171-2)</p> <ul style="list-style-type: none"> <li>- Every student performs the same task at the same time;</li> <li>- Students have no prior knowledge of the nature of the assessment task;</li> <li>- Unique opportunity/moment for assessment.</li> </ul> <p>(Brown, Bull &amp; Pendlebury, 1997)</p>	<ul style="list-style-type: none"> <li>- Use of a variety of assessment modes and a variety of modes of delivery;</li> <li>- Providing a set of assessment options;</li> <li>- A more fruitful response to students’ learning styles;</li> <li>- Increasing student’s satisfaction (by involving students in the assessment).</li> </ul> <p>(Flores, Veiga Simão, Barros &amp; Pereira, 2015; Craddock &amp; Mathias, 2009; Kell &amp; van Deursen, 2002; Fowell, Southgate &amp; Bligh, 1999)</p>	<ul style="list-style-type: none"> <li>- Variety of assessment methods;</li> <li>- Instant feedback;</li> <li>- Collaboration and interaction between teachers and learners;</li> <li>- Skills’ development.</li> </ul> <p>(Webber, 2012)</p> <ul style="list-style-type: none"> <li>- “Tries to develop students who are capable of learning how to learn”</li> </ul> <p>(Dochy &amp; MacDowell, 1997, p.292)</p>
<b>THE ROLE OF THE EDUCATIONAL ACTORS IN THE ASSESSMENT PROCESS</b>		
<i>Peer assessment</i>	<i>Self-assessment</i>	
<ul style="list-style-type: none"> <li>- Enables to look at different points of views;</li> <li>- Provides new perspectives different from the perspectives of teachers and tutors;</li> <li>- Involves serious discussion and criticism;</li> <li>- Enables the development of interpersonal skills.</li> </ul> <p>(Light &amp; Cox, 2003)</p>	<ul style="list-style-type: none"> <li>- Encourages students’ independence;</li> </ul> <p>(Light &amp; Cox, 2003)</p> <ul style="list-style-type: none"> <li>- Meta-cognitive practice;</li> <li>- Assists students with their own learning;</li> <li>- Requires students’ responsibility;</li> </ul>	



**Figure 10.** Summary of the main conceptions of assessment

## Functions of assessment

Assessment plays an essential role in how teachers teach and how students perceive their learning and do their work (Flores & Pereira, 2019). Assessment is a widely developed topic in the French and Anglo-Saxon research literature, which distinguishes three essential functions of assessment: i) measuring, comparing and selecting (Black & Wiliam, 2009, Flores & Pereira, 2019), carried out at the end of a cycle or programme, aimed at producing a measure about students' achievement (Brown & knight, 1994); ii) regulating, monitoring and supporting learning (Flores & Pereira, 2019) done through the teaching and learning process in action; and, iii) guiding. These functions lead to different assessment modalities: summative, formative and diagnostic (Hadji,1994; De Landsheere,1976). Figari (1996) proposes a broader version of the assessment functions: (1) predictive function (diagnostic and prognostic); (2) formative function (regulatory and metacognitive); (3) summative function (certifying, normative and criterial); and, (4) critical function (interpretative and external and research components) (cf. Figure 11).

Since the 1960s the purposes of assessment were extended and the formative and summative assessment began to integrate the educational discourse. To meet the demands of these two purposes, educators enlarged their "assessment practices and began assessing a wider range of student work, such as practical tasks, coursework, projects, and presentations". Nevertheless, for most teachers and educators, assessment is still about "making statements about the students' weaknesses and strengths" (Earl & Katz, 2006, p. 4).

<b>FUNCTIONS OF ASSESSMENT</b>	<b>Predictive</b> ( <i>anticipating a process</i> )	Diagnostic
		Prognostic
	<b>Formative</b> ( <i>performed during the process</i> )	Metacognitive ( <i>supporting students learning</i> )
		Regulatory ( <i>How can I improve the process?</i> )
	<b>Summative</b> ( <i>to certify knowledge and competencies</i> )	Certifying ( <i>focus on verification and certification of results</i> )
		Normative ( <i>comparison of results and rankings</i> )
		Criterial ( <i>comparison between the predefined goals and the results</i> )
	<b>Critical</b> ( <i>to understand the phenomena and the processes</i> )	Interpretative/External
		Research

**Figure 11.** Functions of assessment (adapted from Figari, 1996)

Summative assessment is synonymous for many educational professionals with tests, used to make judgments about a completed instructional process (Popham, 2011). The large-scale accountability tests and exams are examples of summative assessment. Summative assessments may also refer to the end-of-course exam used to determine how well students have learned what teachers tried to teach (Popham, 2011) or to “convey student progress” (Earl & Katz, 2006, p. 4). Harlen (2007, p. 123) identifies the key features of summative assessment: (1) it may be “based on teachers’ judgments or external tests or a combination of these”; (2) it occurs in a specific moment and time; (3) it relates to the accomplishment of broader goals; (4) it provides results expressed in terms of grades or levels; (5) it judges all students by the same criteria; (6) it requires special measures to assure reliability; but, (7) it may, in some circumstances, offer opportunities for student self-assessment. The impact of summative assessment depends on how assessment is carried out (Harlen, 2007). When the assessment is used for summative purposes, the main goal is to condense what has been learned. The process of aggregating and interpreting the assessment information may have an impact on learning, for example, the

assessment information could be used for planning future teaching and learning activities. However, its primary goal is to “report achievement at a particular time” (Harlen, 2007, p. 121).

In contrast, formative assessment, first defined by Scriven (1967) in opposition to summative assessment, purposes to obtain an estimate of student learning that is used to improve the learning process. It implies feedback that helps students to improve their performance (Brown & Knight, 1994). Formative assessment “takes place during teaching to make adjustments to the teaching process” (Earl & Katz, 2006, p. 4). A review of more than 4.000 research investigations shows that formative assessment increases the speed of student learning, produces gains in students’ achievement and can be used in different ways and contexts (Popham, 2011).

Formative assessment has a regulative and informative learning function, both for teachers and learners, with practical implications for teacher's work, implying flexibility, adaptation and adjustment (Hadji, 2001). According to Perrenoud (1999), it is a type of continuous assessment that aims to help the student to learn and develop. In this sense, it is also important to note the work of Bonniol & Vial (1997) whose approach to assessment establishes a link between the concepts of assessment and regulation of learning. In general, to assess is to regulate. For some teachers, implementing formative assessment practices is a difficult task. It comprises a radical change in the way in which they relate to their students and the ways they perform in the classroom. It also implies a deep change in the “ways they perceive, and strive to implement, their role as teachers” (Black, 2018, p. 171).

Popham (2008) identifies four levels of formative assessment: (1) teachers’ instructional adjustments; (2) students’ learning tactic adjustments; (3) classroom climate shift; and, (4) school wide implementation. The first level requires teachers to use formative assessment to collect evidence by which they can adjust their current and future teaching and learning activities. The second level approaches the students’ use of formative assessment evidence to regulate their learning strategies. The third level embodies a whole change in the classroom culture. At this level classroom assessment shifts from a mean to “compare students with one another for grade assignments” to a mean “to generate evidence from which teachers and students can, if warranted, adjust what they’re doing” (Popham, 2008, p. ix). This level of formative assessment requests a shift from a traditional classroom environment to an assessment-informed classroom environment. The fourth level refers to the institutional adoption of one or more levels of formative assessment, essentially “through the use of professional development and teacher learning communities” (Popham, 2008, p. ix).

Despite the clear benefits of formative assessment, several limitations are also recognised. Popham (2008, p. 121) argues that “formative assessment will not improve students’ scores on most of today’s accountability tests, at least, not enough to make any meaningful difference”. Formative assessment may have a significant impact on students’ performance only on proper accountability tests, explicitly, those that are “both instructionally supportive and instructionally sensitive” (Popham, 2008, p.139). On the other hand, formative assessment is often used to designate other processes that are not effective formative practices:

“However, it is sometimes used to describe a process in which frequent ad hoc assessments, in the classroom or in formal assessment contexts such as practical skills work, are carried out over time and collated specifically to provide a final (summative) assessment of learning. Such assessments potentially do not contribute to the students’ learning” (Gardner, 2006, p. 2)

The field of formative assessment has widened to such an extent that it risks being a theory of nothing and everything (Black & Wiliam, 2018). It is in some cases used as a synonymous with the along-the-way classroom tests that teachers create to help them and their students get a fix on how well students are learning what they are supposed to learn (Popham, 2011). This ‘sloppy’ and simplistic use of the formative assessment does not do justice to the potential of formative assessment, so a real understanding and application of formative assessment is needed. In Black and Wiliam’s point of view, the formative use of summative tests is a more complex task. Summative tests were, originally, designed to serve the summative function of providing evidence of students’ achievement. However, the appropriate use of tests "can prompt feedback" and promote students’ learning (Black & Wiliam, 2009, p. 8). Similarly, to other written assessment tasks, the summative tests may be used to produce feedback "designed to improve performance rather than to judge or grade" (Black & Wiliam, 2018, p. 563). Tests are, undoubtedly, designed to serve a summative purpose but they can serve formative purposes. For example, when a teacher invites students to complete a test individually, under test conditions, and then students work in teams to solve the test. (Black & Wiliam, 2018). The use of a test for summative purpose is distinct from the use of a test for a formative purpose. In the first example, the goal is to produce a product, a number, a grade and to feedback to the teachers and schools about the effectiveness of the teaching. In the formative use of tests, the goal is to inform teachers about changes in their planning and implementation and to inform students about the strengths and weaknesses of their achievements (Black & Wiliam, 2018).



Formative assessment is a “planned process in which assessment-elicited evidence of students’ status is used by teachers to adjust their ongoing instructional procedures or by students to adjust their current learning tactics” (Popham, 2008, p. 6). It is a process, not any particular test, used both by teachers and students. It occurs during the teaching and learning process and provides assessment-based feedback to teachers and learners. The function of this feedback is to help teachers and students to make adjustments that will improve students’ achievement of intended curricular goals (Popham, 2008). Fernandes (2006) proposes the use of the expression 'alternative formative assessment' (AFA). AFA is focused on improving and regulating learning and is an alternative to formative assessment of behavioural inspiration. This assessment should enable students to know their knowledge, attitudes, skills and stage of development well while providing them with clear indications of what needs to be done next (Fernandes, 2006). It is also important for teachers and students to share close ideas about the quality of what is to be achieved to regulate the quality of the work being done.

Hadji (2001) also identifies several obstacles to the emergence of formative assessment. Among them is the existence of selection/certification requirements or the laziness or fear of teachers, who do not dare to remedy or intervene effectively in their pedagogical practice. For the author, formative assessment is nothing more than a “promising utopia”, capable of guiding teachers' work towards an assessment practice, as far as possible, at the service of learning (Hadji, 2001). A formative assessment implies a daily struggle for teachers, who have to show courage to questioning, to speak and decide for a more formative pathway (Hadji, 2001).

In spite of the tensions between formative and summative assessment identified above, a synergy between both functions of assessment should be enhanced:

“there should be no conflict between formative and summative assessment – indeed, the distinction would not be useful – because all assessment would be about producing valid inferences about students (...) assessment cannot be understood without a consideration of the wider context within which that assessment takes place.” (Black & Wiliam, 2018, p.570)

Teachers are able to develop a summative purpose of assessment that may also be supportive of learning. (Black & Wiliam, 2018). To that extent, perspectives as sustainable assessment (Boud, 2000) are gaining ground. Sustainable assessment is a type of assessment that can meet the present needs without compromising the learners’ ability to meet their personal upcoming learning needs. Boud (2000) argues

that the two main purposes of assessment are certification (summative assessment) and to promote learning (formative assessment). He also argues for learning supportive assessment practices, in both summative and formative ways.

## **Assessment approaches**

“The ways we assess our students can really make a difference to how students learn.” (Brown, 2005, p. 88)

The ways teachers assess students (Brown, 2005) and their use of assessment information (Earl & Katz, 2006) have strong implications for student learning. Teachers can use many diverse “strategies and tools for classroom assessment, and can adapt them to suit the purpose and the needs of individual students” (Earl & Katz, 2006, p. 1). There are three different but inter-related purposes for classroom assessment: assessment for learning, assessment as learning, and assessment of learning. Each purpose requires different roles for teachers, different planning and different use of assessment information (Earl & Katz, 2006). The different purposes of the assessment are related to the inferences drawn from the results of the assessment: “Where the inferences relate to the status of the student, or about their future potential, then the assessment is functioning summatively. Where the inferences relate to the kinds of actions that would best help the student learn, then the assessment is functioning formatively” (Black & Wiliam, 2018, p.553).

Assessment of learning, assessment for learning, and assessment as learning all attend “valuable, and different, purposes” (Earl & Katz, 2006, p. 14). Traditionally, classroom assessment has focused on its summative function: on assessing of learning, on measuring learning, using the assessment information to make judgements about learners’ performance, and reporting these judgements. On the other hand, the formative function has also been used: teachers have been using assessment for learning through diagnostic processes, formative assessment, and feedback practices. Yet, assessment as learning, “where students become critical analysts of their own learning” is most uncommon to happen (Earl & Katz, 2006).

The summative function of the assessment emphasises comparison and competition while the formative function refers to how students can learn better (Black & Wiliam, 1998). Both functions have a different scope and correspond to different purposes (Wiliam & Black, 1996). Although traditional methods may be effective in specific contexts and purposes, they are not suitable for all purposes of

assessment and may encourage reproduction and memorisation (Perrenoud, 1999; Biggs, 2003). Therefore, it is essential to use a variety of assessment methods based on their suitability for teaching and learning goals and the nature of courses and curricular units. If we want “to enhance learning for all students, the role of assessment for learning and assessment as learning takes on a much higher profile than assessment of learning” (Earl & Katz, 2006, p. 14). When assessment intends to promote student learning without anxiety or restrictions, its purpose is to promote learning. If assessment intends to check the learning for reporting, its purpose is the 'assessment of learning'. When assessment intends that students learn something while they are being assessed (Black & Wiliam, 2018), its purpose is 'assessment as learning'. There are no prescriptions or rules to assess students in higher education (Light & Cox, 2003), it depends on the purpose of assessment:

“It is very difficult, and sometimes impossible, to serve three different assessment purposes at the same time. It is important for educators to understand the three assessment purposes, recognise the need to balance among them, know which one they are using and why, and use them all wisely” (Earl & Katz, 2006, p. 14).

Regardless of the assessment approach chosen, it is important to deal “with all aspects of assessment in an integrated way” (Black & Wiliam, 2018, p. 552). The selection of assessment strategies represents a key component of the teaching and learning process. This selection should result in a goal-oriented questioning process of the programme or course (Hadji, 2001), defining which questions should be answered through the assessment. However, an effective and successful questioning within a European Higher Education Area context implies a proper goal formulation and the recognition of assessment as a cornerstone of the teaching and learning process.

### ***Assessment of Learning***

The main goal of assessment of learning is a summative purpose, through certification (Lam, 2016). In this context, it intends to grade what students have learned and to certify their knowledge by comparing their performance with predefined standards (Earl & Katz, 2006; McDowell et al., 2011; Deeley, 2018; Flores & Pereira, 2019). Assessment of learning intends “to measure, certify, and report the level of students’ learning so that reasonable decisions can be made about students” (Earl & Katz, 2006, p. 56).

The selection of this purpose of assessment has implications for teachers and teaching (Harlen, 2007).

According to Harlen (2007), teachers should:

- ensure that assessment is always used to support learning and that, when a summative assessment report is needed, evidence will be judged according to relevant criteria;
- involve students in self-assessment tasks;
- help students to understand the criteria used to assess their work and how summative judgments are made;
- take part in quality assurance procedures;
- use tests only when most appropriate, not as routine.

Assessment of learning "is summative in nature". It is used to "confirm what students know and can do, to demonstrate whether they have achieved the curriculum outcomes, and, occasionally, to show how they are placed" concerning others (Earl & Katz, 2006, p. 14). It refers to a set of strategies designed and used to confirm what students know and the accomplishment of the programme or course goals. One of the main goals of assessment of learning is to provide evidence of student results, i.e. to quantify student results through grades or classifications (Lam, 2016; Flores & Pereira, 2019). By certifying the students' outcomes, assessment of learning becomes public as well as the results and what students have learned (Earl & Katz, 2006). This has implications for students, so teachers "have the responsibility of reporting student learning accurately and fairly, based on evidence obtained from a variety of contexts and applications" (Earl & Katz, 2006, p. 55).

In assessment of learning, the assessment methods must allow all students to show their learning outcomes, so that information may be used appropriately by others. Mostly they include tests and exams, but also a diversity "of products and demonstrations of learning-portfolios, exhibitions, performances, presentations, simulations, multimedia projects, and a variety of other written, oral, and visual methods" (Earl & Katz, 2006, p. 57).

### ***Assessment for Learning***

Assessment for learning focuses on how students learn (ARG, 2002). This expression widely used in Anglo-Saxon literature encompasses a sophisticated conception of assessment (Pereira & Flores, 2019) which aims to understand students' active involvement, motivation, effective feedback, self-regulation and self and peer-assessment to promote the continuous improvement of the learning process (Black & Wiliam, 1998; Broadfoot, Daugherty, Gardner, Harlen, James & Stobart, 2002; Wiliam, 2010; Sambell,

2011; Denneen, Fulmer, Brown, Tan, Leong & Tay, 2019; Pereira & Flores, 2019). Assessment for learning is an integral part of the teaching and learning process which involves formal and informal procedures and intends to adjust teaching and improve learning (Black & Wiliam, 1998). It is also a sensitive and constructive process which promotes understanding of goals and criteria and helps learners to know how to improve (ARG, 2002). This central classroom practice fosters student motivation, promotes feedback practices, students' self-regulation and the improvement of teaching and learning processes (Flores & Pereira, 2019).

The work "Inside the black box: Raising standards through classroom assessment" (Black & Wiliam, 1998) represents a landmark in the literature on assessment for learning and, since then, it has been widely discussed. Black and Wiliam (1998) synthesised over than 250 studies connecting assessment and learning and found that the intentional use of classroom assessment to promote learning enhanced student achievement. They also establish that classroom assessment had both short-term and long-term effects on learning (Black & Wiliam, 1998). In the short term, classroom assessment may contribute to consolidate learning and to guide future learning activities. It also may enable opportunities for students to practice skills. In the medium and long-run, assessment may influence students' motivation and their perceptions of their capabilities; reinforce teaching goals and influence students' choices.

Assessment for learning is "the process of seeking and interpreting evidence for use by learners and their teachers, to identify where the learners are in their learning, where they need to go and how best to get there" (ARG, 2002). Similarly to formative assessment, assessment for learning uses assessment "to assist students to take the next steps in their learning" (Gardner, 2006, p. 2). This brings implications for classroom practices and for students and teachers interaction. Nevertheless, assessment for learning definitions may differ depending on the context (McDowell et al., 2011), with less impact in the tertiary education (Nicol & Macfarlane-Dick, 2006) where it is linked to the design of assessment tasks and in providing feedback to students (Flores & Pereira, 2019).

Within this perspective, assessment for learning is designed to give teachers information about how to adjust their teaching and learning activities and how to enhance students' motivation and commitment to learning (Earl & Katz, 2006). It is an interactive process in which teachers align instruction with the targeted outcomes, identifying students' particular learning needs, selecting and adapting materials and resources, creating "differentiated teaching strategies and learning opportunities for helping

individual students move forward in their learning”, providing proper feedback to students (Earl & Katz, 2006, p. 27):

“Assessment for learning is of high quality when a teacher can use it to make decisions about students’ learning with enough specificity to be able to provide descriptive feedback, and to design the next stage of learning.” (Earl & Katz, 2006, p. 29)

In assessment for learning, the assessment methods must incorporate a variety of possibilities for students to demonstrate their learning (Earl & Katz, 2006). They may include “focused observations, questioning, conversations, quizzes, computer-based assessments, learning logs, or whatever other methods are likely to give them information that will be useful for their planning and their teaching” (Earl & Katz, 2006, p. 31).

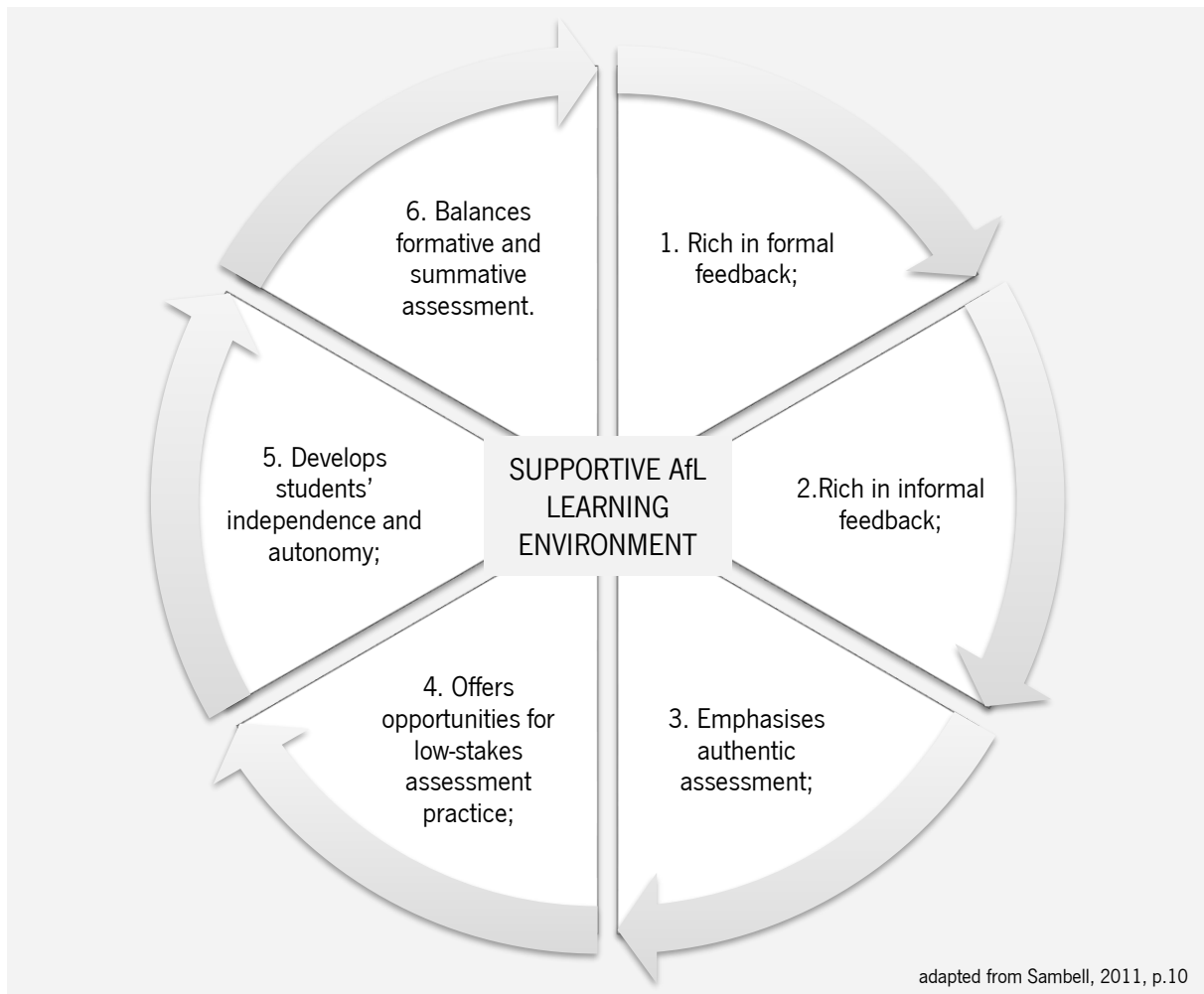
Sambell (2011) synthesised six key conditions (which act as interlinking pedagogic principles) of the learning environment which supports assessment for learning (cf. figure 12). This environment is rich both in formal and informal feedback, emphasises authentic assessment, offers opportunities for low-stakes assessment practices, develops students’ independence and autonomy; and balances formative and summative assessment.

Although the concepts of formative assessment and assessment for learning are often used as synonyms (Hawe & Dixon, 2017), these are distinct concepts. Assessment for learning is a process based on the centrality of student’s role (Klenowski, 2009; Swaffield, 2011) promoting the interdependence of teaching, learning and assessment (Black, 2015; Black & Wiliam, 2018):

“Many writers about assessment, and many teachers, regard assessment as a peripheral component of pedagogy, one that is inescapable but which always threatens to undermine the most valued aim, that of developing the learning capacity of their students. The phrase ‘assessment for learning’ challenges this view, and some handle this challenge by regarding it as quite separate from summative assessment.” (Black, 2018, p. 165)

Some of the most recent literature about assessment points to a need for balance between formative and summative assessment (Black & Wiliam, 2018), even though, in the assessment for learning approach,

summative assessment and classifications are secondary (Deeley, 2018); and, above all, an integrated approach to assessment covering all their aspects (Black & Wiliam, 2018).



**Figure 12.** Characteristics of a supportive AfL learning environment (adapted from Sambell, 2011)

### ***Assessment as Learning***

Some authors identify only two approaches to assessment: assessment of learning and assessment for learning (e.g. Harlen, 2007). Other authors (e.g. Earl, 2013) suggest a distinct approach to assessment: assessment as learning, which derives from a subset of assessment for learning that emphasises the student's role as a critical link between assessment and learning (Earl, 2013; Hume & Coll, 2009). Within this perspective assessment is as a tool for learning (Dochy & MacDowell, 1997). As such, the concept of assessment as learning “requires that teachers help students develop, practise, and become comfortable with reflection, and with a critical analysis of their learning.” (Earl & Katz, 2006, p. 13). The main goal of assessment for learning and assessment as learning is not summative (for grading or reporting); it is formative (promoting students' learning). That means “assessment is an integral part of

teaching" and that "learning and teachers have the responsibility for identifying aspects of learning as it is developing, using both informal and formal processes, so that they, and the students, can decide what to do next to enhance the learning." (Earl, 2013, p. 4).

Assessment as learning challenges the traditional separation between formative assessment and summative assessment, between assessment for learning and assessment of learning (Bloxham & Boyd, 2007) replacing it with a *fit-for-purpose assessment* (Brown, 2005) able to meet the personal and professional challenges of students and future professionals. In addition, assessment as learning is based on the critical thinking of learners' and its development process (Earl, 2013). Within this perspective, learning and assessment are interdependent (Earl, 2013). There is also room for critical thinking, self-assessment and metacognition (Flores & Pereira, 2019).

Assessment as learning is associated with the "development of cognitive and metacognitive capacity in self-evaluating one's learning, whereas assessment for learning points to how learning is formatively supported in the ongoing assessment process" (Lam, 2016, pp. 1900-1). In this way, assessment as learning emphasises assessment as a process of developing and supporting students' metacognition, focusing on their involvement in self-assessment, thus directing their learning (Earl, 2003, 2013; Earl & Katz, 2006):

"Assessment as learning is a process of developing and supporting metacognition for students. Assessment as learning focusses on the role of the student as the critical connector between assessment and learning. When students are active, engaged, and critical assessors, they make sense of information, relate it to prior knowledge, and use it for new learning. This is the regulatory process in metacognition. It occurs when students monitor their own learning and use the feedback from this monitoring to make adjustments, adaptations, and even major changes in what they understand" (Earl & Katz, 2006, p. 13).

The value of assessment as learning on promoting student learning has been recognised in the literature (Boud & Falchikov, 2007; Brown 2013; Dann, 2014). Several principles and concepts have been identified as a foundation for promoting assessment as learning: the centrality of the student; self-regulation; self-assessment; the reconceptualisation of teachers' professional practice (Dann, 2002). If these principles are respected there is potential to recognise that assessment "is not merely an adjunct



to teaching and learning but offers a process through which pupil involvement in assessment can feature as part of learning—that is, assessment as learning” (Dann, 2002, p. 153).

Assessment as learning is based on the assumption that learning is not just about transferring knowledge. It is an active process, where learners are the “critical connectors between assessment and learning” (Earl & Katz, 2006). This has implications both for teachers and students. On one hand, students must learn how to use information critically, giving meaning to it, relating it to previous knowledge, and using that information for producing new learning. This metacognitive process of self-regulation allows students to monitor and to make adjustments, adaptations or changes in their learning process (Earl & Katz, 2006). The quality in the assessment as learning depends on how well assessment engages students in their learning process, so the assessment methods should be developed to produce detailed information both about students’ learning and about their metacognitive processes (Earl & Katz, 2006). On the other hand, the strong involvement of students in the assessment process does not reduce teachers’ responsibilities. Whenever teachers involve students and increase their independence, they are giving them the tools they need to learn autonomously and critically (Earl & Katz, 2006). Teachers should prompt and teach students to use the assessment methods so that they can monitor, question and make decisions about their learning. They also may encourage reflection and should include methods which allow students to consider their learning concerning "models, exemplars, criteria, rubrics, frameworks, and checklists that provide images of successful learning (Earl & Katz, 2006, p. 45).

### **Moments in which assessment occurs**

Classroom assessment implicates “complex processes requiring teachers’ professional judgement” which have to decide “how to assess, what to assess, and when to assess” (Earl & Katz, 2006, p. 8). In addition to the assessment functions and purposes, some authors also make distinctions regarding the moment when assessment occurs. Hadji (2001) defines three types of assessment: prognostic, formative and cumulative. For this author, the content and forms of teaching should be adapted to the students’ characteristics revealed by the assessment (differentiated pedagogy). The prognostic assessment precedes the training activities and identifies the characteristics of the learners and their strengths and weaknesses (Hadji, 2001). This approach has similarities with the predictive function of the assessment identified by Figari (1996). On the other hand, the cumulative assessment occurs after the training activities. It helps to verify the students’ acquisitions and to certify the training process (Hadji, 2001). In

turn, continuous assessment is a mechanism through which the process of surveillance is refined (Usher & Edwards, 1994), allowing to follow the action and to introduce improvements in the teaching and learning process. Regardless of the moment in which assessment occurs, as Brown (1999a, p. 11) argues, faculties' "need to explore every avenue to find ways that assessment can be stage and remediable" involving teachers, students and other educational agents.

### **Assessment product/results**

Light and Cox (2003) differentiates assessment according to its products and results, distinguishing the norm-referenced assessment and criterion-referenced forms of assessment.

The norm-referenced assessment is based on marks and grades that allow to differentiate and to compare students. It aims to "enable effective and reliable discrimination amongst students" and to compare students' results. However, it does not inform about the quality of students' thinking or about what students achieve, the central issue is their "status in relation to other students". If too many learners achieve the expected outcomes norm-referenced assessment was unsuccessful or successful? (Light & Cox, 2003, p. 171).

On the other hand, criterion-referenced forms of assessment (Light & Cox, 2003) grounded on students' results achievement. It helps students to understand "how far their thinking and their performance has progressed" (Light & Cox, 2003, p. 171). Besides its widespread use in the context of higher education, Hughes (2011) identifies some limitations of criteria-referenced assessment more precisely the "confusion over criteria and standards, and disagreement over the purposes of assessment and providing feedback" (Hughes, 2011, p. 854).

Another perspective that has gradually become prominent in the assessment practices' field is the ipsative assessment or self-referenced assessment. Ipsative emanates from the Latin word '*ipse*' which means '*of the self*'. Ipsative assessment is a self-comparison, "a comparison with a previous performance" (Hughes, 2014, pp. 71). This not very commonly used term in the educational context as it is sometimes presented as a third assessment method beside norm-referencing and criterion-referenced assessment. Mostly, it differs from the criterion-referenced assessment by focusing on improving personal performance (Hughes, 2014). In ipsative assessment, the "individual is compared to him/or herself either in the same field through time or in comparison with other fields" (Isaacs, Zara,

Herbert, Coombs & Smith, 2013, p. 80). It refers to the comparison between learners' previous performances in terms of their 'personal best':

“the core purpose of ipsative, or self-referenced, assessment in educational contexts is to measure or track the progress of the individual by comparing his or her performance, or scores, against his or her own previous performances or scores.” (Isaacs et al., 2013, p. 80).

## **Assessment methods**

One way to look at teachers' perspectives on assessment is to examine the methods they use to evaluate or certify student learning. In higher education, traditional and prescriptive assessment methods are often used (mainly written tests or examinations) which are summatively converted into an evaluative grading system (Perrenoud, 1999; Pereira & Flores 2012). Reliance on such assessment practices suggests that university teachers have a view that assessment is about measuring recall of material transmitted in class (Sambell & McDowell 1998; Samuelowicz, 1994). It has been argued that such approaches lead to less sophisticated learning outcomes among students (Kember, 1997).

However, under the Bologna framework, there is an expectation that assessment methods will be marked by diversity (i.e. alternative methods, including those that involve students) and that assessment will serve additional purposes than simply ranking, certifying, or grading. The adoption of other perspectives of assessment, such as *Assessment for Learning* (McDowell et al., 2011), is in line with existing literature about the crucial role of feedback in assessment and learning process (Black & Wiliam, 1998; Carless et al., 2011; Hattie & Timperley, 2007; Harris, Brown & Harnett, 2014). This can be seen in learning-oriented assessment (Tang & Chow, 2007; Carless 2009, 2015) which can be seen as a pathway to the construction of professional knowledge and self-regulated learning with implications for teaching practices (Bergh, Ros & Beijaard, 2015). This framework implies that students are not mere consumers of lessons and tests; they assume a greater role and responsibility in the learning and assessment process (Flores & Veiga Simão, 2007; Pereira & Flores, 2012) which is to be integrated with teaching and learning processes. Under such circumstances it is likely that university teachers will adopt a conception in which assessment functions formatively to diagnose learning needs and inform improvement-oriented feedback. The alternative assessment methods emerged to address the less successful aspects of the traditional assessment. They may include methods such as portfolios, project-

based work and collaborative work, etc., and other modes of assessment such as self and peer-assessment in the context of higher education (Struyven, Dochy, & Janssens, 2005; Flores et al., 2015; Pereira, Flores, & Niklasson, 2015; Flores & Pereira, 2019).

Studies conducted in higher education context show that traditional assessment methods are the most used (especially the written exam) (Pereira, 2016; Pereira & Flores, 2016; Barreira, Bidarra, Monteiro, Vaz Rebelo & Alferes, 2015), highlighting the classification system and hierarchisation (Perrenoud, 1999; Pereira & Flores, 2013). Other assessment perspectives, such as assessment for learning (McDowell et al., 2011), point to an increasing role of student accountability in the assessment and learning process. This broadening of roles to various actors extends to teachers, who need to take on the teaching and learning process in a more autonomous, collaborative and integrated process. This may be realised through shared projects; collective production of knowledge; the transformation of learning in a more creative process (Flores & Veiga Simão, 2007), and the understanding of assessment as an integral part of learning (Zabalza, 2008).

Existing literature distinguishes the traditional assessment methods from the alternative assessment methods (Duncan & Buskirk-Cohen, 2011). It highlights the teacher-centred and the student-centred practices (Fernandes, 2015b; Myers & Myers, 2015; Burkšaitienė & Teresevičienė, 2008). Within the context of student-centred practices, the literature also recognises the privileged space of the classroom in the organisation of innovative and facilitator learning environments (Black & William, 1998) and the development of innovative forms to structure teaching and assessment (Fernandes, 2015b). The transformation of pedagogical practices brings a change in the role of higher education institutions as a knowledge producer context (Burkšaitienė & Teresevičienė, 2008). This view assumes special importance in the context of the Bologna Process (Flores & Veiga Simão, 2007), challenging teachers to promote more questioning, innovative and creative learning opportunities (Fernandes & Flores, 2012; Zabalza, 2008).

In traditional assessment methods, all students have “the same tasks and time allocation” (Brown et al., 1997, p.14). Its major function is to certificate the learning outcomes (Black & William, 1998; Dwyer, 1998). Traditional assessment is commonly used, and looks to be suitable, in several higher education contexts (MacLellan, 2001; Struyven, Dochy, & Janssens, 2005; Pereira, 2016; Barreira et al., 2015; Fernandes et al., 2019) but may also encourage reproduction and memorisation (Perrenoud, 1999; Biggs, 2003). Learner-centred assessment incorporates a variety of activities that seek to “involve students more deeply in the learning process” (Webber, 2012, p.203) and that are based on the

autonomous role of students and on constructive and progressive feedback (Sambell & McDowell, 1998; Webber, 2012; Carless & Boud, 2018) and real problem solving skills (Dochy, Segers, & Sluijsmans, 1999). Learner-centred assessment is anchored on a more effective learning process (Birenbaum & Feldman, 1998; Sambell & McDowell, 1998; Struyven, Dochy & Janssens, 2005), based on collaborative learning between students and university teachers and promoting student's self-regulation (Flores et al., 2015).

Traditional methods, commonly used in the context of higher education (Duncan & Buskirk-Cohen, 2011; Pereira & Flores, 2016) in the context of large classes, along with teachers' work overload (Myers & Myers, 2015), can emphasise reproduction and memorisation (Perrenoud, 1999) and low levels of understanding (Dochy, et.al, 2007). Traditional methods (mostly the written test or exam) occur at a predetermined time, focus on the product or results and usually have a strong individual component (Hadji, 1994), representing a means of perceiving what is going on in the classroom (Phelps, 2017). Traditional assessment emphasises memory, put much stress on factual knowledge; have a "little scope for originality and sustained writing"; depends on a certain amount of luck and on the speed of writing and thinking; and have "too little opportunity for constructive feedback" (Light & Cox, 2003, pp. 171-2). Even if traditional exams can be used to "direct students' efforts to important areas of the course" they are generally not good at "directing students' efforts towards developing higher level or intellectual abilities to be used in these areas." (Light & Cox, 2003, p. 172). Nevertheless, formative assessment is also not compatible with a more traditional perspective of assessment as it does not allow for skill differentiation or earlier feedback (Light & Cox, 2003).

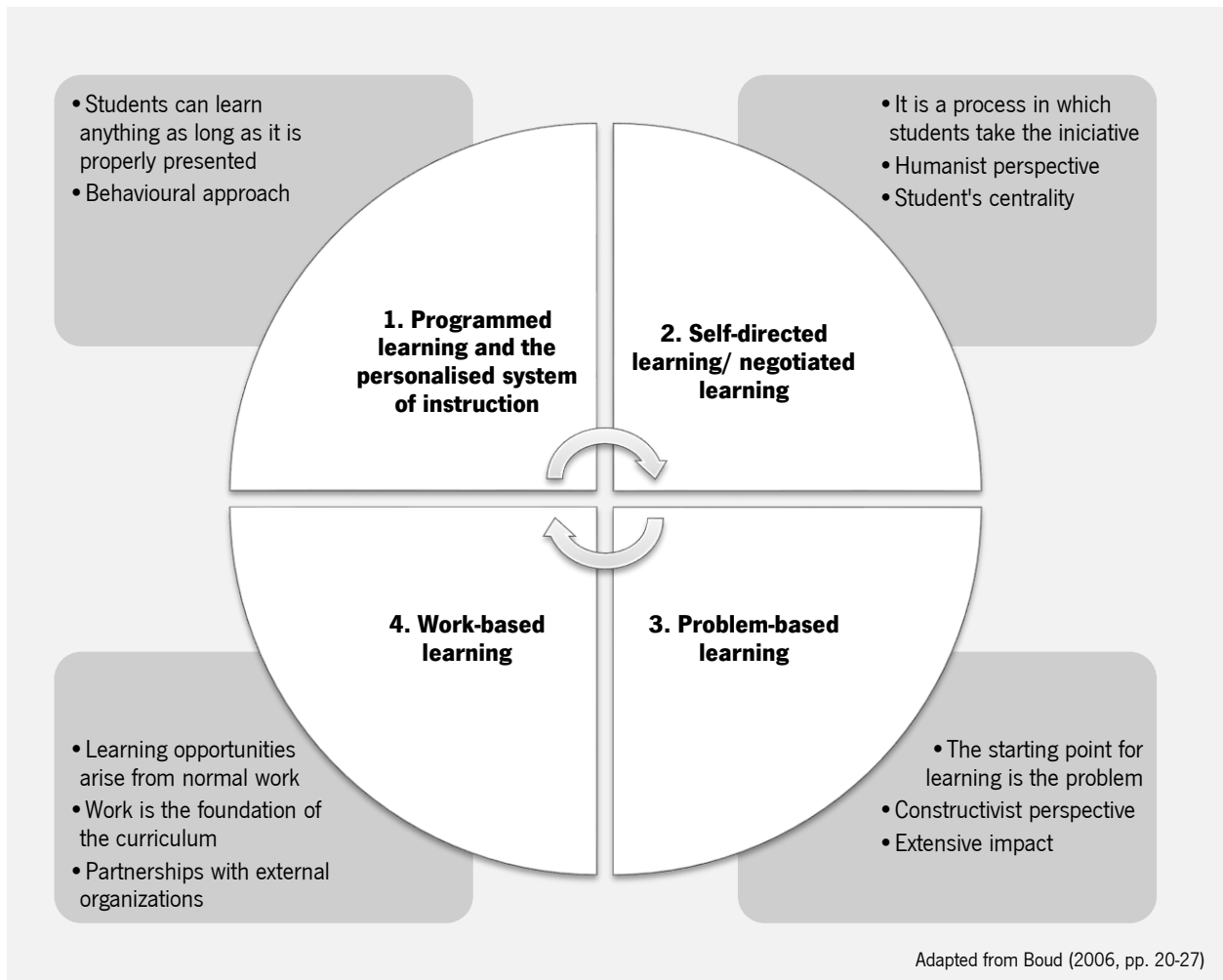
Tests and exams are classic examples of traditional assessment methods. These methods have both positive and negative effects. On one hand, they may induce innovative practices and contribute to assessing the education system and improving decision-making as well as to provide important clues about what is important to teach and learn. But, on the other hand, they focus mainly on academic knowledge; they may influence the involvement of students or induce fraudulent practices; and they can discriminate rather than integrate (Fernandes, 2004). When summative assessment assumes the form of tests or exams in which self-assessment has no place, the results are likely to bring forward differences interpreted in terms of success or failure. Some negative experiences with tests and exams results may lead to the withdrawal or reduction of some students' efforts (Harlen, 2007). Final exams may promote an ineffective time distribution "concentrating it immediately before the assessment rather than evenly across the course" (Biggs, 1999, p. 45).

On the other-hand, the so-called student-centred assessment methods (Webber & Tschepikow, 2013; Myers & Myers, 2015) enable the development of technical and cross-cutting problem-solving skills, for example, fostering greater student involvement in the process of learning (Myers & Myers, 2015). These methods imply more global tasks that are developed over time and can simultaneously include the process and product and the individual and collective dimension; stimulating autonomy, collaboration, responsibility, constructive feedback, interaction with stakeholders, peers and knowledge building (Webber & Tschepikow, 2013; Pereira & Flores, 2013), skills development, and deepening learning (Brew, Riley & Walta, 2009). These methods include, for example, experimental hands-on work, project work or reflections (Webber & Tschepikow, 2013; Struyven, Dochy & Janssens, 2005).

The full potential of assessment in the teaching and learning process is now recognised, besides its previous measuring and certifying role. Self-assessment, peer-assessment, work-based learning and problem-based learning are some forms of assessment which encourage students and promote a deeper approach to the learning and teaching process. All these approaches have in common the reflection, feedback, and the integration of learning and assessment (Dochy & MacDowell, 1997). Alternative assessment methods may be less threatening to students than traditional tests (Sambell, McDowell & Brown, 1997). Apart from that students appear “to find meaning in assignments such as projects, group exercises and portfolios perhaps because they are seen as more like real-life activities, more appropriate to Powerful Learning Environments, than examinations. Such assessment enhances students' intrinsic motivation, although the extrinsic motivation of grades remains present“ (Dochy & MacDowell, 1997, p.292). In this perspective, changing assessment methods may encourage learners to change their learning methods. Changing assessment culture will allow changing “from a system that transfers knowledge into students' heads to one that tries to develop students who are capable of learning how to learn” (Dochy & MacDowell, 1997, p. 292). This will imply high-quality alternative assessment procedures and clear criteria for its development and use (Dochy & MacDowell, 1997).

In higher education, the current worldwide discourse is that it should be centred on the learner, as “it has become an unquestioned mantra” (Boud, 2006, p. 19). The learner-centred approach results from various learning and teaching innovations started in the early 1970s and it has taken contradictory meanings over times (Boud, 2006). Learner-centred has distinguished meanings and interpretations, it contains a broad range of ideas identified in Boud's work (2006) (cf. Figure 13). These learner-centred innovations represent different perspectives, methods and practices and power relations. Over the time, there was a recognition that “it is not ‘methods’ that determine what students learn”, but rather the

students' learning experiences and how they interpret their learning experiences that "determine their learning outcomes" (Boud, 2006, p. 28).



**Figure 13.** Examples of learner-centred innovations over time (adapted from Boud, 2006)

Existing research identifies the importance of seeing learning from students' perspective at least in the same perspective as from faculties (Boud, 2006; Ramsden, 1987). At the same time, students must also be empowered. That power should be recognised, especially in topics related to students' assessment and learning. In this perspective, a more critical approach to learning and teaching, which includes the volatile social reality and power relations, is needed.

Despite their recognised benefits, learner-centred methods have also been criticised. There are some limitations related to accountability and to the difficulty in using summative information (MacLellan, 2004), which may justify its limited use in the context of higher education.

Alternative methods are used over time, enhancing the review and analysis of the assessment elements produced and recognising the essential role of feedback in the student's learning process and self-regulation (Carless et al., 2011). Figure 14 summarises some of the most common learner-centred methods identified in the literature.

<b>PROJECTS</b>	
<i>Advantages</i>	<i>Disadvantages</i>
<ul style="list-style-type: none"> <li>- Deeper learning about a specific topic/theme;</li> <li>- Students' initiative;</li> <li>- Time and project management skills;</li> <li>- Students' independence;</li> <li>- Creative problem solving;</li> <li>- Divergent thinking.</li> </ul> <p>(Light &amp; Cox, 2003; Brown et al., 1997)</p> <ul style="list-style-type: none"> <li>- Positive effect on students;</li> <li>- Higher student motivation towards traditional higher education;</li> <li>- Promotion of research skills;</li> <li>- Integration of knowledge;</li> <li>- Theory/practical nature of the work;</li> <li>- Promotion of values and attitudes of personal and social growth.</li> </ul> <p>(Lourenço &amp; Guedes, 2007)</p>	<ul style="list-style-type: none"> <li>- Time-consuming;</li> <li>- Fear of plagiarism;</li> <li>- Fairness concerns.</li> </ul> <p>(Light &amp; Cox, 2003; Brown et al., 1997)</p> <ul style="list-style-type: none"> <li>- Students have a perception that the workload is higher;</li> <li>- Higher workload for teachers;</li> <li>- Extension of syllabus;</li> <li>- Lack of coordination/organisation between teachers;</li> <li>- Lack of support and interest from many teachers;</li> <li>- Lack of adequate spaces and infrastructure;</li> <li>- Difficulties associated with the transition from secondary to higher education.</li> </ul> <p>(Lourenço &amp; Guedes, 2007)</p>
<b>PORTFOLIOS</b>	
<i>Advantages</i>	<i>Disadvantages</i>
<ul style="list-style-type: none"> <li>- Students have self-control over their own environment.</li> </ul> <p>(Light &amp; Cox, 2003).</p> <ul style="list-style-type: none"> <li>- Exhibits learning over the process rather than what students know in a particular moment;</li> <li>- Provides an opportunity for students' reflection about their learning, as well as self-assessment, and deeper understanding;</li> <li>- Great level of interaction between students and teachers.</li> </ul> <p>(Meador, 2019)</p> <ul style="list-style-type: none"> <li>- Interactive, dynamic, open and global nature.</li> </ul>	<ul style="list-style-type: none"> <li>- Unwieldy and lacking in overall synthesis.</li> </ul> <p>(Savin-Baden, 2003).</p> <ul style="list-style-type: none"> <li>- Developing and assessing a portfolio is time-consuming;</li> <li>- Takes a lot of effort from both the teacher and the student;</li> <li>- Assessment subjectivity.</li> </ul> <p>(Meador, 2019).</p> <ul style="list-style-type: none"> <li>- Fairness concerns.</li> </ul>
<b>OPEN-BOOK EXAMS</b>	
<i>Advantages</i>	<i>Disadvantages</i>
<ul style="list-style-type: none"> <li>- Encourages a certain dose of autonomy in students;</li> <li>- Allow to assess the ability to locate information quickly.</li> </ul> <p>(Light &amp; Cox, 2003).</p>	<ul style="list-style-type: none"> <li>- It does not allow to assess the use of information in a more creative and independent way;</li> <li>- Hard to justify and to operationalise.</li> </ul> <p>(Light &amp; Cox, 2003)</p>



<b>PRIOR-NOTICE EXAMS</b>	
<i>Advantages</i>	<i>Disadvantages</i>
<ul style="list-style-type: none"> <li>- Useful to assess the ability to produce work under time pressures;</li> <li>- The question or the topic is given out in advance;</li> <li>- Allow previous research about the topic/theme;</li> <li>- Relieve the constraint on memory;</li> <li>- Encourages students' autonomy.</li> </ul> <p>(Light &amp; Cox, 2003)</p>	<ul style="list-style-type: none"> <li>- Students may fear higher standards;</li> <li>- It may be harder and provoke anxiety feelings in more dependent students.</li> </ul> <p>(Light &amp; Cox, 2003)</p>
<b>PROBLEM-BASED LEARNING (ASSESSMENT)</b>	
<i>Advantages</i>	<i>Disadvantages</i>
<ul style="list-style-type: none"> <li>- Encourages students' autonomy;</li> <li>- Reduced importance of traditional tests and exams;</li> <li>- Develops problem-solving skills;</li> <li>- Assessment is a "natural feature of learning".</li> </ul> <p>(Light &amp; Cox, 2003, p. 181)</p> <ul style="list-style-type: none"> <li>- The curriculum is centred upon key problems in professional practice;</li> <li>- Strong relation with practice;</li> <li>- Cooperative work;</li> <li>- Students identify their own learning needs;</li> <li>- Students may explore and use the available resources to solve the problem.</li> </ul> <p>(Boud, 2006)</p> <ul style="list-style-type: none"> <li>- Problem solutions are always linked to a specific curricular content (vital for students);</li> <li>- Curricular content is organised around problem scenarios rather than subjects or courses;</li> <li>- "Students work in groups or teams to resolve or manage these scenarios but they are not expected to acquire a predetermined series of right answers";</li> <li>- It helps students to see that "learning and life take place in contexts that affect the kinds of solutions that are available and possible";</li> <li>- "The focus of assessment in problem-based learning should be on both learning and performance";</li> <li>- Emphasis on critique and self-questioning;</li> <li>- Peer assessment and self-assessment;</li> <li>- Authentic assessment movement.</li> </ul> <p>(Savin-Baden, 2003, pp. 2-3,108)</p>	<ul style="list-style-type: none"> <li>- Time-consuming;</li> <li>- Requires a substantial body of knowledge to be learned;</li> <li>- Confusion about the difference between problem-based learning and problem-solving learning;</li> <li>- Complexity.</li> </ul>

<b>'PATCHWORK TEXT'</b> (Winter et al. 1999)	
<i>Advantages</i>	<i>Disadvantages</i>
<ul style="list-style-type: none"> <li>- Written output;</li> <li>- Ongoing process;</li> <li>- Peer review</li> </ul> (Winter et al. 1999) <ul style="list-style-type: none"> <li>- Emphasis on critique and self-questioning. (Savin-Baden, 2003)</li> </ul>	<ul style="list-style-type: none"> <li>- Time consuming</li> <li>- Complexity.</li> </ul>

**Figure 14.** Examples of learner-centred assessment methods

The project work focuses on problem-solving through the integration of theory and practice, and it encourages students to move away from a merely descriptive approach and to adopt a critical/analytic one (Brown, 1999b). It is related to a multidisciplinary and transdisciplinary view of knowledge (Lourenço & Guedes, 2007). It is more than a group work, it is a cooperative learning that should be based on five basic concepts (Lourenço & Guedes, 2007): (1) positive interdependence; (2) face-to-face interaction; (3) personal accountability to learning; (4) proper use of social or interpersonal skills; and, (5) regulation of the working process. The ability to self-regulate learning is, perhaps, one of its greatest strengths:

“Developing the capacity to regulate the group's work process increases the motivation for learning and contributes to the improvement of interpersonal relationships. It should also be noted that the success of the team (group) implies that there is an individual assessment of their performance and that of other members ”( Lourenço & Guedes, 2007, p. 31).

The portfolio stands out for its specificity as it presents an interactive, dynamic, open and global nature. It is a unique assessment method, with different functions and tasks, and it can be individual or collective. The portfolio can be defined as a determined collection of evidence used by students to document and reflect on learning outcomes (Dannefer & Henson, 2007). Existing literature suggested that a portfolio approach could be designed to promote reflection on learning and to give students responsibility for incorporating evidence of their learning process (Burkšaitienė & Teresevičienė, 2008; Lam, 2016).

The portfolio has received increasing attention in the literature as it is considered to be fair, useful and relevant (Brinke, Sluijsmans & Jochems, 2010), since it promotes, among other aspects, interaction and collaborative work (Lam, 2016). The portfolio allows students to produce a large volume of work while reflecting on their learning (Kuisma, 2007), developing language skills and deepening their

fulfilment (Burkšaitienė & Teresevičienė, 2008). Paulson, Paulson and Meyer (1991) defined the portfolio as a crossing of instruction and assessment and present strategies for using portfolios in self-directed learning. Portfolio assessment allows students to value their work. A portfolio “is a purposeful collection of student work that exhibits the student’s efforts, progress, and achievements in one or more areas”. This collection needs to include “student participation in selecting contents”; “criteria selection”; “criteria for judging merit”, and “evidence of student self-reflection” (Paulson, Paulson & Meyer, 1991, p. 60).

Portfolios can tell a lot about their creator, representing a powerful educative tool “for encouraging students to take charge of their learning” (Paulson, Paulson & Meyer, 1991, p. 63). It should be made by the student and not for the student, it involves self-reflection and may have multiple purposes. In short, the portfolio encourages students to be independent and self-directed learners. It steps aside from the traditional assessment methods and accountability, offering the opportunity “to observe students in a broader context: taking risks, developing creative solutions, and learning about their performances” (Paulson, Paulson & Meyer, 1991, p. 63).

The open-book exam is an examination where textbooks or other kinds of written supports are allowed (Light & Cox, 2003). This method “reduces the reliance of students on rote learning” (Brown, 1999a, p. 9) and may encourage students' independence and autonomy, allowing them to find the information they need in a quicker way. Yet, this assessment method does not allow to assess the use of information more creatively and independently. It may only help to identify who finds the information more quickly instead of who uses the information in a more independent, creative and critical way.

A more useful method for assessing the ability to produce something under time constraints is the prior-notice exam (Light & Cox, 2003). In this type of exam, the questions or topics to be addressed in the exam are previously presented to students, allowing them to realise previous research about the topic/theme, relieving the constraint on memory and encouraging students' autonomy. However, this kind of method may be harder and provoke anxiety feelings in more dependent students. Brown (1999a, pp. 9-10) complements this role of alternative exams with take-away papers; case studies questions; objective structured clinical examinations; simulations (computer or online); in-tray exercises; and, assorted questions exams' (e.g. multiple-choice, short and essay questions in the same exam).

Problem-based learning is a complex teaching and learning mean. In problem-based learning, students are expected “to engage with the complex scenario presented to them and decide what information they need to learn and what skills they need to gain in order to manage the situation

effectively” (Savin-Baden, 2003, p. 2). In project-based learning, students engage in problems related to their learning focus and try to find solutions, recognising the need for teamwork and collaboration of all the parts involved (Vilaça & Mabote, 2016). It allows the integration between theory and practice, a dynamic teaching approach, the development of transversal curriculum skills and a deeper knowledge of the subjects under study (Vilaça & Mabote, 2016).

In tertiary education, the adoption of problem-based learning may transform teaching by adding another dimension to what it means to be a teacher, by understanding what it means to be a facilitator (Savin-Baden, 2003). It mobilises crucial aspects of the learning context such as values, beliefs, relationships, frameworks and external structures that operate within a given learning environment, promoting changing (Savin-Baden, 2003). This teaching and learning methodology is associated (mostly in the United States of America) with the authentic assessment movement which refers to “assessment that resembles reading and writing in the real world, and the aim of it is to assess students in contexts that resemble actual situations in which those abilities are required” (Savin-Baden, 2003, p. 109).

Despite its recognised benefits, several criticisms are identified regarding the use of the problem-based learning approach, namely the difficulty in producing written evidence that can be presented as the outcome of the assessment process. The patchwork text is a good alternative to fill in some of these gaps. The patchwork text (Winter et al. 1999) is a written work produced over several weeks. In patchwork text, each component of work is shared with pairs and involve different styles, such as a commentary on a lecture, a personal interpretation about a theme or subject, or a book review. This kind of assessment method is a good complement to problem-based learning because of its emphasis on critique and self-questioning (Savin-Baden, 2003).

Additionally, Brown (1999b, pp. 96-101) suggests the broadening of assessment methods through:

- Competence checklists (which assure that a variety of activities have been undertaken and assessed);
- Case studies (which allow students to apply learning in professional contexts);
- Logs, diaries, reflective journals and critical incidents accounts;
- Observation of the demonstration of skills in practice (which allow students to be assessed on practice and reflection);
- Observation of the demonstration of skills in practice (mostly used in professional contexts, e.g. medicine and teaching);
- Artefacts (related to professional practices, e.g. Sculptures, computers components, vehicles...);

- Expert witness testimonials (they may be used as a component of a portfolio but also to demonstrate competencies);
- In-tray exercises (especially used in nursing training);
- Objective structured clinical examinations (mostly used in the medical learning context);
- Posters and presentations;
- Oral assessments;
- Learning contracts (used “to enable students to be involved in setting their own goals and to respond to changing learning situations” (Brown, 1999b, p. 101).

Other studies (e.g. Flores et al., 2015; Craddock & Mathias, 2009; Kell & van Deursen, 2002; Fowell, Southgate & Bligh, 1999) indicate the use of a mixed method combination of traditional assessment methods and learner-centred ones. Craddock and Mathias (2009, p. 128) stress that the use of a range of distinct assessment methods is a good practice in responding to students’ different learning preferences and the “numerous critiques of the over-reliance on traditional examinations and their shortcomings”. The combined use of differentiated assessment methods allows the triangulation of the different sources, moments and assessment approaches, adapting them to the specific needs of each group, context or situation:

“using a selection of methods allows triangulation ‘with evidence relating to particular aspects of performance arising from different sources. The planning phase also includes deciding the nature and timing of assessments, paying attention to separating formative and summative assessments, although the same methods may be used for the two purposes.” (Fowell, Southgate, & Bligh, 1999, p. 277)

The balanced used of assessment methods helps to “address the current overemphasis on summative testing” with “learning-oriented or formative assessment which promotes student engagement” that helps students to achieve their potential (Sambell, 2011, p. 9). This balance between traditional and learner-centred methods is important, so that students are not mainly focused on ‘hunting’ marks but also have the opportunity to experiment and put into practice ideas and skills and develop subject knowledge (Sambell, 2011).

### **The participation of the educational agents in the assessment process**

Assessment does not necessarily have to be the sole task of teachers or tutors (Brown, 1999). This activity, with many advantages, can be shared in particular with students. However, most higher education

systems are individual grades student-rewarding systems and do not support self-assessment (Savin-Baden, 2003) or collaborative assessment practices. The benefits of using self, peer and collaborative assessment practices are beginning to be recognised in the context of higher education. Greater involvement of students in the assessment processes should be promoted and “be seen as an integral part of their learning” (Dann, 2002, p. 140). Brown (1999a) suggests a set of other agents that, additionally to tutors, self and peer assessment, may improve the assessment practices such as forthcoming employers or clients. The Adachi, Tai & Dawson qualitative study (2018) showed a strong belief of academics in the power of self and peer assessment as formative assessment, opposing to earlier literature which has focussed on the accuracy of students’ marking. Within this perspective, clarifying assessment requirements may also be a critical issue in the assignment preparation and in students’ academic self-regulation (To & Liu, 2017).

In higher education, assessment is usually carried out by the teacher or tutor, but it may also be provided by students’ peers or in the context of a group (peer assessment). The self and peer assessment literature’s “draws a picture of education in the twenty-first century with the learner at the centre of the stage and the lecturer off stage, in the wings ready and able to assist the learner in a multiplicity of ways” (Falchikov, 2004, p. 102). Nowadays, students are members of teams and have “more opportunities for taking decisions about their education than ever before”, and they are also “encouraged to be active participants in their learning process” (Falchikov, 2004, p. 102). In self-assessment, students have to assess their performance according to predefined standards, while in peer assessment they assess their peers’ performance. It is commonly used in presentations or practical, but it can also be applied in essays and exam scripts (Savin-Baden, 2003). Peer assessment can be facilitated through students written feedback on each other’s, taking advantage of the full potential of virtual environments (Wride, 2017). This type of assessment also includes the inter-peer assessment. Inter-peer assessment occurs when students from a team “assess the work of another team” (Savin-Baden, 2003, p. 144). Depending on the assessment criteria, this kind of assessment may also include “some degree of collaboration between staff and students” (Falchikov, 2004, p. 102). Peer assessment contributes to the valorisation of peer learning and students’ commitment with their own learning process. It “is a natural extension of the move from a teacher-centred to a student-centred model of education, which emphasises the active engagement of students in their learning, learner responsibility, metacognitive skills and a dialogical, collaborative model of teaching and learning” and it “can dramatically reduce the marking load on academic staff and allow them to devote their time to other aspects of teaching and learning” (Wride, 2017, p. 11).

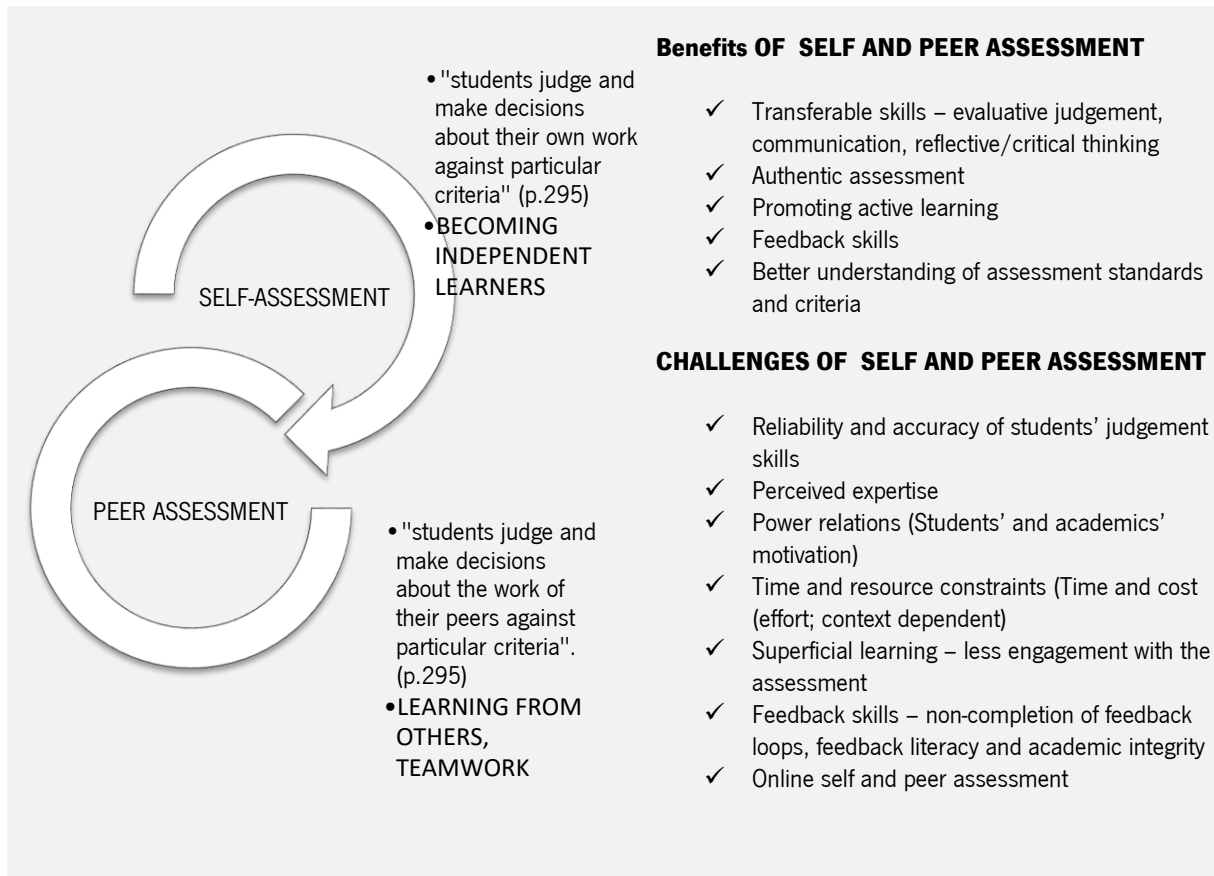
Self-assessment enables the coherence of the teaching and learning process, facilitating learning (Hadji, 2001). Light and Cox (2003) argue that the “development and increasing use of methods of self-assessment is, perhaps, the most important innovation in assessment for the development of intellectual independence. In contrast to the vast majority of assessment methods, it directly addresses the paradox of a highly depending education leading to the independent responsible status of the professional person” (Light & Cox, 2003, p. 181). Self-assessment is not “a distinct element of teaching and learning, but in relation to reflection, critical reflection and metacognitive practices” (Boud, 1995, p. 215). In self-assessment practices, students are encouraged to take more responsibility on their learning process (Falchikov & Boud, 1989), to monitor their plans and activities, and to evaluate their performances (Boud, 1995). Some “forms of self-assessment can encourage students to engage in meaningful learning of a more sophisticated kind than otherwise” (Boud, 1989, p. 31).

Nevertheless, a critical issue in self-assessment is the development of strategies for generating guiding criteria for students to assess their own work. (Light & Cox, 2003). A further difficulty is the confusion between the terms collaborative, peer and self-assessment, which are used together or interchangeably (Savin-Baden, 2003). The critical literature review study by Falchikov and Boud (1989) revealed the existence of some inconsistencies between the results of the students' self-assessment and the final grade given by the teacher. The authors identified substantive and methodological problems in the face of self-assessment, which would require a solid preparation of the actors involved to be overcome.

Collaborative assessment may be an appropriate starting point for both teachers and students who desire to use assessment methods that help students to make judgements about their work. In collaborative assessment, “the student assesses himself or herself in light of criteria agreed with the tutor; the tutor assesses the student using the same criteria and they negotiate a final grade” (Savin-Baden, 2003, p. 145).

In turn, peer assessment and self-assessment may be more frightening, because “students are encouraged to develop their own criteria and have greater control over both the criteria and the grade than in collaborative assessment” (Savin-Baden, 2003, p. 145). Self-assessment implies identifying standards and/or criteria to assess their work and to evaluate the achievement of these criteria and standards (Boud, 1986; Savin-Baden, 2003). It can include essays, reports, presentations, reflective diaries or reflective exercises. One of its difficulties “is the tendency to make judgements about what the students meant rather than what they achieved” (Savin-Baden, 2003, p. 110).

In general, peer and self-assessment have emerged as important tools for teachers to use (Bloxham & Boyd, 2007). They enhance students' learning and can be an effective practice for student learning (Adachi, Tai & Dawson, 2018). They are also crucial elements to help students to learn through their assessment and to become more autonomous (Bloxham & Boyd, 2007). Peer and self-assessment are both associated with a range of benefits, such as promoting student autonomy or collaborative learning, but they also present some challenges (cf. Figure 15).



**Figure 15.** Self and peer assessment perspectives (adapted from Adachi, Tai & Dawson, 2018)

The literature suggests the necessity to balance between "a system which is so restrictive that student involvement is eliminated and self-assessment effectively discouraged, and a completely trusting system which is open to abuse" (Boud, 1989, p. 30). How this balance can be achieved within a specific context constitutes a challenge to the education systems.

Regardless of the use of self-assessment, peer-assessment or group assessment, none of them "should be regarded as a 'quick fix'", because they take considerable preparation, training and practice if they are to be effective. When properly managed it may save some teachers time and be "extremely valuable in helping students interpret criteria" and by encouraging students' metacognition and deeper



learning (Brown, 2005, p. 85). Despite the importance of students' active involvement in the assessment processes, several studies in the Portuguese context (e.g. Barreira et al. 2017; Pereira, Niklason & Flores, 2017) indicate that their involvement in the assessment process is still limited.

### **2.1.3. Assessment and feedback**

“If assessment is to be integral to learning, feedback must be at the heart of the process.” (Brown, 2005, p. 84)

If assessment is to be an integral part of learning and contribute effectively to the development of learning, the feedback, especially formative feedback (Black & Wiliam, 2019), is an issue of paramount importance. In the context of a learner-centred assessment, the different forms of communication become vital for the student to become aware of his/her progress and/or learning difficulties (Fernandes, 2004). In this sense, feedback may be “the most important aspect of the assessment process for raising achievement” (Bloxham & Boyd, 2007, p.30) and, consequently, it is essential for assessment to be integral to teaching in its formative dimension (Fernandes, 2004).

Feedback is a privileged area for teachers to extend their assessment practices, as it is one of the most influential factors on students' learning and achievement (Pedrosa-de-Jesus, Moreira, Silva Lopes, Guerra & Watts, 2019). However, it is a demanding and timeconsuming process (Brown, 2005). More than teachers informing students, feedback is about strengths, weaknesses and improvements. Feedback highlights the centrality of the student role and the use of comments to improve subsequent work (Carless & Boud, 2018, p. 1315). Feedback consists of “the information provided by an agent (e.g., teacher, peer, book, parent, self, experience) regarding aspects of one's performance or understanding” (Hattie & Timperley, 2007, p. 81). It is “a process through which learners make sense of information from various sources and use it to enhance their work or learning strategies” (Carless & Boud, 2018, p. 1315). Feedback has unequivocal repercussions in students' practices and does not stop “when students' work is returned to them” (Henderson, Ajjawi, Boud & Molloy, 2019b, p.4). If teachers intend to have meaningful feedback, they need student action. It is also necessary to shift from a teaching-centred approach to a learning-centred one. Instead of being concerned with the quality of comments in their feedback, teachers should, above all, be focused on how that feedback may influence student learning. In other words, it is about how feedback can make a difference (Henderson, Ajjawi, Boud & Molloy, 2019b).

Concerns about feedback give rise to “an explosion of literature about feedback” (Henderson, Ajjawi, Boud & Molloy, 2019b, p.4). Many of these publications seek to figure out how to improve feedback, but some researchers have devoted their attention to understanding how feedback can be more effective. The most expressive work criticises the common definitions of feedback and led to a “revolution of feedback thinking which has shifted the focus from the quality and timing of the comments” that teachers provide to students about their work to “how students become feedback aware” and use that information effectively (Henderson, Ajjawi, Boud & Molloy, 2019b, p.4).

In higher education feedback's importance is recognised both by teachers and students. However, students reveal some dissatisfaction with the content of the feedback received and with its impact on the learning process (Bloxham & Boyd, 2007). In turn, teachers reveal concern and demotivation in the face of student disinterest (Esterhazy, 2019; Henderson, Ajjawi, Boud & Molloy, 2019a).

Despite the attention given in recent decades to the study and use of feedback, several authors point to its misuse or misinterpretation. For example, Sambell (2011, pp. 11-13) identifies some common misconceptions and mistaken assumptions about feedback: (1) feedback is often seen as a product delivered by teachers to students in the form of a mark or a grade; (2) this traditional type of feedback is often timeliness, coming “too late to enable students to improve their performance”; and, (3) the tendency to offer feedback through a mark or a grade tends to position feedback in a measurement paradigm instead of a learning paradigm; (4), “feedback-as-telling or teacher exposition” does not necessarily imply that the student learn or transform their learning practices by passively listening to that information. Learning from feedback is a more complex issue, it “involves students actively constructing their own understanding of the information and making their own sense of it” (Sambell, 2011, p. 13).

Successful feedback has to be given at the appropriate time, preferably immediately, identifying the way forward (Earl & Katz, 2006); and, and be provided in the most equitable way possible to all students (Fernandes, 2004). For example, feedback can be provided asymmetrically between those considered 'good' and 'bad' students (Fernandes, 2004). The feedback given at the end of a course in the form of a grade or rating can help to have an idea of the degree of achievement of the objectives or how they are standing concerning other students but it says very little to the student about how he can improve his/her performance (Earl & Katz, 2006). Nevertheless, at the end of the course, the opportunities for growth and improvement of the students are quite scarce. Feedback should be timely, enabling student engagement and the understanding of assessment criteria; students' engagement with

quality and standards needs to occur so that they can monitor and improve their own work (Carless, 2015).

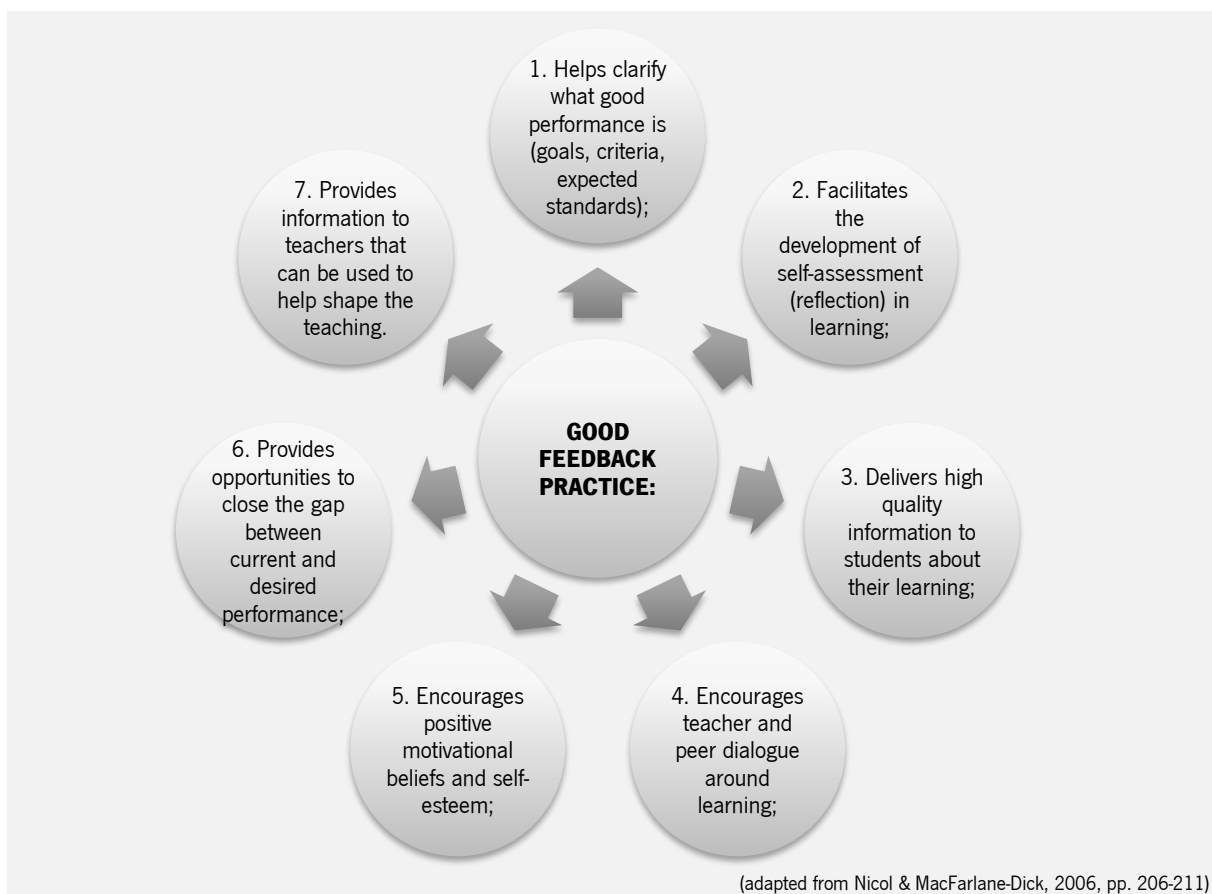
On the other hand, descriptive feedback “makes explicit connections between students’ thinking and the learning that is expected (...), it provides the student with manageable next steps and an example of what good work looks like” (Earl & Katz, 2006, pp. 33-4). Finally, feedback for learning focuses both on quality and learning. It provides evidence, gives recognition for achievement and growth, includes clear directions for improvement and encourages students to think about and answer to the suggestions made by teachers (Earl & Katz, 2006).

Feedback may be formal (complemented by peer review) or informal. As previously mentioned, feedback is still often seen as a comment which teachers give to students but feedback can be much more than that (Sambell, 2011). It may be offered through distinct assessment tasks: e.g. oral presentations, draft work, on the preparation of assessment activities, or summative assessment tasks: “Alternatively, they may break down a module assignment into smaller steps which link together and build on one another in order to provide feedback on an early submission, so that the students can take forward any advice into the second element of their work.” (Sambell, 2011, p. 16). Formal feedback may be complemented with peers’ feedback (e.g. more experienced students, tutors). Within a formative perspective, informal feedback may be an important tool to enhance learning. So, teachers should ensure that students are “provided with a continual flow of feedback” which enables students “to see how they were doing” (Sambell, 2011, p. 25).

Various studies investigate how practical activities can help students engage with feedback (Nicol & Macfarlane-Dick, 2004). Gibbs and Simpson (2004, pp. 12-25) developed 10 “conditions under which assessment supports students’ learning”. Most of them address feedback practices, e.g.: (condition 4) feedback should be sufficient; (condition 5) feedback should focus on students’ performance and their learning; (condition 6) feedback should be timely received by students; (condition 7) feedback should be appropriate to the purpose of the assignment; (condition 8) feedback should be appropriate “to the students’ understanding of what they are supposed to be doing”; (condition 9) feedback should “be received and attended to”; and, (condition 10) feedback should be acted upon by the student. Feedback can achieve several purposes: correct errors; develop understanding through enlightenment; create more learning by promoting specific study tasks; promote the development of generic skills; promote meta-cognition; boost students to continue studying (Gibbs & Simpson, 2004).

In line with this perspective, feedback should be a dialogic process which requires students to use it to develop their learning and work (Price, Handley & Millar, 2011). Within this sustainable practice, students produce and use feedback from distinct sources (self, peers, teachers, tutors or others) as part of an ongoing process of autonomous and self-regulated learning. Sustainable feedback may induct and support both explicit and tacit knowledge as well as self-evaluative skills (Carless, 2013). Sustainable feedback may have sub-substantive implications for students' present and future. It may raise students' awareness about the quality of their performance; stimulate self-monitoring and self-evaluation skills; enhancing lifelong learning skills.

Some authors focus their attention on the student's role as a self-assessor and as someone capable of assessing his/her work and generating his/her own feedback, within a self-regulatory perspective (Nicol & MacFarlane-Dick, 2004; 2006). In higher education, formative assessment and feedback “should be used to empower students as self-regulated learners” (Nicol & MacFarlane-Dick, 2006, p. 200). Within this perspective, Nicol and MacFarlane-Dick (2004; 2006) identify seven principles of good feedback practice that support self-regulation (cf. Figure 16).



**Figure 16.** Principles of good feedback practice that support self-regulation (adapted from Nicol & MacFarlane-Dick, 2006)

Feedback is a learner-centred process critical for effectively promotion of learning and vital for improving learning outcomes (Henderson, Ajjawi, Boud & Molloy, 2019c). It can be understood as not just the offering of information, but as a complex process fundamental to teaching and learning in which both teachers and students have an important role to play (Henderson, Ajjawi, Boud & Molloy, 2019a). Nevertheless, students' conceptions about feedback "are bound up with their previous experiences, learning strategies and motivation" (Carless, 2019, p. 52).

Sally Brown (2005) argues for the importance of formative feedback. Feedback needs to be "detailed, comprehensive, meaningful to the individual, fair, challenging and supportive, which is a tough task for busy academics" (Brown, 2005, p. 85). Teachers should use all the means available to accomplish this, including ICT and "strategies for giving feedback efficiently such as assignment return sheets, assignment reports, in class collective feedback and other means" (Brown, Rust & Gibbs, 1994; Brown, 2005, p. 85).

The four-levels classification of feedback by Hattie & Timperley (2007) is a valuable model for the use of feedback to enhance learning. This model identifies four levels of feedback (task, process, regulation, and self): (1) task-level feedback (emphasis on responsibilities in the interpretation of the task or the outcome created); (2) process level (the process used to perform a task); (3) self-regulation level (self-monitoring, directing and regulating actions); and, (4) self-level (personal evaluation and affect). Based on the premise that feedback may reduce the discrepancy between performance and the desired goal, the authors argue that effective feedback addresses three fundamental issues: feed 'up', feed 'back' and feed 'forward'. This issues answer the students' questions '*Where am I going? How am I going? and Where to next?'*'. In this context, feedback may be "one of the most powerful influences on learning and achievement, but this impact can be either positive or negative" (Hattie & Timperley, 2007, p. 81). The model involves giving and receiving feedback both by teachers and/or students and allow students to construct their own spaces of learning.

The questions raised by this model point to the importance of feedback effectiveness. The Hattie and Temperley (2007)'s work highlighted that feedback is most effective when learners' confidence in their work is high (even if it turns out to be incorrect). On the other hand, it may be ignored where confidence is low. Feedback effectiveness depends on the time and use of the received feedback (Gibbs & Simpson, 2004). Students are the most well-positioned educational agents to judge the effectiveness of feedback (however, they may not always recognise all the benefits that feedback provides) as it

highlights the role of students' pedagogic literacy on the evaluation of the feedback processes (Price, Handley, Millar & O'Donovan, 2010).

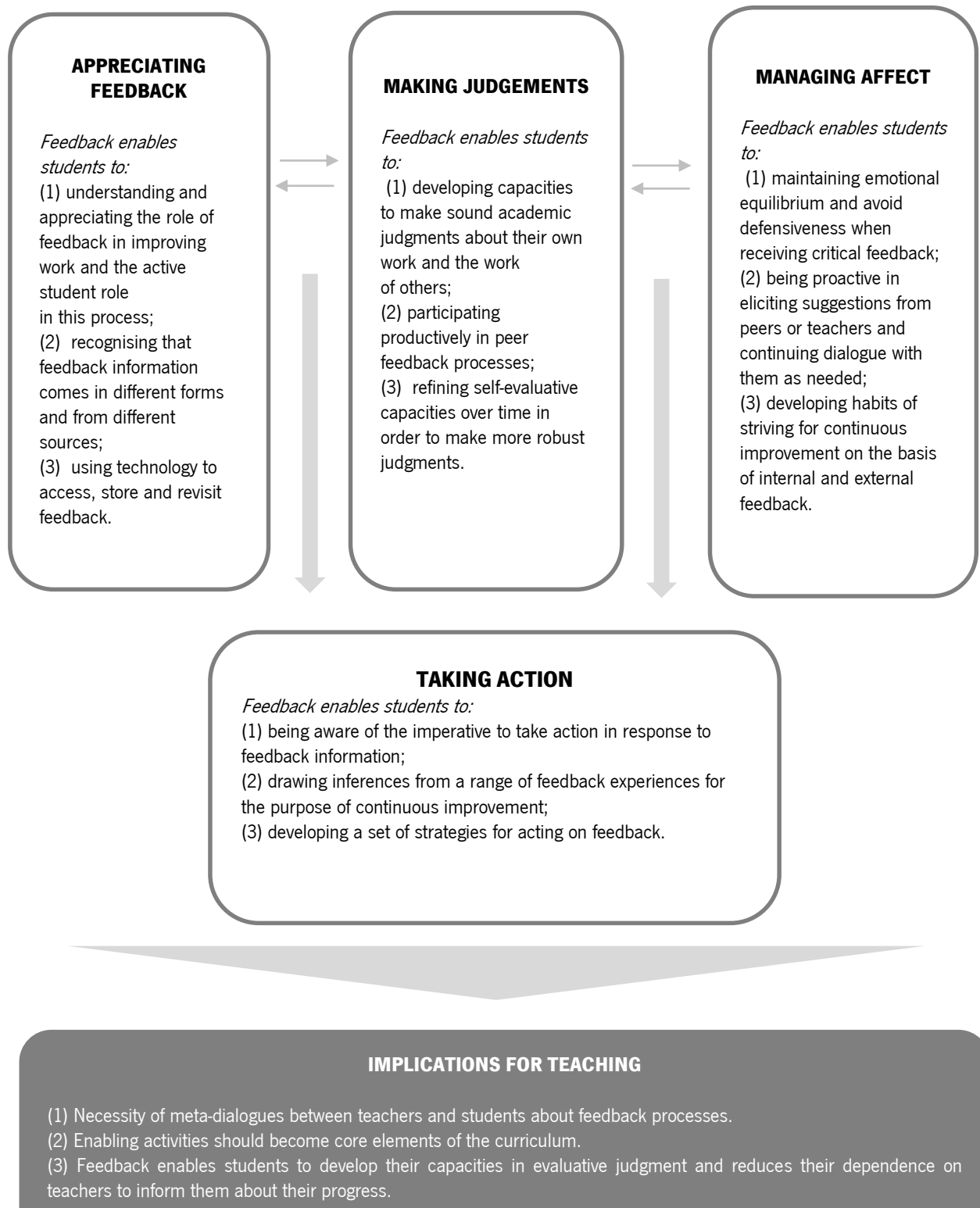
Esterhazy (2019a, 2019b) presents an alternative conceptualisation of feedback as social practice, composed of complex relationships and deeply rooted in its sociocultural context. The three-layer feedback practices describe the relationship between *knowledge domain*, the *course design* and the *concrete feedback encounters*. In the *knowledge domain layer*, the feedback practices are shaped by social and epistemic relations between cultural tools, social conventions and established knowledge, that cross contexts and time (Esterhazy, 2019). The feedback practices of a specific course are interconnected with the way knowledge is organised. For that reason, feedback practices cannot be considered without "taking into account the social and epistemic relations that make up the disciplinary context in which the practices are situated" (Esterhazy, 2019, p.22). Finally, *productive feedback encounters* involve the generation, attribution of meaning and action by participants face to information about their performance concerning "the standards and domain knowledge relevant for the specific task and discipline" (Esterhazy, 2019, p.23).

Carless and Boud (2018) have come up with the term *students' feedback literacy* which "denotes the understandings, capacities and dispositions needed to make sense of information and use it to enhance work or learning strategies" (Carless & Boud, 2018, p. 1315). In order to support students' feedback literacy, the authors proposed a four inter-related features framework with clear implications for teachers and teaching: 1) *appreciating feedback*; 2) *making judgments*; 3) *managing affect*; and, 4) *taking action* (cf. Figure 17). Appreciating feedback implies, on the one hand, that students recognise the value of feedback and, on the other, that students also understand their active role in its process. The capability of making decisions about their work and others' work is essential for making judgements. That implies a process over which they have "to plan, draft and re-draft whilst making adjustments based on their ongoing judgments about the quality of the work" (Carless & Boud, 2018, p. 1317). The third feature, managing affect, is about managing the feelings, emotions and attitudes, and overcoming negative, defensive strategies in order adopt new perspectives. In the fourth feature, taking action, learners should act upon the comments they have received. However, they need to possess a set of strategies to act productively. That implies that students have the necessary skills to interpret the comments received and to "see themselves as agents of their own change and develop identities as pro-active learners" (Carless & Boud, 2018, p. 1318). In that way, students will be able to make productive use of comments they receive about their work and successfully acting on feedback.

The university teachers have an important facilitating role in the promotion of student feedback literacy, through the curriculum design as well as their guidance and coaching (cf. Figure 17). The students' feedback literacy proposal (Carless & Boud, 2018) pointed out a set of implications for teaching: the necessity of meta-dialogues about the feedback involving both teachers and students; transforming the enabling activities core elements of the curriculum; and empowering students to develop their capacities in evaluative judgment, reducing their dependence on teachers to inform them about their progress.

Henderson, Ajjawi, Boud and Molloy (2019a) identified three main issues about feedback in the context of higher education: how we can maximise the impact of feedback in higher education?; the complexity of the feedback process involving both students and teachers; and, significant feedback (how can feedback make a difference, and how we can acknowledge that impact?). The authors argue that the main purpose of feedback is improving what students can do and, consequently, feedback must have an impact. This will require greater involvement of those who directly profit from it: the students.

Feedback processes can make a difference to students and to their work. However, feedback is often limited and understood as a simple comment about students' work. (Henderson, Molloy, Ajjawi & Boud, 2019). Feedback processes should consider the centrality of students' agency (Henderson, Molloy, Ajjawi & Boud, 2019, p. 268). In the present climate of evidence-based policy and practice, there is an urgent need for research to inform students, educators, higher education institutions and industry partners about how they might identify impact and understand it in connection with feedback processes as a whole" (Henderson, Ajjawi, Boud & Molloy, 2019c, p. 16).



(adapted from Carless and Boud, 2018, pp. 1319 and 1322-3)

**Figure 17.** Features and implications of student feedback literacy



## **2.2. Learning and teaching in higher education**

“The experience of the learner is mediated by what teachers do” (Boud, 2006, p. 20)

Learning is an interactive process by which students make sense of the new information they acquire and connect it with prior knowledge (Earl, 2003; Earl & Katz, 2006). It is a complex matter fuelled by the desire for change:

“it may involve mastering abstract principles, understanding proofs, remembering factual information, acquiring methods, techniques and approaches, recognition, reasoning, debating ideas, or developing behaviour appropriate to specific situations; it is about change” (Fry, Ketteridge, & Marshall, 2009, p. 8).

This means that, before planning any activity, teachers foresee what students are thinking, what they already know, and adapt their practices to the reality of their students. Therefore, teachers' action determines and mediates students' learning experience (Boud, 2006), particularly the choice of the assessment practices, whether teachers choose to adopt more traditional assessment methods, e.g.: tests and exams (Dochy, 2001; Rust, 2007; Sambell & McDowell, 1998); or more learner-centred assessment methods, e.g.: Portfolio, simulation, project-based learning (Huba & Freed, 2000; Webber, 2012; Myers & Myers, 2015; Pereira, Flores & Barros, 2017). The selection of differentiated assessment methods reflects different approaches to teaching and learning.

Much has been investigated in order to understand the complexity of the teaching and learning process. However, it has not been easy to transform this knowledge into practical implications for teachers' work (Fry, Ketteridge, & Marshall, 2009). The specificity of the learning contexts, their purposes and complexity may justify the difficulty in answering the questions: *'how do students learn?'* and *'how can teachers bring about learning?'* The literature on learning theories reveals that not everyone learns in the same way, at the same pace, nor responds positively and successfully to the same strategies. This has implications for the work of teachers, including those in the higher education context. Despite these specificities, it is possible to establish some guidelines that can contribute to a better understanding and improvement:

“Our knowledge about the relationship between teaching and learning is incomplete and the attitudes and actions of both parties affect the outcome, but we do know enough to make some firm statements about types of action that will usually be helpful in enabling learning to happen” (Fry, Ketteridge, & Marshall, 2009, p. 8).

Therefore, in this section, the main approaches to teaching and learning are discussed as well as considerations about university teachers’ professionalism.

### **2.2.1. Approaches to teaching and learning**

In the last quartile of the 20th century, the literature on approaches to teaching in the academic context grew substantially. One of the central aspects that emerges from these studies is the existence of a multiplicity of interpretations and views on teaching and learning (Silva Lopes, 2019). Next, a summary of some of these contributions are systematised in figure 18.

The Trigwell and Prosser inventory of approaches to teaching identified two main approaches to teaching: (1) the information transmission/teacher-focused approach; and, (2) the conceptual change/student-focused approach (Trigwell & Prosser, 1996, 2004; Trigwell, Prosser & Ginns, 2005). In the information transmission/teacher-focused approach teachers transfer information, the information is transmitted to the students by the teacher without any relevant interaction. In turn, the conceptual change/student-focused approach focuses on student knowledge, on what students already know and in the knowledge that the student can come to achieve. This approach is built on students’ active learning and on underlying assumptions of students’ responsibility for their learning process, in a constructivist perspective of continuous building and adjusting of the mind structures that ‘hold’ knowledge (Piaget, 1978; Bruner, 1999, 2011).

This focus on student learning has been reinforced in the Community project to build a European Higher Education Area. According to the *Standards and Guidelines for Quality Assurance in the European Higher Education Area*, the student-centred learning and teaching “plays an important role in stimulating students’ motivation, self-reflection and engagement in the learning process” (ENQA, 2015, p. 8), implying that the study programmes and the assessment of outcomes are aligned with the respect of students’ diversity and needs and with the flexibilisation of the learning paths. The student-centred learning and teaching also implies the use of a variety of pedagogical methods, ongoing evaluation, adjust

of the pedagogical methods in order to encourage student's autonomy and an adequate support from university teachers (ENQA, 2015).

The notions of deep and surface approaches to learning derive from previous work of Marton and Säljö (1976a, 1976b), Entwistle (1979, 1988, 1998a, 1998b), Biggs (1978, 1979, 1987) and Ramsden (1979, 2002, 2004). The surface and deep approaches are opposites (Entwistle, 2018). The deep approach takes time (Entwistle, 1998b), implies an active "engagement with the content" (Entwistle, 2001, p. 598), and intends to understand and to establish personal meaning (Entwistle, 1998a). In opposition, the surface approach to learning is information-reproductive and characterised by the use of routine memorisation "to reproduce those aspects of the subject matter expected to be assessed." (Entwistle, 2001, p. 598).

The term approach to learning emerged from the qualitative work of Marlon and his colleagues in Gothenburg (Marton & Säljö, 1975, 1976a, 1976b; Entwistle, 1998a). Marton and Säljö (1976a, 1976b) identified two approaches to students' learning in Swedish higher education context: a *deep* and a *surface approach*. Marton and Säljö's work were deepened by Biggs (1978, 1979, 1987, 1999, 2003) and Ramsden (1979, 2002, 2004) in the Australian context and by Entwistle (1979, 1988, 1998a, 1998b) in the United Kingdom context. Biggs (1979) and Ramsden (1979, 2002, 2004) added to this students' approaches to learning a third approach - a *strategic approach*. Their research also suggested that each approach was related to a distinctive form of motivation: the deep approach was related to intrinsic motivation; the surface approach was associated with extrinsic motivation and with the fear of failure; and, the strategic approach with the need for achievement (Entwistle, 1998a).

Ramsden, in its first edition of the *Learning to Teach in Higher Education* book (1992), describes the theories of teaching in terms of three increasingly more refined conceptions - teaching as telling; teaching as organising student activity, and teaching as making learning possible (Ramsden, 2004). From the perspective of teaching as telling, teaching takes place through the transmission of content and the demonstration of procedures. The focus of this process is the teacher and the student has a passive role but fully responsible for the acquisition of knowledge and skills (Ramsden, 2004). In a perspective of teaching as organising student activity, it is about student-centred teaching based on orientation, promotion and supervision of students, seeking to implement strategies that facilitate learning (Ramsden, 2004). In teaching as making learning possible, a system which relates the teaching, learning and knowledge through dialogue is implemented. Learning is developed between teachers and students,

through reflection activities and appropriation of knowledge, in a dialectic relationship with the context along with the adaptation to the needs of each individual (Ramsden, 2004).

These distinctions have been developed further by Prosser, Trigwell & Taylor (1994). Their conceptions of teaching again have three main divisions: (1) transmitting information; (2) helping students to acquire the concepts of the course; and (3) helping students to develop and change their own conceptions.

Samuelowicz and Bain (1992) described conceptions of teaching based on teacher-student interaction (teacher-initiated interest, or student-based interest), and the directionality of teaching (one-way transmission, or intermediate, or two-way cooperation). Later, in 1999, Prosser and Trigwell (1999) identified five categories of approaches to teaching, which ranged from a *transmitting information* focus to an *encouraging conceptual change* focus. The five categories of description range from a *conceptual change/student-focused* (CCSF) approach to an *information transmission/teacher-focused* (ITTF) approach. In a CCSF approach, which include aspects of the other four categories, teachers have a student-focused approach which aims to change students' ways of thinking about the themes or problems. Teachers concentrate their attention on the students and on monitoring their learning and their activity. Within this perspective, students construct their knowledge and transmission is understood as necessary, but seldom sufficient.

Recently, Boyd (2018) presented a university teacher conceptualisation based on the perspectives of teacher, teaching and learning. This conceptualisation ranges from a teacher as 'curriculum deliverer' to a teacher as an 'identity and concept builder'; from 'teaching as telling' to 'teaching as framing'; from 'learning as acquisition' to 'learning as a contribution' (cf. Figure 18). Teacher as a 'concept builder' implies a full engagement with teaching and a distance from the pressures on curriculum delivery, accountability or measuring. On the other hand, curriculum 'delivering' seems "to favouring creating compliant learners in closely controlled classrooms with teachers technicians 'delivering' the curriculum" (Boyd, Hymer & Lockney, 2015, p. 45).

The Karagiannopoulou and Entwistle's study (2019) suggested three main perceptions of different types of teaching: (1) didactic (explaining concepts and providing sufficient concepts and theories to cover the syllabus); (2) explanatory (encouraging and supporting students' understanding); and, (3) dialogic (providing a 'meeting of minds' and freedom to explore understandings; promoting understanding in the context of emotional-cognitive teaching experiences).

It is also important to refer to the contribution of Lesne (1984) about the models of teacher education. Lesne (1984) identified three distinct types of teacher education based on their pedagogical nature and the socialisation processes associated with: (1) transmissive teacher education; (2) incitative teacher education; and, (3) appropriative teacher education. In the first model, transmissive teacher education, teaching is oriented towards the transmission of knowledge. It is a process of imposition of power with the function of maintaining cultural domination and social reproduction, viewing the student as an object of socialisation/education. In the second model, incitative teacher education, the student assumes himself/herself as an active agent in his/her education, implementing teaching practices that facilitate the appropriation of knowledge and social adaptation (psycho-sociological dimension to teaching). In the appropriative teacher education model, the student is a social agent who produces knowledge and can intervene critically in society.

In the Portuguese context, the contributions of Roldão (2009) on the predominant theoretical matrices on the conceptions and practices of teaching, and Trindade and Cosme (2010), on the pedagogical paradigms, constitute two important contributions to the approaches to teaching and learning. Roldão (2009) identifies three theoretical matrices underlying teaching: (1) transmissive (based on the transmission of the knowledge); (2) constructivist (based on facilitating learning); and, (3) critical (based on the active and autonomous construction of learning). Along the same lines, Trindade and Cosme (2010) identified three distinct paradigms resulting from the relationship between teacher, student and knowledge: (1) the education paradigm (based on the close connection between the teacher and the knowledge, the centrality of the teacher, and the passivity of the student and the memorisation and methodologies focused on the acquisition of content); (2) the learning paradigm (based on a close connection between the student and the knowledge, the centrality of the student learning strategies, and learner-centred methodologies); and, (3) the communication paradigm (within this paradigm the knowledge is built through the interaction of teachers and students and mediated by the experiences of the interlocutors and the context).

	<i>Transmitting information focus</i> Prosser & Trigwell (1999)	<i>Encouraging conceptual change focus</i> Prosser & Trigwell (1999)	
<b>APPROACHES TO LEARNING</b> (Prosser & Trigwell, 1999)	SURFACE APPROACH (its main intention is to complete the task; memorisation of information, there is no distinction between new ideas and previous knowledge)	DEEP APPROACH (its main intention is to understand and search for meaning, to relate concepts with existing understanding and to each other, to distinguish between new ideas and previous knowledge, and to critically judge key themes and concepts)	
<b>APPROACHES TO TEACHING</b> (Trigwell & Prosser, 1996, 2004; Trigwell, Prosser & Ginns, 2005).	INFORMATION TRANSMISSION/TEACHER-FOCUSED APPROACH (the information is transmitted to the students by the teacher without any relevant interaction)	CONCEPTUAL CHANGE/STUDENT-FOCUSED APPROACH (student 's active learning, students' responsibility for their learning process)	
<b>APPROACHES TO LEARNING</b> Biggs (1979) & Ramsden (1979, 2002, 2004)	SURFACE APPROACH (extrinsic motivation and the fear of failure)	DEEP APPROACH (intrinsic motivation)	STRATEGIC APPROACH (need for achievement)
<b>THEORIES OF TEACHING</b> Ramsden (2004)	TEACHING AS TELLING	TEACHING AS ORGANISING STUDENT ACTIVITY	TEACHING AS MAKING LEARNING POSSIBLE
<b>CONCEPTIONS OF TEACHING</b> Prosser, Trigwell & Taylor (1994)	Transmitting information	Helping students to acquire the concepts of the course	Helping students to develop and change their own conceptions
<b>HIGHER EDUCATION TEACHING CONCEPTUALISATION</b> Boyd (2018)	- Teacher as 'curriculum deliverer' - Teaching as telling - Learning as acquisition	- Teacher as 'task manager' - Teaching as facilitating - Learning as participation	- Teacher as 'concept and identity builder' - Teaching as framing - Learning as contribution (learning as being)
<b>PERCEPTIONS OF TEACHING</b> Karagiannopoulou & Entwistle (2019)	DIDACTIC (explaining concepts and providing sufficient concepts and theories to cover the syllabus)	EXPLANATORY (encouraging and supporting students' understanding)	DIALOGIC (promoting understanding in the context of emotional-cognitive teaching experiences)
<b>MODELS OF TEACHER EDUCATION</b> Lesne (1984)	TRANSMISSIVE TEACHER EDUCATION (transmission of knowledge)	INCITATIVE TEACHER EDUCATION (student as an active agent of his/her education)	APPROPRIATIVE TEACHER EDUCATION (student is a social agent that produces knowledge)
<b>THEORETICAL MATRICES ON THE CONCEPTIONS AND PRACTICES OF TEACHING</b> Roldão (2009)	TRANSMISSIVE (transmission of the knowledge);	CONSTRUCTIVIST (facilitating learning)	CRITICAL (active and autonomous construction of learning)
<b>PEDAGOGICAL PARADIGMS</b> Trindade & Cosme (2010)	EDUCATION PARADIGM (close connection between the teacher and the knowledge, passivity of the student, content acquisition-centred methodologies)	LEARNING PARADIGM (close connection between the student and the knowledge, centrality of the student learning strategies, learner-centred methodologies)	COMMUNICATION PARADIGM (shared construction of knowledge, appreciation of the context and of the personal experiences)

Figure 18. Approaches to teaching and learning (a literature overview)

Regardless of the approach to teaching and learning selected, it is important to realise that several learning strategies may be powerful at certain stages of the learning cycle but ineffective in others (Hattie & Donoghue, 2016). The most important aspect is to use the most appropriate approaches to each scenario, revealing flexibility and adjustment capacity:

“The failure to change strategies in new situations has been described as the tyranny of success; and the current meta-synthesis suggests that choosing different strategies as one progresses through the learning cycle (from first exposure to embedding, from surface to deep to transfer) demands cognitive flexibility. It may not be the best option for students to use the same strategies that worked last time, as when the context is changed the old strategies may no longer work.” (Hattie & Donoghue, 2016, p.11)

### **2.2.2. University teachers’ professional development**

“For me, it is a given that the quality of an education system can never exceed the quality of its teachers.”  
(Andreas Schleicher, OECD Director for Education and Skills - OECD, 2019a, p. 4).

Assessment practices are strongly linked to university teachers’ professional development (Aleamoni, 1997) and reflect their personal conceptions and beliefs. Different stakeholders may perceive assessment through different lens based on their personal experience and on their personal belief system (DiLoreto, 2013). The quality of an education system reflects the quality of its teachers. However, being a teacher can be a difficult adventure, especially in a globalised world. According to the Global education guidelines (Council of Europe, 2019, p. 27), the globalised world (economic, political, social and cultural) has a profound and diversified impact on societies, states, regions, peoples, communities, institutions and persons. In such a culturally diverse and complex world, education faces several challenges and responsibilities, in particular of “strengthening social ties and shared values as a basis for fashioning the actual society” (Council of Europe, 2019, p. 27):

“New, innovative and people-oriented pedagogical approaches are needed to respond to the challenges of fragmented and changing societies with a view of spreading a holistic form of education, which considers the integral development

of human beings regardless of specific learning environments.” (Council of Europe, 2019, p. 27)

Globalisation is a complex and ambivalent process with both positive and negative effects (Council of Europe, 2019). On the one hand, globalisation allows broadening peoples’ horizons and access to knowledge, science and technology. Globalisation also fosters culturally diverse societies and intercultural views, increasing opportunities for personal and social development. On the other hand, globalisation has a negative social, economic and environmental impact. Inevitably, these impacts are reflected in educational practices.

Andreas Schleicher, OECD Director for Education and Skills, reminds us about the challenges of nowadays education:

“education is no longer just about teaching students something, but about helping them develop a reliable compass and the tools to navigate with confidence through an increasingly complex, volatile and uncertain world. We live in this world in which the kind of things that are easy to teach and test have also become easy to digitise and automate, and where society no longer rewards students just for what they know – Google knows everything – but for what they can do with what they know” (OECD, 2019a, p. 3).

Teaching is a highly demanding activity. It involves professional knowledge; programme/course knowledge; curriculum knowledge, knowledge about how students learn; knowledge about professional; and research skills (that help teachers to be lifelong learners and grow in their profession, which will allow them to create a learning environment capable of producing good learning outcomes). Teachers should help students thinking for themselves, working with others, and to developing an identity, agency and purpose (OECD, 2019a). To fulfil these goals, university teachers’ have, firstly, to develop their professional identity effectively, building up a reflective professional by integrating practice and research (Light & Cox, 2003), and sharing their research and practice experiences with other teachers (e.g. MEC publication, 2015).

University teachers’ professionalism is multifaceted, “corresponding to the multifaceted nature of academic work – teaching, research, leadership and management; plus, increasingly nowadays societal and possibly ‘business’ functions” (Elton, 2006, p. 209). In the academic context, evidence shows that most of the teachers are “most ‘professional’ in their research function, in that they have



normally received appropriate training and have been acculturated into the research culture” (Elton, 2006, p. 209). University teachers’ professionalism should include all the dimensions of the academic life by not depreciating, anyhow, the teaching dimension.

Effective teacher professional development must include: (1) Knowledge (important research-informed theory, content, and expertise); (2) integrated pedagogical and assessment skills and strategies, modelling, demonstrating and engaging with approaches (ideally in approximate workplace environments); (3) practising the approaches frequently (with ongoing and follow up evaluation of impact and refinement); (4) converging dialogue/coaching/peer collaboration (in activities such as lesson planning, preparing resources, peer observation, discussion, and reflection on impact) (Marope, Griffin & Gallagher, 2017).

Teaching is a challenging and differentiated profession. As such, “teachers need to be experts at multitasking as they respond to many different learners’ needs all at the same time. They also do their job in a classroom dynamic that is always unpredictable and that leaves teachers no second to think about how to react” (OECD, 2019a, p. 3). Nevertheless, they are expected to be passionate, compassionate and thoughtful; encourager; versatile; supportive, to provide continuous assessment and feedback to students; and to ensure that students feel appreciated and included. One of the main challenges to transform the teaching and learning practices is the absence of training of the teachers to facilitate “open, expansive, multidimensional, and collaborative learning”, which demands the rethinking and the redesigning of teacher training and continuous professional development (Marope, Griffin & Gallagher, 2017).

By perceiving university teachers as decisive agents in the innovation processes (Zabalza, 2004), the role of pedagogical teacher training in innovation in higher education in the response to current challenges is also recognised (Mesquita, Flores, Lima & Fernandes, 2016). In addition, there are other domains (equally important) for the development of teaching practice apart from the technical-scientific knowledge domain (European Commission, 2013). So, it is essential to develop strategies aimed at the pedagogical training of teachers in higher education, namely at the level of the curriculum development (Mesquita, Flores, Lima & Fernandes, 2016) and the assessment practices.

Pedagogical training can be a key form of professional development for university teachers (Rosado-Pinto, 2016). However, for this to happen, it is essential to develop a pedagogical research culture that helps teachers to explore their practices, to understanding, improving and sharing them with

other teachers, facilitating the desired link between pedagogy and research (Rosado-Pinto, 2016). The training and pedagogical qualification of university teachers is one of the goals of the European Higher Education Area for 2020 (European Commission, 2013). This is one of the cornerstones of university teachers' professional development (Rosado-Pinto, 2008), in particular the pedagogical training developed to settle emerging and contextualised pedagogical situations/problems (Esteves, 2008). The quality of higher education institutions depends, among other factors, on strengthening the degree of professionalism of their teachers, based on training processes and the construction of their own knowledge:

“I am convinced that the quality that higher education institutions should strive for will have to place at the centre of a complex set of other factors, the reinforcement of the degree of professionalism of each of us, teachers, and also of the teachers we train, recovering for the act of teaching the Socratic dignity of making each one of those we teach being able to build his/her own knowledge” (Roldão, 2005, p. 125).

Academics can find space for their agency to respond to the challenges to the development of their profession so that they can dedicate themselves to what matters most: teaching and research (Tennant, McMullen & Kaczynski, 2002)

### **2.2.3. Challenges and opportunities of being a university teacher**

The recognition of the importance of teaching is clear in many international publications and guidelines. The Education and Training Monitor 2019 has its main focus on teachers. The report evaluates countries' progress towards the goals of the Education and Training 2020 (ET 2020) strategic framework for European cooperation and offers suggestions to improve the education and training systems (European Commission 2019a). Teachers play a pivotal role in influencing students' learning. As such, any policy effort pursuing educational outcomes improvement needs to take a close look at teachers' work and to find ways to help teachers to improve their work: “among all factors in the school environment, teachers are considered to have the greatest impact on students' learning outcomes” (European Commission 2019a, p.2). The same report indicates that, in general, Portuguese teachers are satisfied with their jobs, “but the ageing of teacher population, the high proportion of non-permanent staff and weaknesses in

induction and continuing professional development remain challenging” (European Commission 2019a, p. 9).

University teachers face several significant challenges in their teaching. In their work *Learning & Teaching in Higher Education*, Light and Cox (2003) highlighted the quick changes in higher education, namely the increasing students’ diversity and number, the accountability regime, resources’ scarcity and the globalisation demands:

“They have been overwhelmed with a rapid expansion in both the number and diversity of students, without a corresponding increase in staff and resources. The burden in terms of staff-student ratios, teaching time, tutorial provision, assessment responsibilities, evaluation and feedback has swelled enormously” (Light and Cox, 2003, p.1).

The higher education learners’ population are becoming diverse with an increasing number of part-time students, older students and students coming from non-traditional backgrounds. In order to address students with very different characteristics, from the ones in the past, there is a need to undertake changes:

“In the days when university classes contained highly selected students, at university by choice, the traditional lecture followed by tutorial seemed to work well enough. Today, when the student population is quite diversified, many students seem not to be coping, while teachers feel they are being unfairly put upon. Some believe that these students should not be at university at all (Biggs, 1999, p. 57)”.

Students come from a wide range of backgrounds and have a variety of experiences that challenge the teaching and learning approaches in order to provide students with timely opportunities to develop all their potential. On the other hand, the general increase of the number of students makes it difficult for the teacher to get to know all his/her students, to develop specific subjects and managing group activities or marking/grading (Morris, 2010).

Smith & Brown (1995, p. 14) identified a set of pressures to university teachers’ activities: the pressure to “teach more students with no further resources”; “the pressure of labour market to produce graduates with an attractive range of skills and abilities”; “the pressure of annual quota of research

output”; or the “waiting lists to publish on respected journals”. Nevertheless, at the same time, university teachers are expected to “undertake meaningful research” and, in some situations, are “trying to keep up with their research interests, while their teaching areas are becoming more and more divergent” (Smith & Brown, 1995, p. 15). Along the same lines, Kálmán, Tynjälä, & Skaniakos (2019) emphasised the growing demands to university teachers work as a result of the increased class sizes, the student age and experience diversity, the diversified students' cultural background and socioeconomic characteristics.

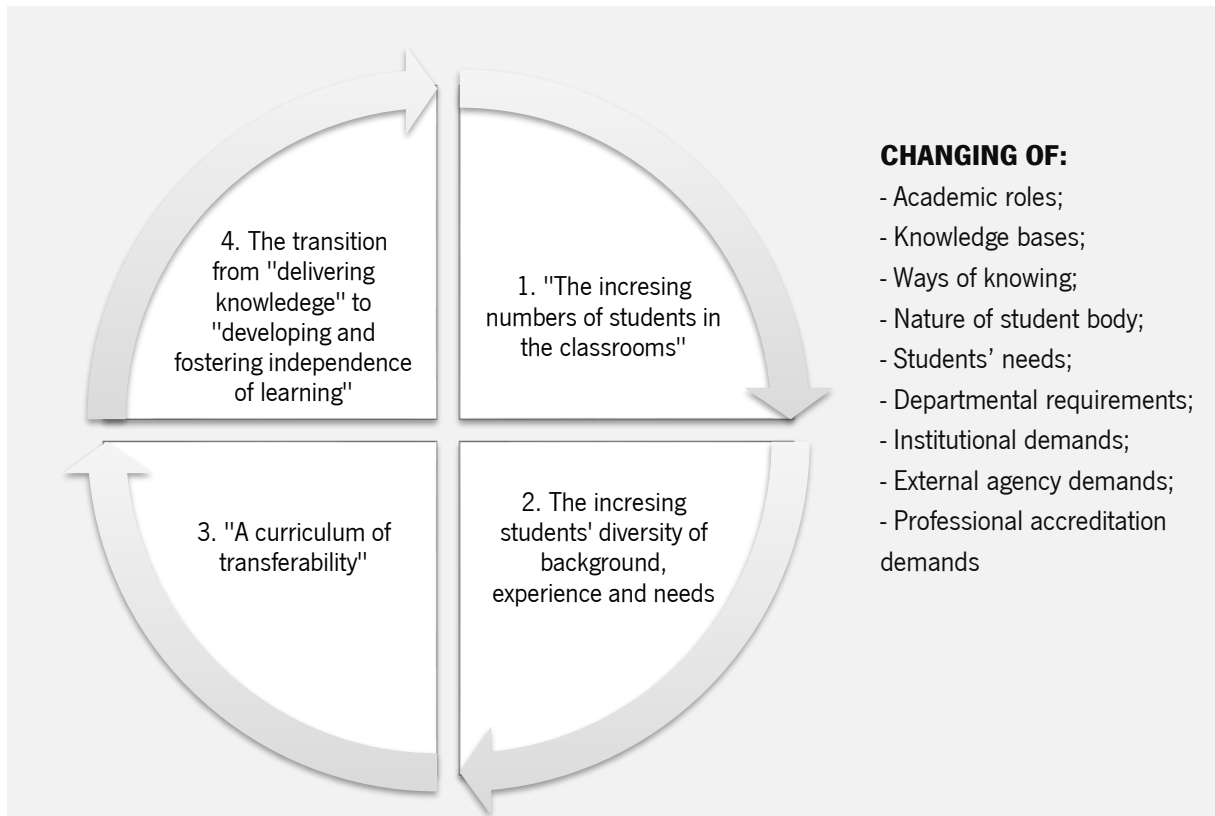
Light and Cox (2003) compared working in higher education with a “storm” which results from structural changes in the relationship between higher education, knowledge and society and is characterised by a new language and discourse imported from the industry (e.g.: success, excellence or efficiency).

There has been a growing recognition that higher education practices should be less focused on didactic tutor-led approaches and more focused on the learning outcomes that learners are expected to achieve (Brown, 2005; Miller, Imrie & Cox, 1998; Rust, 2002). At the same time, there is an increase of pressures to enhance research (Smith & Brown, 1995) and scholarship activities. Thus the possibility of academic career progress is nebulous. Some conflicting pressures between research and teaching quality are also identified (Smith & Brown, 1995): university teachers are expected to be as active in research as they are in teaching. The great difficulty is to answer the question '*How to balance research and teaching activities?*'. Evans, Waring and Christodoulou (2017) argue for a sustained and integral teacher research literacy which is crucial to the development of research-integrated learning and teaching processes.

The search for excellence is increasingly present in the university daily activities. Yet, this excellence goes hand in hand with accountability and competition: “within the discourse of excellence, efficiency gains and, to a large degree, product quality is accompanied and driven by a culture of competition” (Light & Cox, 2003, p.4). This search for excellence entails “interrogating our traditional ways of conceiving and using knowledge” and may not be a completely negative phenomenon especially in a context of mass education (Light & Cox, 2003, p.8). Questioning the way we see knowledge leads to questioning the relationship we have with students, from mere recipients to active learners.

Furthermore, university teachers are being afflicted by a set of pressures: accountability, massification, deteriorating financial support and administrative controls (Altbach & Chait, 2001) which indicate the deterioration of the working conditions of the university teachers (Altbach, 2003). Figure 19

illustrates and condenses the challenges of professionalism in teaching and learning in higher education. University teachers will need to be aware of these changes and to find ways to cope with them, especially in a highly complex age.



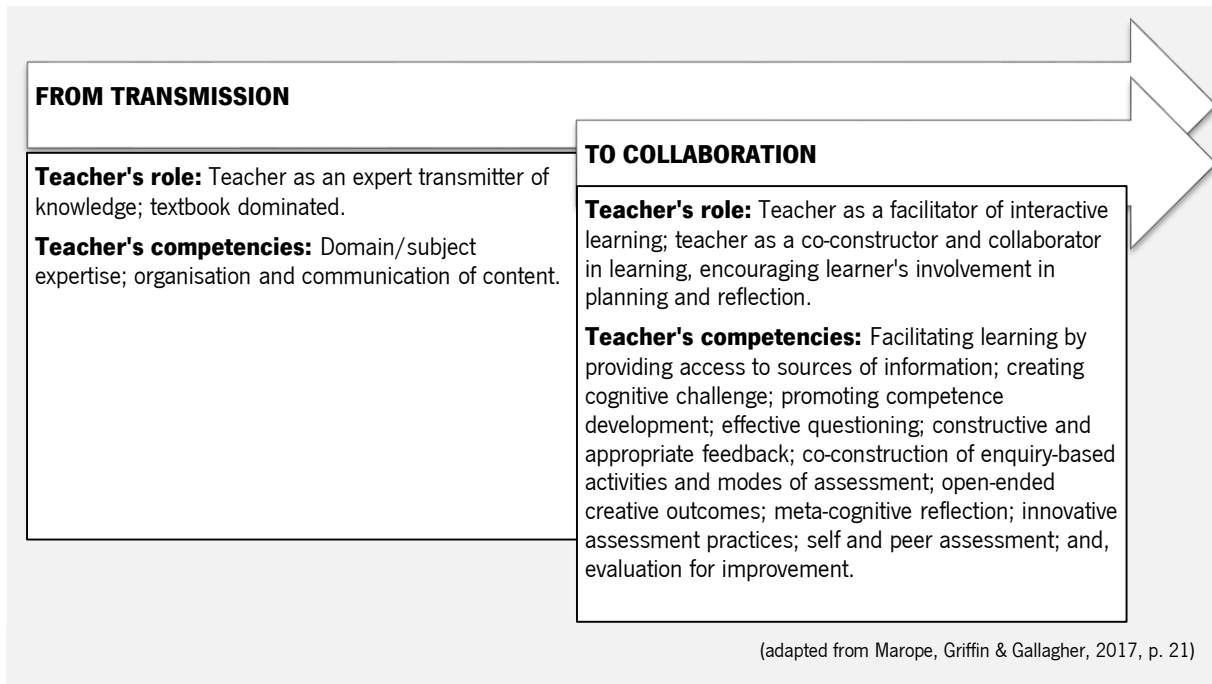
**Figure 19.** Challenges of professionalism in teaching and learning in higher education changing context (Light & Cox, 2003)

Managing these challenges requires the "ability to critically situate oneself and one's practice within an environment of substantial uncertainty and change – and to management that change" in a perspective of professional development and reflectiveness (Light & Cox, 2003, p.12). A possible way is to use cognitive styles to enhance the teaching and learning process (Evans, 2019): guaranteeing that learners are at the centre of the learning process and self-regulatory processes are promoted; respecting learners styles' profiles, and promoting students' metacognitive development.

University teachers have to conciliate their professional career as academics (with a full load of teaching, assessment, administration tasks, external commitments, etc.) with their specialist areas of research, and with their personal and homes lives. In the meantime, some of them still find time to work on improving their teaching activities and their students' learning (Pedrosa-de-Jesus & Watts, 2019).

Being a university teacher in the context of the Bologna Process and the current societal challenges (e.g.: the challenges of the society of knowledge, the world's constant and fast change, the volatility of information, the adaptation to the challenges of the labour market, etc.) is a difficult, complex (Kálmán, Tynjälä, & Skaniakos, 2019) and far-reaching activity. The role of the university teachers is changing (ENQA, 2015) and facing several major challenges in the development of teaching and learning activities, for example they are expected to enhance the European Higher Education Area's teaching and learning practices assumptions.

Under these goals, the 2017 UNESCO publication (Marope, Griffin & Gallagher, 2017) draws attention to the need to promote learner's agency through stimulant learning environments aimed at achieving engagement with meaningful and progressively challenging tasks and at developing competence over time. This promotion of the learners' agency involves creating space for the learners' voice and to endorse students' leadership of their learning process. As such the role of teachers and students in transforming teaching and learning is of paramount importance. Additionally, "the development of competence is best facilitated through open, expansive, multidimensional, and collaborative modes of learning" (Marope, Griffin & Gallagher, 2017, p.13). Under the scope of a competency-based curriculum, at the classroom level, teachers should become learning facilitators, encouraging learners' agency and voice, exploring students' previous pieces of knowledge, clarifying any misconceptions, and highlighting key principles/concepts/examples (Marope, Griffin & Gallagher, 2017). This changing role of the teacher from the transmission to collaboration is illustrated bellow (cf. Figure 20).



**Figure 20.** The shifting from transmission to collaboration: the changing role of the teacher in competency-based curriculum

University teachers are essential to creating a high-quality student experience enabling the "acquisition of knowledge, competencies and skills" and, thus, higher education institutions "should assure themselves of the competence of their teachers" (ENQA, 2015, p. 13). Higher education institutions have prime responsibility on assuring the quality of their staff and on providing them with a supportive environment to carry out their work effectively, namely through adequate working conditions, professional development opportunities, opportunities to link education and research, and by encouraging innovative teaching methods and technologies". (ENQA, 2015, p. 13). To promote the improvement and quality of the teaching and learning process in the university education context, there is a need "to find out about the relative merits of the different techniques available" (Smith & Brown, 1995, pp. 17-18) and to balance different perspectives, particularly regarding assessment.

### **2.3. University teachers perspectives about assessment: an overview of national and international contributions under the Bologna process**

In this section, a summary of the main results of studies on higher education teachers' perspectives about assessment carried out in the national and international context is presented. This synthesis intends to provide an overview of what is done in the assessment of learning field in the perspective of university teachers under the Bologna framework.

The way university teachers look at the teaching and learning process, as well as assessment, influences the way they teach, the way students learn, and their assessment practices (Brown, 2008; Fletcher et al., 2012; Pereira & Flores, 2016). Earlier studies on university teachers' conceptions of assessment underline the importance of knowing and understanding university teachers' conceptions about assessment (DiLoreto, 2013; Fletcher et al., 2012) including those in the Portuguese higher education context (Gonçalves, 2016; Pereira & Flores, 2016).

In the international landscape, the literature review by Black and Wiliam (1998) is an essential reference in the field of formative assessment. It deals with the discussion of the fundamental role of feedback and student involvement in the assessment process through self practices and peer assessment. Black and Wiliam (1998) synthesised over 250 studies related to assessment and learning. Their review highlights the role of assessment in promoting learning: the intentional use of assessment may promote learning and improve student achievement; on the other hand, the increasing of time or number of assessment tasks does not necessarily enhance learning.

Other literature highlights university teachers' roles (e.g. Sasanguie, Elen, Clarebout, Noortgate, Vandenaabeele & De Fraine, 2011), the impact of learner-centred assessment approach (Pereira, Flores & Niklasson, 2015), and the criteria to evaluate assessment quality (Gerritsen-van Leeuwenkamp, Joosten-ten Brinke & Kester, 2017). The Sasanguie et al. (2011) literature review classified arguments for and against the separation of teaching and summative assessment at the *micro*, *meso* and *macro* levels. The literature review unveils that the arguments/positions for and against separating instructional roles are very context-specific and there is a diversity concerning the relationship between teachers' different roles. Furthermore, the review demonstrates the absence of empirical evidence, which leads the discussion about relating or segregating teachers' roles to a highly speculative level. Pereira, Flores and Niklasson (2015) identified an alignment of assessment studies with a learner-centred perspective. A greater concern with research on the use and effects of a diversity of assessment methods in higher education, particularly alternative assessment methods, is also underlined. The Gerritsen-van Leeuwenkamp, Joosten-ten Brinke and Kester's review (2017) highlighted the influence of validity, transparency, and reliability as assessment quality criteria in the higher education context. Further, they identify students, staff, government, and experts as important perspectives that should be considered in the assessment quality evaluation.

Other studies address the teachers' beliefs and conceptions of assessment (e.g. Norton, Aiyegbayo, Harrington, Elander & Reddy, 2010; Fletcher et al., 2012; Halinen, Ruohoniemi, Katajavuori,



& Virtanen, 2013; Diloreto, 2013; Moiin vaziri, 2015; Hidri, 2016); their assessment practices (e.g. Brew, Riley & Walta, 2009; Gilles, Detroz & Blais, 2011; Adachi, Tai & Dawson, 2018; Panadero, Fraile, Fernández, Castilla-Estévez & Ruiz, 2019); assessment validity (Tummons, 2011); the use of learner-centred methods, such as portfolios (Brinke, Sluijsmans & Jochems, 2010); or feedback practices (Price, Handley & Millar, 2011).

Norton et al. (2010) studied the new lecturers' beliefs about learning, teaching and assessment in higher education. The results of this qualitative study suggest the existence of constraints by departments and university bureaucracy, particularly regarding assessment, and conflicting roles between research and teaching. The Halinen, Ruohoniemi, Katajavuori and Virtanen's study (2013) explored the Life science teachers' conceptions of assessment in higher education. The authors identified three categories of teachers' assessment discourse: (1) level of reflection and pedagogical awareness, (2) action, and, (3) partnership. The results of the study suggest the key role of these three categories and the importance of analysing course level assessment practices before shifting the focus from an assessment of learning to an assessment for learning paradigm.

The Brew, Riley & Walta's study (2009) compared the Education students and their teachers' views about participative assessment practices. The findings are consistent with the increasingly participative assessment practices in higher education, revealing that teachers are more supportive of peer- and self-assessment and modest supportive of group assignments. These results are consistent with the qualitative study by Adachi, Tai & Dawson (2018) which addressed the vision of academics about the benefits and challenges of implementing self and peer assessment. University teachers revealed a strong belief in the potential of self and peer assessment as formative assessment, differing from previous literature focused on the precision of students' marks. In a more learner-centred perspective, Brinke, Sluijsmans & Jochems (2010) explored the assessors' approaches to portfolio assessment through interviews and questionnaires. This study underlined the importance, fairness and usefulness of the portfolio assessment as being relevant, fair and useful. Price, Handley and Millar (2011) presents the results of a three-year study about engaging students with assessment feedback. Results from this study suggest the necessity of a more holistic, socially-embedded conceptualisation of feedback and engagement. This conceptualisation may encourage teachers to support students in more productive ways, using feedback productively to develop student learning and not as a mechanic instruction.

The Gilles, Detroz & Blais's paper (2011) presents a three languages (English, French and Spanish) international study - *The PraDES project* - on classroom higher education teachers' assessment

practices. This comparison between institutions allows a better understanding of the decision process related to assessment and contributes to the improvement of the methodological support to teachers. Also in the Spanish context, Panadero, Fraile, Fernández, Castilla-Estévez and Ruiz (2019) highlight the wide variation of assessment practices between universities and courses and points to the frequent use of traditional assessment practices. Tummons (2011) contests the validity of the assessment of reflective practice. In the analysis informed by social practice accounts of literacy, Tummons suggests a new, critical analysis of the reflective practice assessment and raises questions related to its validity. The author states that the assessment of reflective practice “masks complexities and contradictions in both how students write reflective assignments, and how tutors read them” (Tummons, 2011, 471).

In the national landscape, the connection between the Bologna Process and the assessment of learning has already been approached by a number of scholars who have investigated students' perspectives about assessment (e.g. Flores et al., 2015; Duarte, 2019), the effects of the implementation of the Bologna Process in higher education teachers' teaching and learning strategies (e.g. Brito, 2012; Pires, Saraiva, Gonçalves & Duarte, 2013; Schuler, 2014; Monteiro, Leite & Souza, 2018), the effects of the Bologna Process in the discourse and identities of higher education students and teachers (e.g. Lopes & Menezes, 2016; Alves, Vilarinho & Campos, 2017); teacher satisfaction with regard to the Bologna Process (Sá, 2009); and the representations of higher education teachers on their pedagogical practices (Melo & Alves, 2012). However, few researchers have investigated the university teachers' perspectives about assessment and their assessment practices under the framework of the Bologna Process.

Existing studies mainly address specific fields of knowledge (e.g. Rodrigues, 2012; Morais, 2013; Gonçalves, 2016) or specific training contexts (e.g. Ferreira, 2013; Pires, Saraiva, Gonçalves & Duarte, 2013). The exploratory work by Rodrigues (2012) on the assessment of higher education training activities (with teachers and students of the master's degrees of Arts and Humanities and Health Sciences) shows distinct training and assessment practices. While in the area of Arts and Humanities a traditional teacher-centred perspective is identified, in the area of Health Science, a learner-centred perspective prevails. Morais (2013) looked at higher education teachers' professional development in the context of change as a result of the Bologna Process to understand assessment practices of health sciences' teachers in a private institute. The findings of this study underlined the greater involvement of students in the teacher and learning processes, the importance of innovative practices and the importance of developing transformative projects, consistent with the Bologna paradigm. Ferreira (2013) studied the assessment of learning in teacher education under the Bologna framework at the University of Trás-os-Montes and

Alto Douro. Findings from this study identified the prevalence of summative assessment practices with some elements of formative assessment practices.

Gonçalves (2016) focused on the conceptions and practices of assessment of nursery higher education teachers. Findings from this study report that nursery teachers hold a conception of assessment directly connected with teaching and learning improvement. Furthermore, it is recognised the contradictions between teachers' assessment practices and teachers' conceptions of assessment (Gonçalves, 2016, Pereira & Flores, 2016) is justified by the workload, scarcity of human and physical resources and the institutional imposition in the use of summative assessment, which perpetuates specific methods and practices (Pereira & Flores, 2016).

At national level, it is essential to mention the project *AVENA- Projeto de Investigação Avaliação, Ensino e Aprendizagens no Ensino Superior em Portugal e no Brasil: Realidades e Perspetivas* [Research Project: Assessment, Teaching and Learning in Higher Education in Portugal and Brazil: Realities and Perspectives] which analysed issues related to student learning and teaching practices in the higher education context (Fernandes 2015a, 2015b, 2016; Barreira, Bidarra, Monteiro, Vaz Rebelo & Alferes, 2017). Within the scope of this project, a qualitative study was carried out in four Portuguese universities, which analysed teachers' teaching and assessment practices. This study revealed that both teaching and assessment practices are based on a teacher-centred approach, on content delivery and grading. Nevertheless, some student-centred practices that promote self-regulation of learning, student autonomy and feedback were also identified (Fernandes, 2016).

To sum up, the international and national literature about assessment supports the role of assessment as a key factor on the quality of teaching, learning and academic results. Existing literature shows that teaching and learning practices are influenced by university teachers' views of assessment (Pereira & Flores, 2016; Prosser & Trigwell, 1999; Samuelowicz & Bain, 1992, 2002; Samuelowicz, 1994). The perspectives of both university teachers and students concerning assessment in higher education have been studied. Nonetheless, there has been a greater focus on the perceptions and experiences of students regarding assessment (e.g., Struyven, Dochy & Janssens, 2005; Brown, 2013; Matos, 2010; Pereira, Flores, Veiga Simão & Barros, 2016; Gómez, Aranda & Santos, 2016; Nasser-Abu Alhija, 2017; Panadero, Jonsson & Botella, 2017; Preston, Gratani, Owens, Roche, Zimanyi & Malau-Aduli, 2020) particularly around assessment quality (Gerritsen-van Leeuwenkamp, Joosten-ten Brinke & Kester, 2017). Earlier work suggests the need to analyse the impact of different methods of assessment (Watering et al., 2008), especially the so-called alternative methods (Sambell & McDowell, 1998) on

student learning (Segers, Gijbels, & Thurlings, 2008) as well as the ways in which assessment practices relate to feedback mechanisms (Flores et al., 2015). What is relatively absent is a systematic understanding of how university teachers understand the nature and purpose of assessment and how they enact their practices.

## **CHAPTER III**

### THE RESEARCH DESIGN

## **Chapter III – The Research Design**

In this chapter, the methodological options of the research are presented and justified. First, the research questions and the research goals are described. Secondly, the research design is presented as well as the research context and the participants. It also includes the description of the techniques and procedures for data collection, namely the interview, focus group and the questionnaire. Then, the procedures for analysis analysis both quantitative and qualitative are described. The concluding part of the chapter focuses on the ethical considerations and the main limitations of the research.

### **3.1. Research questions and goals**

The past 20 years have been especially fruitful in setting goals and legislating changes for the European higher education and, consequently, for Portuguese higher education. In the European context, in addition to globalising trends and challenges worldwide, the Bologna Process undertook a series of specific changes with the aim of creating a European Higher Education Area and, thus, promoting the comparability in the standards and quality of higher-education qualifications. The Bologna Process was intended to drive a wide range of changes with the desired impact on teaching and learning practices in higher education institutions across Europe. However, the question whether these features brought changes at the level of conceptions and assessment practices of Portuguese university teachers remained unanswered.

The European Higher Education Area (EHEA) standards and guidelines for quality assurance emphasise the high staff competence, a student-centred approach to teaching, flexible learning paths, individual needs of students, competency-based education, and learning outcomes and generic skills (ENQA, 2015). These guidelines add more complexity and challenges to the already complex role of university teachers. Understanding how university teachers assess their students' learning implies considering the way they teach, how students learn, as well as analysing the personal and contextual factors that influence their conceptions, practices, and also their professional development.

Research in the social sciences field may assume numerous and distinct forms and be guided by distinct and multiple goals. Some researchers seek to quantify and explain reality. Other researchers focus on understanding it (Alvesson & Sandberg, 2013), and some of them try to articulate and/or integrate both perspectives through a common study (Clark & Ivankova, 2016). The research purpose and goals play a central role, especially in mixed methods research, because they provide a foundation

for integrating the quantitative and qualitative methods to address a specific target (Teddlie & Tashakkori, 2009). The research purpose is a statement of intent which identifies the goals that researchers plan to achieve by undertaking a study (Clark & Ivankova, 2016).

This research aims to understand the assessment practices in higher education after the Bologna Process, namely with regard to possible changes, and the meaning of these changes, taking into account the context of university teaching. Despite the existence of studies in this field, more research is needed to understand the conceptions and practices of assessment from the perceptions and experiences of university teachers in Portugal.

This research is part of a broader research project entitled “Assessment in higher education: the potential of alternative methods” (funded by FCT with Ref. PTDC/MHCCED/2703/2014). It aims to analyse the assessment practices in the Portuguese higher education context from the perspective of both teachers and students from five Portuguese public universities.

The study’s research purpose was refined into specific research questions. The formulation of careful grounded research questions is one of the most important aspects of the research process (Alvesson & Sandberg, 2013). The research makes possible to develop knowledge about a specific theme or aspect of the social reality. Furthermore, by creating and formulating good and adjusted research questions the researcher may encourage reflection and intellectual activity (Alvesson & Sandberg, 2013). Research questions may emerge from the literature review (Anderson, 1998) and should be able to generate useful knowledge to society and for the field of knowledge in which they are developed (Alvesson & Sandberg, 2013).

Research questions should be open but also provide direction (Alvesson & Sandberg, 2013) and may be quantitative or qualitative (Clark & Ivankova, 2016). In mixed methods research, the research questions set the frontiers to the study, clarifying the direction and influencing the research methods’ selection (Teddlie & Tashakkori, 2009; Clark & Ivankova, 2016). They can take the form of quantitative questions and hypotheses, addressing the quantitative aspect of the study, or of qualitative questions, but also integrated questions (Teddlie & Tashakkori, 2009; Clark & Ivankova, 2016). Integrated questions address the purpose of the study by integrating quantitative and qualitative methods (Clark & Ivankova, 2016). Furthermore, “both qualitative and quantitative research questions (or hypotheses) need to be advanced in a mixed methods study in order to narrow and focus the purpose statement” (Creswell, 2009, p. 138).

In mixed methods studies, the research questions are “key decisions” (Creswell & Plano Clark, 2011, p. 63), which include crucial decisions about the timing, sequence of the quantitative and qualitative data collection and analysis, by integrating or mixing both methods inputs and results (Clark & Ivankova, 2016). Therefore, given the nature of the study and the design of the research adopted, it was decided to define research questions both by mixing and integrating qualitative and quantitative aspects of the study, which reflect the research theme and the sequencing of the different research methods. This research aims to answer to the following questions:

- (1) Which are the conceptions and practices of assessment of Portuguese university teachers after the implementation of the Bologna Process?
- (2) To what extent the assessment practices influence the teaching and learning practices in the perspective of Portuguese university teachers?

As such, this study was designed to achieve the following research goals:

- (a) To get to know the conceptions of assessment of Portuguese university teachers;
- (b) To identify the assessment practices from the perspective of Portuguese university teachers from distinct fields of knowledge;
- (c) To analyse the effects of the implementation of the Bologna Process on assessment practices;
- (d) To understand how assessment practices influence the teaching and learning process in the perspective of the university teachers and students.

Based on these research questions' and goals, more specific research questions, as well as specific research goals, have been defined. The questions and goals are presented according to the sub-studies that integrate the broader research project (cf. Table 1).

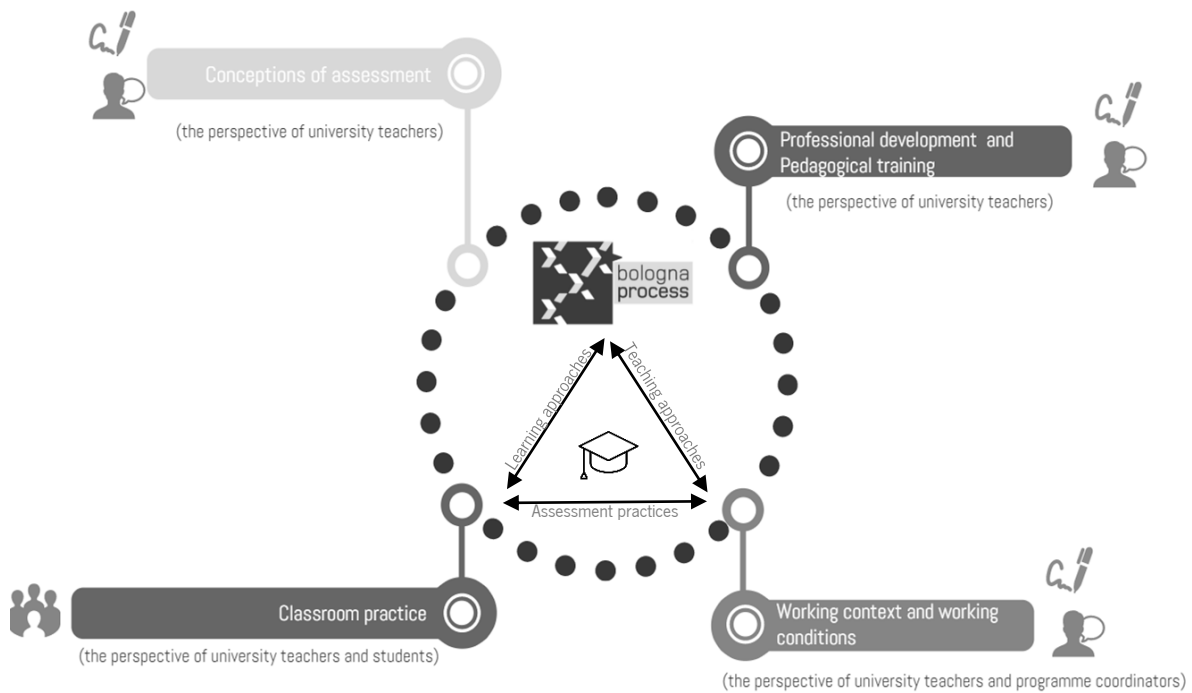


**Table 1.** Specific research goals in each sub-study

<b>SUB-STUDIES</b>	<b>RESEARCH GOALS</b>
<b>SUB-STUDY 1</b> - Perceptions of university teachers about assessment in Higher education after the Bologna Process	<ul style="list-style-type: none"> <li>- To get to know university teachers' conceptions of assessment;</li> <li>- To identify the influence of demographic and professional variables on university teachers' conceptions of assessment;</li>   <li>- To identify the most used and valued assessment methods from the perspective of university teachers;</li> <li>- To identify the influence of demographic and professional variables on the valorisation and use of assessment methods;</li> <li>- To identify a possible relation between the most valued and the most used methods of assessment;</li>   <li>- To get to know university teachers' practices of assessment;</li> <li>- To identify the influence of demographic and professional variables on university teachers' practices of assessment;</li> <li>- To get to know the main challenges, motivations and future perceptions of university teachers in their work;</li> <li>- To understand the main challenges in assessment from the perspective of university teachers;</li> <li>- To get to know possible changes in the assessment practices in the post-Bologna context;</li> <li>- To analyse the implications of the implementation of the Bologna Process in the assessment practices;</li> </ul>
<b>SUB-STUDY 2</b> - Perceptions of programme coordinators/supervisors about assessment in Higher education after the Bologna Process	<ul style="list-style-type: none"> <li>- To analyse the programme directors'/coordinators' views of conceptions and practices of assessment;</li> <li>- To identify possible effects of the Bologna Process on the assessment practices;</li> <li>- To understand the main challenges in higher education assessment practices from the perspective of the programme directors/coordinators;</li> </ul>
<b>SUB-STUDY 3</b> - Intervention and Training Project	<ul style="list-style-type: none"> <li>- To analyse assessment practices in higher education both in teachers' and students' perspectives;</li> <li>- To understand the relationship between assessment and teaching and learning in the context of Higher Education;</li> <li>- To evaluate the effects of an Intervention and Training Project actions' in terms of the teachers' professional development and of assessment practices;</li> <li>- To contribute to improving the quality of the assessment practices in higher education.</li> </ul>

### **3.2. The research design**

The research design or the plan to conduct the research involves the “intersection of philosophy, strategies for inquiry, and specific methods” (Creswell, 2009, p. 5). This project is based on a mixed methods approach that combines a diversity of methods and techniques, sources, moments for data collection, and sources (Flores, 2003). It addresses the perceptions of university teachers about assessment in general and about their assessment practices after the implementation of the Bologna process. To this end, a research design was defined in order to examine the dynamic and complex nature of teachers' work, mainly in regard to their assessment practices. The design was based on the following guiding principles (cf. Figure 21):



**Figure 21.** Synthesis of the guiding principles of the research process

Teaching in higher education “is influenced by the characteristics of members of the higher education teaching force, by the nature of the work they do as teachers, and by how they are prepared for that work” (Menges & Austin, 2001, p.1124). As Figure 21 illustrates, although the project has primarily focused on the perceptions of university teachers and on their conceptions and practices of assessment after the Bologna Process, during the research process it was decided to include other actors, namely the programme coordinators and students. This holistic perspective implied the adoption of a methodology that would make it possible to understand the dynamic nature and complexity of the processes we intended to study (Flores, 2003).

### 3.2.1. Interpretativism, positivism and mixed methods research

The development of a specific research project requires the analysis of the spectrum of possibilities offered by the research paradigms. The choice of a particular approach implies an in-depth reflection on its philosophical, ideological and epistemological assumptions (Flores, 2003).

In the field of social science research, more specifically in the field of educational research, the debate between qualitative and quantitative approaches (Flores, 2003; Bryman, 2008; Smeyers & Smith, 2014) represents a long and controversial tradition (Flores, 2003) which does not allow to reach unambiguous conclusions (Smeyers & Smith, 2014). The positions range between more radical

perspectives based on the existence of two opposite and incompatible paradigms to complementary positions (Flores, 2003).

Traditionally, there are two main conceptions of social reality and two distinct ways of looking and conceiving social reality: a positivist/objectivist conception, and an interpretive/subjectivist way (Cohen, Manion & Morrison, 2007; Bryman, 2008; Burton & Bartlett, 2005). The debate between qualitative and quantitative researchers is based upon the "differences in assumptions about what reality and whether or not it is measurable" and about how "we can best understand what we 'know' whether through objective or subjective methods" (Newman & Benz, 1998, p. 2).

The positivist paradigm, which dates from the nineteenth century, was profoundly influenced by the natural sciences field and relied upon a realistic perception of the reality: "the world exists and is knowable as it is" (Cohen, Manion & Morrison, 2007, p. 10). The quantitative approach is used when someone "begins with a theory (or hypothesis) and tests for confirmation or disconfirmation of that hypothesis" (Newman & Benz, 1998, p. 2). A positivist belief is that "the approach of natural sciences could be applied to the social world", assuming that the social world exists similarly to the natural world (Burton & Bartlett, 2005, p. 19). In the so-called 'scientific method', research is fundamentally a "problem-solving activity which addresses a problem, tests a hypothesis or explains a phenomenon" (Anderson, 1998, p. 7). The positivist paradigm continued "to reign over social science" and prevailed in "education until the mid-1980s", but around this time the logical positivists started losing its space (Newman & Benz, 1998, p. 6). In the educational research context, "an alternative approach seeks to explain what is happening in schools and classrooms using the perspectives of those involved: pupils, teachers, teaching assistants" (Burton & Bartlett, 2005, p. 18).

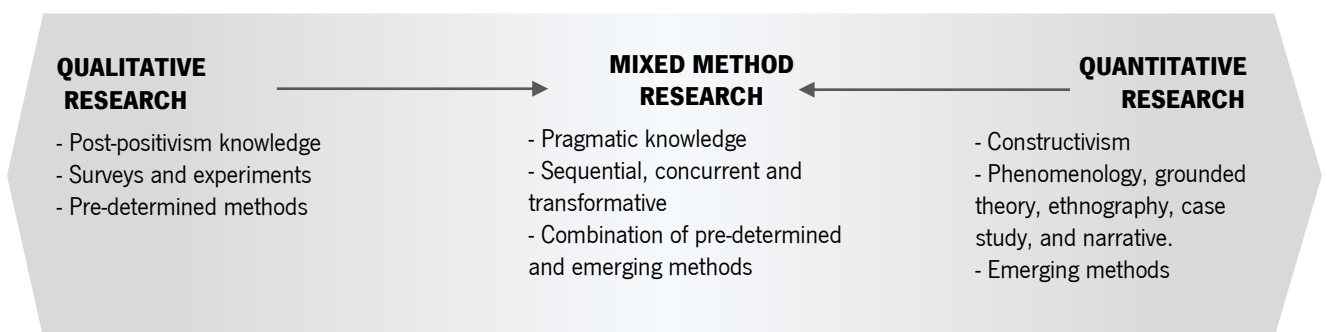
The subjectivism is based on an idealistic view of the reality: "the world exists but different people construe it in very different ways" (Cohen, Manion & Morrison, 2007, p. 10). These interpretative movements aim to "understand more fully the complexities of school life and the complexity of teaching and learning" (Burton & Bartlett, 2005, p. 18). This approach implies a concern with feelings and perceptions and the existence of distinct perspectives. The interpretive paradigm "tries to show how choices are made by participants or 'actors' in social situations within the process interaction" (Burton & Bartlett, 2005, p. 22). Research in this paradigm seeks to understand the actor's explanations, and different visions of the events (Burton & Bartlett, 2005). Briefly, the qualitative, naturalistic approach aims to develop a theory that will explain what was experienced (Newman & Benz, 1998).

Research may assume different forms and may incorporate distinct “tools, methods and techniques with which we attempt to understand the world around us” (Anderson, 1998, p. 8). While the quantitative research is a “means for testing objective theories by examining the relationship among variables” (Creswell, 2009, p. 4), the qualitative research is a “means for exploring and understanding the meaning individuals or groups ascribe to a social or human problems” as it involves emerging questions and procedures, data collected in the participant’s visions, inductively data analysis, and the researcher interpretation of the meanings of the data (Creswell, 2009, p. 4).

Regardless of approaches chosen, it is necessary to adopt some standards by which the researcher "can measure whether the qualitative, the quantitative, or a *continuum* that includes both methodologies is the most effective mode" to reaching the truth (Newman & Benz, 1998, p. 10). In this perspective, we are not facing dichotomous views, but perspectives of the same continuum. This approach paves the path for a three-based pathway perspective - quantitative, qualitative and mixed methods. In this perspective, quantitative and qualitative research are not polar opposed perspectives but diverse ends of an interactive *continuum* (Creswell, 2009; Newman & Benz, 1998):

“We believe that conceptualizing the dichotomy (using separate and distinct categories of qualitative and quantitative research) is not consistent with a coherent philosophy of science and, further, that the notion of a *continuum* is the only construct that fits what we know in a scientific sense” (Newman & Benz, 1998, p. 9).

The mixed method research stays in the middle of this continuum and includes features and elements of both quantitative and qualitative research (Creswell, 2009) (cf. Figure 22).



**Figure 22.** The interactive continuum of the research designs (adapted from Creswell, 2009)

Mixed method research represents an alternative methodological approach which involves the use of both qualitative and quantitative data in a single research project (Halcomb & Hickman, 2014, Clark & Ivankova, 2016; Shorten & Smith, 2017). Mixed method research is an:

“approach to inquiry that combines or associates both qualitative and quantitative forms. It involves philosophical assumptions, the use of qualitative and quantitative approaches, and the mixing of both approaches in the same study” (Creswell, 2009, p. 4).

This research is based on the complementarity of both paradigms, through the combination of qualitative and quantitative research methods. This research is not limited to the sum of research methods from the two approaches. It also involves the use of both approaches in the analysis of the research data (Creswell, 2009). It includes research in more than one “methodological approach, method of data collection”, and/or one type of analysis strategy, with a common purpose “that goes beyond that which could be achieved with either method alone” (Bazeley & Kemp, 2012, p. 55).

This perspective has its origin in the work of Campbell & Fiske (1959) using multimethod to study the validity of psychological traits. At an early stage, researchers were encouraged to use this multi-method matrix to analyse reality. The triangulation of sources is also taken into consideration. Further, in the 90s, mixed methods evolved towards real integration and connection between qualitative and quantitative data (Creswell, 2009). Integration is an essential component of the mixed method research process (Teddlie & Tashakkori, 2006). The ways in which researchers integrate quantitative and qualitative data and results in a given study have implications for how researchers generate answers to the research problem and develop inferences from the results (Creswell & Plano Clark, 2011). In turn, inferences are integrated in the study conclusions that are found based on the interpretation of both quantitative and qualitative results in response to a research question (Teddlie & Tashakkori, 2009).

The design of this study incorporates elements of the interpretative and positivist paradigms by combining quantitative and qualitative methods. The research process, on the one hand, enables to relate variables to each other, from a quantitative perspective; and, on the other hand, from a qualitative perspective, the process and the context are emphasised. Mixed method research draws on the strengths of both qualitative and quantitative methods “allowing researchers to explore diverse perspectives and uncover relationships that exist between the intricate layers of multifaceted research questions” (Shorten

& Smith, 2017, p. 74). Furthermore, they can appropriately answer research questions that neither quantitative nor qualitative methods could answer individually (Shorten & Smith, 2017).

However, the mixed method research may also be complex as it requires more resources and time and additional research training (Shorten & Smith, 2017). Collecting distinct types of data may provide a more complete understanding of the research problem comparing to the option of using quantitative or qualitative data separately (Creswell, 2009). Regarding the research problem and the complexity of the research in the educational field, this methodological option is the one that best suits the aim of this study. Additionally, the research questions of this study entail the main purposes of mixed method research by potentially required “a structured quantitative approach and an emergent and holistic qualitative type of approach” (Tashakkori & Teddlie, 2010, p. 18).

There are different combinations of methods (Bazeley & Kemp, 2012, p. 55). Different approaches lead to the development of three mixed method strategies of inquiry: (1) sequential mixed method; (2) concurrent mixed method; and (3) transformative research methods (Creswell, 2009; Clark & Ivankova, 2016). This research was based on a sequential mixed method combination mobilising the qualitative and quantitative data on a comprehensive analysis of the research problem. This research was intended to elaborate or expand the findings of a research method with another. The decision was to start with a quantitative approach that allows the researcher to test/verify theoretical concepts or perspectives, followed by deeper exploration of more specific cases or individuals. In sequential studies, “the questions of a second (or later) strand emerge as a result of the findings of the first (or earlier) strand” (Tashakkori & Creswell, 2007, p. 210).

The mixed methods studies benefit from a “dynamic process in which the component (strand) questions are reexamined and reframed as the two or more strands of the study progress” (Tashakkori & Creswell, 2007, p. 210). The growing recognition of the use of multiple methods to research problems in distinct areas “is leading to the widespread adoption of mixed methods as a valid methodological approach in social research.” (Bazeley & Kemp, 2012, p. 55).

Regarding the relationship between theory and practice, this research is based on both inductive and deductive assumptions. In quantitative data (e.g.: the questionnaire with university teachers and questionnaire with programme coordinators) a deductive perspective, beginning with theory, data analysis and the return to theory was adopted (Babbie, Wagner, & Zaino, 2015). In qualitative data (e.g. focus

groups and interviews) an inductive perspective, emerging from the data analysis and then moving to theory, was adopted.

### **3.2.2. Methods and procedures for data collection and analysis**

A mixed methods approach was designed, through the integration of qualitative and quantitative methods in a sequential logic (Creswell, 2009, Tashakkori & Creswell, 2007). In this section, the different stages of the research process as well as the methods and procedures for the data collection and analysis are presented.

After a review of national and international literature, which points to the co-existence of different assessment practices under sometimes contradictory logics (Flores et al., 2015), a set of three sub-studies were conducted. The review of the literature “is a summary, analysis and interpretation of the theoretical, conceptual and research literature related to a topic or a theme” (Anderson, 1998, p. 76). A good review of the literature is extremely important for any research project or activity. It enhances “the credibility of the research by relating and connecting the already existing research with the problem and object of the research” (Coutinho, 2014, p. 55). It is an ongoing and continuous process which aims to deepen the understanding with themes, issues, debates and criticisms (Anderson, 1998). The literature review accomplishes several purposes: sharing the results of other subject related studies; relating the study with the existing state of art; providing a framework for establishing the relevance of the study; and providing a benchmark for comparing the research findings (Creswell, 2009). This ongoing activity helps to explain and to better frame the research problem and to deepen the researcher's knowledge about it. It also contributes to a better understanding of the methods and procedures keeping the researcher updated on the subject of the study. In light of these assumptions, the review of national and international literature assumed an important role through the various research phases, shaping the research and enabling critical and integrative analysis of the research findings.

#### **Data collection**

The research methods extend its core both to normative research and interpretative paradigms:

“By methods, we mean that range of approaches used in educational research to gather data which are to be used as basis for inference and interpretation, for explanation and prediction” (Cohen, Manion & Morrison, 2007, p. 47).

More than understanding the scientific research products, the research methods should allow, as broadly as possible, the understanding of the process. In this research project, we opted for a mixed approach that integrated distinct methods and moments of data collection, both quantitative and qualitative. This research design provided a greater understanding of the links or contradictions between qualitative and quantitative data; to afford opportunities for participants to have a powerful voice and to share their experiences as well as different avenues for exploring data (Shorten & Smith, 2017).

Across this research project, distinct methods were selected and used, namely the questionnaire, focus groups and semi-directive interviews. Figure 23 shows the main characteristics of each of these methods, highlighting their strengths and weaknesses as well as the reason for their selection.

<b>METHOD</b>	<b>DESCRIPTION</b>	<b>STRENGTHS</b>	<b>WEAKNESSES</b>	<b>REASONS FOR SELECTION</b>
<b>QUESTIONNAIRE</b> (SUB-STUDIES 1, 2 & 3)	One of the most common means of collecting information; Provides a quantitative or numeric 'portrait' of tendencies, attitudes, or opinions of a population (by studying a sample of that population (Creswell, 2009)	<ul style="list-style-type: none"> <li>- Highly efficient with extended groups;</li> <li>- Enables quantitative analysis and subsequent statistical analysis;</li> <li>- Enables a large number of questions;</li> <li>- Can combine quantitative data with qualitative data;</li> <li>- Can be efficiently applied by email (however with the risk of lowest rate of return).</li> <li>- Fast and low-cost process.</li> </ul> (Anderson, 1998; Ghiglione & Matalon, 1997)	<ul style="list-style-type: none"> <li>- Non-response bias (fatigue, lack of interest, ...);</li> <li>- Extensive planning and pre-testing procedures;</li> <li>- Response bias (misunderstanding of the questions);</li> <li>- Data entry errors.</li> </ul> (Anderson, 1998; Ghiglione & Matalon, 1997)	<ul style="list-style-type: none"> <li>- Large and disperse located population;</li> <li>- Requirement of a large amount of categorical data;</li> <li>- Analysis of the responses of specific subgroups (e.g. males or females)</li> </ul> (Anderson, 1998)  <ul style="list-style-type: none"> <li>- Specific interest for a 'portrait' of the university teachers' conceptions and practices of assessment.</li> </ul>
<b>FOCUS GROUPS</b> (SUB-STUDIES 1 & 3)	"A carefully planned and moderated informal discussion where one person's ideas bounce off another's creating a chain of reaction of informative dialogue." (Anderson, 1998, p. 200)	<ul style="list-style-type: none"> <li>- Uses group interaction to highlight a diversity of perspectives;</li> <li>- Provides rich qualitative viewpoints;</li> <li>- Participants have the opportunity to expand their perceptions by sharing and relating them with others;</li> <li>- Enhances the discussion;</li> <li>- Group process can expose underlying attitudes.</li> </ul> (Anderson, 1998)	<ul style="list-style-type: none"> <li>- Data overload</li> <li>- Time-consuming process (concerning the data collection and analysis);</li> <li>- Findings generality;</li> <li>- Conclusions, credibility and quality.</li> </ul>	<ul style="list-style-type: none"> <li>- To explore group synergy.</li> </ul> (Anderson, 1998)  <ul style="list-style-type: none"> <li>- Requirement of a deeper and richer 'portrait' of the university teachers' conceptions and practices of assessment.</li> </ul>



<b>INTERVIEWS</b> (SUB-STUDY 3)	<p>- Probably the most widely used method of data collection in educational research (Bryman, 2008)</p> <p>“Specialised form of communication between people for a specific purpose associated with some agreed subject matter.”</p>	<p>- Enables in-depth knowledge and analysis. (Anderson, 1998)</p> <p>- Have a flexible nature (Bryman, 2008)</p>	<p>- the personal nature of the method may lead people to saying things to please instead of being sincere;</p> <p>- requires careful planning and interviewing skills;</p> <p>- the quality, reliability and validity of the data depends on the interviewer characteristics;</p> <p>- time consuming.</p> <p>(Anderson, 1998)</p> <p>- may origin a data overloaded.</p>	<p>- To incorporate key informant views;</p> <p>- Small target population.</p> <p>(Anderson, 1998)</p> <p>- Requirement of a deeper and richer ‘portrait’ of the university teachers’ conceptions and practices of assessment.</p>
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**Figure 23.** Summary of the research methods used in the research project

### ***The questionnaire***

The questionnaire allows to interrogate a certain number of individuals bearing in mind a generalisation (Ghiglione & Matalon, 1997), revealing itself to be a simple, fast, low-cost process, easy to use on a large scale and suitable for the extensive study of large population sets, allowing to quantify a multiplicity of data and consequently of numerous analyses (Ghiglione & Matalon, 1997). The questionnaire provides a quantitative or numeric ‘portrait’ of tendencies, attitudes, or opinions of a population (by studying a sample of that population) (Creswell, 2009). The choice of this research method was due to the need to reach teachers from five different university contexts, to collect a large amount of categorical data and to develop further analyses of the responses of specific subgroups (e.g. males or females; teaching experience, pedagogical training) (Anderson, 1998). Also, it was intended to obtain a ‘portrait’ of the university teachers’ conceptions and practices of assessment after the implementation of the Bologna process.

It was possible to questioning teachers on their perceptions and experiences about assessment in the context of higher education (Sub-study 1). Thus, a set of filling instructions was provided, with an introductory note, to avoid misinterpretations, according to the principle of clarity of questions, structuring them in a precise, concise and univocal manner, according to the characteristics and specific language of the receivers (Quivy & Campenhoudt, 1992). The questionnaire was additionally used to obtain data from the programme coordinators about the assessment practices of the programmes which they

coordinate (Sub-study 2). Also, short questionnaires were used to ask the students of Sub-study 3 (Intervention and Training Project) about the development of the teaching and learning process and, about the assessment practices. In these last two cases, taking into account the specific nature of both studies, it was decided to choose a wider range of open-ended questions.

Despite the advantages of the questionnaire, some limitations are also identified, e.g. the dependence on the language used, and the failure to contemplate other factors such as the attitudes expressed, for example, by non-verbal language. Furthermore, statistics explain trends but do not explain the reason why people have done/said certain things (Burton & Bartlett, 2005).

The questionnaire covered different types of questions: i) closed-ended questions (dichotomous, multiple-choice or rating scales) which “describe the range of responses from which the respondent may choose”, however, they do not enable additional explanations or remarks from the participants (Cohen, Manion & Morrison, 2007, p. 321); ii) open-ended questions which “enable respondents to write a free response in their own terms, to explain and qualify their responses and avoid the limitations of pre-set categories of response” (Cohen, Manion & Morrison, 2007, p. 321). Given the size and geographical dispersion of the sample, the different questionnaires were applied both face-to-face and on-line through the ‘Survey Monkey’ and ‘Google Forms’ applications.

### ***Focus group and interviews***

The quantitative data collected through the questionnaires were deepened and explored using focus groups (Sub-studies 1 and 3) and interviews (Sub-study 3). Qualitative research attempts to achieve in-depth understanding and a detailed description of a specific scenario, experience or group perspective. It also aims to explore how individuals or groups express their understanding and attribute meanings to an experience or event by examining the ‘why?’ and not only the ‘how often?’; and thus analysing the complexity, ambiguity and specific aspects of social events or phenomenon (Yates, 2003). The qualitative approach allows a deeper understanding of the problems (Fernandes, 1991) and the interpretation of the reality that surrounds the researcher. Through its interactivity, productivity and constructiveness, it facilitates the interpretation of the meaning of a phenomenon in a social context (Silverman, 2011). Its assumptions are based not on the amount of information collected or on its measurement, but on its depth and the quality of the interactions produced. Fernandes (1991, p. 3) links the focus of qualitative research to “the deeper understanding of problems”, aiming to investigate “what is” behind “certain

behaviours, attitudes and convictions". There are no concerns about the sample size or about the generalisation of results as it is the case of quantitative research. The main advantages of using a qualitative approach are, on the one hand, the possibility of "generating good working hypotheses", as a result of the degree of detail and depth of the methods used (Fernandes, 1991) and, on the other hand, it "provides information about teaching and learning that cannot be obtained otherwise" (Fernandes, 1991, p. 4). However, several limitations are recognised to qualitative research, such as the insufficiency or lack of objectivity; the high amount of time and resources required to carry it out; the labour-intensiveness (and the extension of the research process over time); and the data overload (Miles & Huberman, 1994)

In Sub-study 1, focus groups with university teachers were used to examine further some of the questions which derive from the questionnaire. In Sub-study 3, the focus group were also conducted at the end of the Intervention and Training Project. This focus group aimed to get to know the perceptions of students about the development of the courses, with special focus on the assessment practices. The focus group is "a carefully planned and moderated informal discussion where one person's ideas bounce off another's creating a chain of reaction of informative dialogue" (Anderson, 1998, p. 200). It aims not to achieve a consensus, but to share opinions to obtain "high-quality data in a social context where people can consider their own views in the context of the views of others" (Patton, 1990, p. 335). The option for this data collection technique was intended to set a sufficiently clear focus of analysis, based a set of questions informal, fluid and flexible (Bryman, 2008). It also aimed to allow a space in which the participants feel comfortable and confident to give their opinion on the topic under study, in a context where the speech flows naturally, and in which it is possible to understand what people are feeling and thinking (Krueger & Casey, 2009). Furthermore, the focus group provide "a natural, relaxed and secure setting where individuals are encouraged to share both positive and negative comments" (Anderson, 1998, p. 201).

The focus group is more than a group of people debating together a certain subject. It is a working group with specific purposes, size, composition and procedures (Krueger & Casey, 2009). Focus groups are conducted to listen and obtain useful information for the understanding, discussion or resolution of a phenomenon or problem (Krueger & Casey, 2009). The participants were selected according to specific and common characteristics that allow the researcher to recreate a suitable environment and encourage participant communication to promote discussion among participants. The participants were selected according to distinct characteristics (Sub-study 1: university teachers from specific fields of knowledge;

Sub-study 3: students attending the courses taught by the teachers with whom the Intervention and Training Project was conducted. All participants volunteered to participate in the focus groups.

Small focus groups, which ranged between two and nine participants, were conducted. Focus groups are usually composed of groups between five and 10 people, or in some cases, groups between four and 12 people with specific characteristics. Small focus groups allow for greater discussion of themes and ideas, while larger groups can lead to fragmentation of the discussion (Krueger & Casey, 2009).

A multicategory design was chosen (Krueger & Casey, 2009) by developing focus groups with persons with distinct characteristics (e.g. teachers from different levels of teaching or distinct programmes). However, in Sub-study 3, group participants had more similar characteristics. The data collected has been recorded with the consent of participants, and later transcribed verbatim and coded, maintaining the data confidentiality, namely the data related to the names, localities or persons. The focus group interview protocols were developed to respect the principles proposed by Krueger and Casey (2009) by asking clear questions to the participants, in a conducive environment to spontaneous and true responses. Moreover, the focus groups took place at a time and place suggested by the participants, where only the researcher and the participants present.

In sub-study 3, in addition to the focus groups and questionnaires with university students, semi-directive interviews were used to get to know the conceptions and practices of assessment of the teachers involved in the Intervention and Training Project. The interviews were carried out before the beginning of the project and also at the end to get to know the assessment practices, motivations and concerns of the participating teachers.

The interview is a “specialised form of communication between people for a specific purpose associated with some agree subject matter” (Anderson, 1998, p. 190), and is especially attractive for its flexible nature (Bryman, 2008). The interview is not just about collecting information about various aspects of life, “it is part of life itself, its human embeddedness is inescapable” (Cohen, Manion & Morrison, 2007, p. 349). The option of interviewing the teachers responsible for the courses in Sub-study 3 was because they are key informants of the teaching and learning process. With key informant interviews, the researcher “wants to prove the views of a small number of elite individuals”, and the participants have particular experience or knowledge about the theme or the reality under analysis (Anderson, 1998, p. 191). The interviews can be used as a dominant strategy or combined with other data collection methods (Bogdam & Biklen, 1994). In this case, the interview was used as one of the data

collection methods, complementing and deepening the information already collected through other data collection methods (Sub-study 3). The interview allowed to collect descriptive data in participants' language, allowing to understand how participants interpret the reality (Bogdam & Biklen, 1994).

Qualitative interviews can assume different degrees of structuring in a *continuum* between structured and unstructured interviews (Bogdam & Biklen, 1994). In this research design, the use of semi-structured interview allowed to obtain comparable data between the various participants while trying, at the same time, a more general understanding of their perspectives on the theme (Bogdam & Biklen, 1994; Bryman, 2008). A good interview allows the interviewee to be comfortable and talk freely about his/her points of view (Bogdam & Biklen, 1994).). Similarly to the focus groups data collection, the data collected through the semi-directive interviews have been recorded with the consent of the participants, and later transcribed verbatim and coded, maintaining the data confidentiality of the information, namely the data related to the names, localities or persons.

### **3.2.3. Sampling issues**

The definition of the sample and the study population are central issues and must be decided at an earlier stage of the research process:

“Questions of sampling arise directly out of issues of defining the population on which the research will focus. Researchers must take sampling decisions earlier in the overall planning of a piece of research” (Cohen, Manion & Morrison, 2007, p. 100).

The definition of the sample depends on factors such as costs and accessibility to the population. The researchers can choose to approach a part of the population so that the knowledge obtained can be representative of the general population. There are several questions related to the definition of the sample that arise during the research process: e.g. the sample size, the sampling error, the representativeness of the sample, the access to the sample, and the sampling strategy to be used (Cohen, Manion & Morrison, 2007).

In this research, a non-probabilistic sample to target a specific group “in the full knowledge that it does not represent the wider population; it simply represents itself” (Cohen, Manion & Morrison, 2007, p. 113) was adopted. Within a non-probabilistic approach (Coutinho, 2014), a convenience sample was

defined. The convenience sample “involves choosing the nearest individuals to serve as respondents and continuing that process until the required sample size has been obtained” (Cohen, Manion & Morrison, 2007, pp. 113-4). This type of sampling is commonly used in studies with students and teachers (Cohen, Manion & Morrison, 2007). In the convenience sampling, the researcher selects his/her sample from those to whom he/she has easy access. This type of sampling represents only itself and does not seek to represent the general population.

This research used a convenience sample of university teachers from five Portuguese universities, representing both new (created in the 70s) and classic (old) universities, complemented with a convenience sample of programme coordinators and students from a Portuguese public university.

This research aims to get to know the university teachers' perceptions and practices of assessment. For this purpose, a study was carried out in five Portuguese public universities (A, B, C, D, and E), in the northern and central part of the country. Five university contexts with a similar training offer were selected, including the so-called classical and new universities. This selection was chosen to facilitate the wider scope of the research, considering the time and resources available. In this regard, and as a second step, different areas of knowledge were selected to obtain richer and more diverse information. The selection of the areas of knowledge was based on the scientific fields of research identified by the Portuguese Foundation for Science and Technology: Medical and Health Sciences (MHS); Exact Sciences (ES); Engineering and Technology Sciences (ETS); Social Sciences (SS); and Humanities (H). More specific information about the participants of the three sub-studies will be provided further in section 3.2.4.

### **3.2.4. Sub-studies**

The distinct characteristics and purposes of higher education, namely the nature of professional training and career-related activities, the teachers profile and its distinct roles and responsibilities (Menges & Austin, 2001), make it a distinct, relevant and interesting research field. Also, assessment serves multiple purposes for the different actors in higher education institutions (DiLoreto, 2013). Examining the perceptions and practices of assessment in higher education context after the implementation of the Bologna Process provides a means for understanding the relationship between teacher's practices and student outcomes in order to gain insight into teacher's classroom practices and pedagogy.

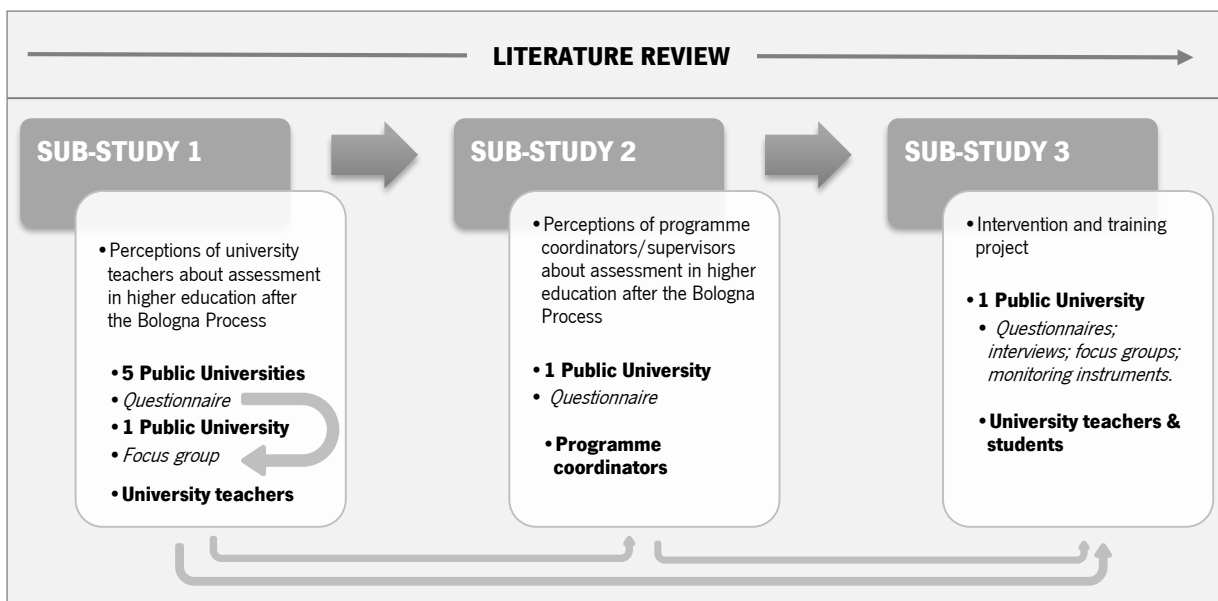
The research design was structured in three sequential sub-studies (cf. Figure 24). In the first sub-study, a mixed methods approach was used, combining quantitative methods (through the use of a questionnaire) with qualitative methods (through the focus group with university teachers). The combination of the two methods allowed to explore and understand, in a profound way, the conceptions of university teachers about assessment as well as their assessment practices.

In the second sub-study, an online questionnaire with programme coordinators composed of both closed-ended and open-ended questions was administered. The open-ended questions enabled deeper insights into the participants' points of view about the conceptions and practices of assessment in higher education from the perspective of the programme coordinators.

In the third sub-study, based on the results of the previous phases, an Intervention and Training Project was carried out. It was developed to study the conceptions and practices of assessment of university teachers, during a semester. It entailed, at the same time, a formative and participatory approach. As such, students and teachers participated.

Finally, the data were analysed in the light of national and international literature. It looked at, the information collected during the three sub-studies, through a cross-analysis of all information collected.

In the next sections, the characterisation of the participants and the data collecting of each sub-study are described.



**Figure 24.** Illustration of the phases of the research process

## **Sub-study 1 - Perceptions of university teachers about assessment in Higher education after the Bologna Process**

To understand and to get to know the perceptions of Portuguese university teachers about assessment in higher education after the Bologna Process, a questionnaire and focus group were conducted (cf. Figure 25).

	<b>METHODS</b>	<b>PARTICIPANTS</b>
<b>SUB-STUDY 1</b> Perceptions of university teachers about assessment in higher education after the Bologna Process	Questionnaire February – July 2017	185 university teachers  5 Portuguese public universities  Fields of knowledge: Medical and Health Sciences; Exact Sciences; Engineering and Technology; Social Sciences; and Humanities
	Focus Groups September 2017 – May 2018	9 Focus Groups 38 university teachers  1 Portuguese public university  Fields of knowledge: Medical and Health Sciences; Exact Sciences; Engineering and Technology Sciences; Social Sciences; and Humanities

**Figure 25.** Methods and participants in Sub-study 1

### ***Questionnaire with university teachers***

First, a face-to-face and online survey was administered to 185 teachers from five Portuguese public universities. The questionnaire was developed for the Portuguese context based on existing questionnaires and scales (e.g. Brown, 2006a; Gonçalves, 2011, 2016; Pereira, 2012, 2016) (cf. Appendix III).

In addition to the demographic characteristics (gender, age, field of knowledge, teacher experience, among others), the questionnaire included four scales on assessment conceptions, methods and practices, and a set of closed and open-ended questions related to the changes introduced in the assessment practices after the implementation of the Bologna Process (cf. Table 2 and Appendix III). In the following sections, each of the scales used in the questionnaires and their validation processes are explained in detail.



**Table 2.** Structure of the questionnaire with university teachers

<b>I – Demographic characteristics</b>			
Age, gender, professional category, academic degree, teacher experience, study cycle, field of knowledge and pedagogical training			
<b>II – Scales</b>			
	<b>Scale identification</b>	<b>Number of items</b>	<b>Authors</b>
<b>1<sup>st</sup> Scale</b>	Teachers' conceptions of assessment inventory	27	(Brown, 2006a, adapted to the Portuguese context by Gonçalves, 2011, 2016)
<b>2<sup>nd</sup> Scale</b>	Most valued assessment methods	14	(Pereira, 2011, 2016; Gonçalves, 2016)
<b>3<sup>rd</sup> Scale</b>	Most used assessment methods	14	(Pereira 2011, 2016)
<b>4<sup>th</sup> Scale</b>	Practices of assessment	30	(Gonçalves, 2016)
<b>III - Questions related to the changes introduced in the assessment practices after the implementation of the Bologna Process</b>			
(closed and open-ended questions)			

In the next sections, the scales and the data analysis procedures of the “Higher Education Assessment of Learning Questionnaire” are explained.

#### Teachers' conceptions of assessment inventory<sup>12</sup>

The first section of the questionnaire was adapted to the Portuguese context from the original Teachers' Conceptions of Assessment inventory” (TCoA) by (Brown 2006a), with the aim of determining if the TCoA fits the cultural and policy context of Portuguese Higher Education scenario and the extent to which the emerging factors match the original model. This scale consists of 27 items (cf. Appendix III). Each item of the conceptions of assessment inventory was rated using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Given the extensive international published research literature (e.g., New Zealand, Brown, 2005; 2011; Fletcher et al., 2012; Yates & Johnston, 2017; Australia, Brown, 2006b; Brown, Lake & Matters, 2011; Hong Kong, Brown, Kennedy, Fok, Chan & Yu, 2009; China, Li & Hui, 2007; Indonesia, Azis, 2014; Egypt, Gebril & Brown, 2014; Iran, Moivaziri, 2015; the Netherlands, Segers & Tillema, 2011; Cyprus, Brown & Michaelides, 2011; Ireland, Darmody, 2017; Portugal, Gonçalves, 2016; USA, DiLoreto,

<sup>12</sup> The information draws on the paper “Fernandes, E.L., Flores, M.A., Brown, G.T.L., & Coutinho, C.P. (n.d.). Conceptions of Assessment: An Exploratory Study of Portuguese University Teachers.”, under revision.

2013; Canada, Daniels, Poth & Hutchison, 2014; and Colombia, Muñoz, Palacio & Escobar, 2012), the Teachers' Conceptions of Assessment (TCoA) inventory was adopted in this sub-study. In the TCoA "assessment is understood as any act of interpreting information about student performance, collected through any of a multitude of means or practices" (Brown 2002, p. 26).

The TCoA investigates a four-facet model of teachers' conceptions of assessment (Brown 2002, 2017) involving: *Improvement* (i.e. teachers use assessment to improve their teaching and students use assessment to improve their own learning), *School accountability* (i.e. assessment as a means to evaluate schools and teachers), *Irrelevance* (i.e. teachers do not use assessment because it is oppressive and inaccurate), and *Student accountability* (i.e. assessment as a means to evaluate, certify, and examine students) (cf. Figure 26).

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**Variable Group: Assessment for Improvement**

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The major premise of the improvement conception is that assessment can be used to improve students' own learning and the quality of teaching. Improvement has two important caveats; (a) assessment must describe or diagnose the nature of student performance and (b) the information must be a valid, reliable, and accurate description of student performance. In this view, a range of techniques, including informal teacher-based intuitive judgement as well as formal assessment tools, identify the content and processes of student learning, including impediments to learning and unexpected strengths, with the explicit goal of improving the quality of instruction and student learning.

**Variable Sub-Group: Describe (IDE)**

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3 - Assessment is a way to determine how much students have learned from teaching.

12 - Assessment establishes what students have learned.

21 - Assessment measures students' higher-order thinking skills.

**Variable Sub-Group: Improvement for teaching (ITG)**

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5 - Assessment is integrated with teaching practice.

14 - Assessment information modifies ongoing teaching of students.

23 - Assessment allows different students to get different instruction.

**Variable Sub-Group: Improvement for Student Learning (ISL)**

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4 - Assessment provides feedback to students about their performance.

13 - Assessment feedbacks to students their learning needs.

22 - Assessment helps students improve their learning.

**Variable Sub-Group: Valid (IV)**

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6 - Assessment results are trustworthy.

15 - Assessment results are consistent.

24 - Assessment results can be depended on.

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**Variable Group: Irrelevance**

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The premise of Irrelevance is that assessment, usually understood as a formal, organized process of evaluating student performance, has no legitimate place within teaching and learning. Teachers' knowledge of students based on a long relationship and their understanding of curriculum and pedagogy preclude the need to carry out any kind of assessment beyond the intuitive in-the-head process that occurs automatically as teachers interact with students. Assessment may be rejected also because of its pernicious effects on teacher autonomy and professionalism and its distractive power from the real purpose of teaching (i.e. student learning). It may also be that the degree of inaccuracy (e.g. standard error of measurement) published with any formal assessment contributes to teachers' conception of assessment as irrelevant.

<p><b>Variable Sub-Group:</b> Bad (<i>IrB</i>)</p> <p>7 - Assessment forces teachers to teach in a way against their beliefs. 16 - Assessment is unfair to students. 25 - Assessment interferes with teaching.</p>
<p><b>Variable Sub-Group:</b> Ignore (<i>IrI</i>)</p> <p>8 - Teachers conduct assessments but make little use of the results. 17 - Assessment results are filed &amp; ignored. 26 - Assessment has little impact on teaching.</p>
<p><b>Variable Sub-Group:</b> Inaccuracy (<i>IrA</i>)</p> <p>9 - Assessment results should be treated cautiously because of measurement error. 18 - Teachers should take into account the error and imprecision in all assessment. 27 - Assessment is an imprecise process.</p>
<p><b>Variable Group:</b> School Accountability (<i>ScA</i>)</p> <p>School accountability sees assessment as a process used to account for a teacher's, a school's, or a system's use of society's resources. This conception uses assessment results to demonstrate publicly that teachers or schools are doing a good job and may impose consequences on schools or teachers for reaching or not reaching required standards. Two rationales for this conception exist; one emphasises demonstrating publicly that schools and teachers deliver quality instruction, while the second emphasises improving the quality of instruction.</p> <p>1 - Assessment provides information on how well schools are doing. 10 - Assessment is an accurate indicator of a school's quality. 19 - Assessment is a good way to evaluate a school.</p>
<p><b>Variable Group:</b> Student Accountability (<i>ScB</i>)</p> <p>The premise of student accountability is that students are held individually accountable for their learning through assessment. This is seen in the assignment of grades or scores, checking off student performance against criteria, placing students into classes or groups based on performance, as well as various qualifications examinations in which secondary age students participate for graduation or entry selection to higher levels of educational opportunity. There are many significant consequences for individual students depending on their performance on such assessments, including retention in a year or grade level, graduation, and tracking or streaming. Together, these uses instantiate a conception wherein assessment is used as a means of making students accountable for learning.</p> <p>2 - Assessment places students into categories. 11 - Assessment is assigning a grade or level to student work. 20 - Assessment determines if students meet qualifications standards.</p>

**Figure 26.** CoA-III Model of Conceptions of Assessment (adapted from Brown, 2017)

These four conceptions are based on nine first-order factors, with four sub-factors that contribute to improvement; three sub-factors for irrelevance; and one factor each for student accountability and school accountability. Because “the inventory is multi-dimensional and there is no single overall score” (Brown 2017, p. 3), the inter-correlations of the factors become of interest. In New Zealand, it has been shown that Improvement was strongly and negatively correlated with Irrelevance, while school accountability had zero relationships with Irrelevance (Brown 2004). In contrast, Hong Kong teachers had a strong positive correlation between Improvement and Student Accountability (Brown, Kennedy, Fok, Chan & Yu, 2009). These differences in correlations suggest that contextual factors matter substantively to responses on the TCoA.

Cross-cultural and cross-level comparative studies with the TCoA show that while many items fit the factors specified by Brown (2004, 2006b), there are substantial differences in factor structures and relationships in different contexts to Brown's original research with New Zealand primary school teachers. For example, studies with the TCoA in higher education (Diloreto 2013; Fletcher et al. 2012; Gonçalves, 2016; Hidri, 2016; Moivaziri 2015) revealed divergent results from the original study. The same divergence from the original model has been noted within the K-12 sector across nations, though in comparing multiple jurisdictions it was noted that many items replicated the original factor identification (Brown, Gebriel, & Michaelides, 2019). These studies reveal the clear influence of cultural and policy contexts on teachers' conceptions of assessment. The clear implication for this sub-study is that, while responses from Portuguese university teachers may recover some of the original factors in the TCoA, the original four dimensions of the TCoA are not likely to be recovered.

The version used in this sub-study is an adaptation of the Portuguese translation of the TCoA (cf. Appendix III). It was validated for use in the clinical context of nursing (Gonçalves, 2011, 2016) and so it had to be adapted for use with university teachers across the spectrum of university subjects. A group of Educational Sciences experts evaluated the item wording to ensure alignment with the Portuguese higher education culture and contexts. Two further changes were made compared to the original TCoA. In Brown's TCoA, item agreement is indicated using a positively-packed, six-point scale (i.e. two negative and four positive options). This was changed to the conventional Likert balanced agreement scale with a neutral midpoint (i.e. *strongly disagree; disagree; neither agree nor disagree; agree; and strongly agree*) because this is relatively commonplace in higher education research in Portugal (e.g. Gonçalves, 2016; Pereira 2016). Furthermore, four items (i.e. 7, 8, 16, and 26) were rephrased to express a more positive perspective (e.g., item 7 "*Assessment forces teachers to teach in a way against their beliefs*" was replaced by "*Assessment that I do is congruent with my pedagogical beliefs*").

### Most valued and most used assessment methods' scales<sup>13</sup>

The questionnaire also included a scale on the valuation of assessment methods and a scale on the frequency its use (Pereira, 2011, 2016; Gonçalves, 2016).

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<sup>13</sup> The information shared in this section is part of the paper "Fernandes, E.L., Flores, M.A., Cadime, I. & Coutinho, C.P. (n.d). Métodos de avaliação das aprendizagens em universidades Públicas portuguesas: um estudo quantitativo. *Revista Iberoamericana de Evaluación Educativa*.", accepted for publication in October 2019.

The scale on the frequency of use of assessment methods is an adapted version of the “Assessment Methods in Higher Education”, used in the study by Pereira (2011; 2016) and the section on use and importance of the assessment methods on the “Conceptions of Assessment Inventory” (CAI) (Gonçalves, 2016), focusing on two fundamental aspects: 1) importance attributed to different assessment methods; and, 2) the most used assessment methods by the university teachers. Both scales are made up of the same 14 items (cf. Appendix III).

For each item on the first scale, participants had to rate the importance attributed to each assessment method using a four-point Likert scale ranging from 1 (not at all important) to 4 (very important). It was also offered the possibility for participants to select the option “Not applicable”. These responses were coded with the lowest value on the response scale (1). For each item on the second scale, participants had to rate the frequency in using each assessment method according to a four-point Likert scale between 1 (not used at all) and 4 (widely used).

#### Practices of assessment's scale<sup>14</sup>

The scale “practices of assessment” consists of 30 items related to assessment practices in Higher Education. The version used in this sub-study is an adaptation of a section of the “Socio-Professional questionnaire” from the “Conceptions of Assessment Inventory” (CAI), originally used on the clinical context of nursing (Gonçalves, 2016), adapted for use with university teachers across the spectrum of university subjects (cf. Appendix III). A group of Educational Sciences experts evaluated the items, ensuring the alignment with the different areas of knowledge and some contextual adjustments were made (adapting the original text to university teaching in general). Three further changes were made compared to the original questionnaire: 1) small changes were made to the wording of the question, namely by replacing "over" with "taking into account" and "using some particular practice" by “indicate to what extent you use the practices described below”; 2) the item 25 was deleted; and, 3) the item 1 was divided, resulting in two new items. A four-point Likert scale was used (i.e. *never*; *rarely*; *often*; and *always*) (Gonçalves 2016).

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<sup>14</sup> The information shared in this section is part of the paper "Fernandes, E.L., Flores, M.A., Cadime, I., & Coutinho, C.P. (n.d.). Practices of Assessment in Higher Education: A study of Portuguese Faculty. *Assessment in Education, Principle, Policy and Practice*.", in its final drafting phase

### Questions related to the changes introduced in the assessment practices after the implementation of the Bologna Process

The data collected through these four scales were complemented with two (both close and open-ended) questions about the existence of possible changes in assessment practices (cf. Appendix III): 1) *Have you changed the way you assess your students throughout your career as university teacher?*; 2) *Given your opinion and experience, do you consider that the implementation of the Bologna Process contributed to the change on higher education assessment practices?* For each question, the following answer option was available: *yes, no, and maybe* (closed-ended questions). Nevertheless, the participants were encouraged to justify their answers (open questions).

### **Participants in the questionnaire**

The questionnaire, administered between February and July 2017, used a convenience sample of university teachers from five Portuguese public universities. Of the 185 teachers who participated in the sub-study, 118 teachers completed the questionnaire in the classroom, and 67 teachers completed the questionnaire through the link provided via email.

The sample consisted of 185 university teachers from various teaching cycles (i.e. Undergraduate degrees; Master degree; Integrated Master Degree; PhD) in five different scientific areas (i.e. Exact Sciences, Engineering and Technology, Medical and Health Sciences, Social Sciences, and Humanities). Just over four-fifths (83.8%) taught in undergraduate degree programmes; 77.3% taught in “Master degree programmes”; 41.5% taught in “Integrated Master Degree programmes”; 55.8% taught in “PhD courses”; and, 1.7% in other programmes (e.g., non-awarding degree courses, professional courses, among others).

The participants are mainly female (47%) (cf. Table 3) and are over 45 years old (55.7%). The participants are mainly “Associate/Assistant Professor” (71.3%), holding a “PhD qualification (74.6%), and pedagogical training (63.2%). Regarding their experience as academics, most of them have more than 15 years of experience (70,8%).

**Table 3.** Demographic characteristics of the participants (questionnaire)

<b>DEMOGRAPHIC CHARACTERISTICS</b>	<b><i>n</i></b>	<b>%</b>
<b>University</b>		
A	36	19.5
B	34	18.4
C	60	32.4
D	36	19.5
E	19	10.2
<b>Gender</b>		
Male	74	40.0
Female	87	47.0
<i>Missing</i>	24	13.0
<b>Age</b>		
Less than 45 years old	82	44.3
More than 45 years old	103	55.7
<b>Field of knowledge</b>		
Medical and Health Sciences	21	11.4
Exact Sciences	16	8.6
Engineering and Technology Sciences	50	27.0
Social Sciences	77	41.6
Humanities	21	11.4
<b>Professional category</b>		
Full Professor	10	5.4
Associate/Assistant Professor with aggregation/qualification	19	10.3
Associate/Assistant Professor	132	71.3
Other	24	13.0
<b>Teaching experience</b>		
Less than 15 years	54	29.2
More than 15 years	131	70.8
<b>Pedagogical training</b>		
Yes	117	63.2
No	63	34.1
<i>Missing</i>	5	2.7
<b>Total</b>	<b>185</b>	<b>100.0</b>

### ***Focus group***

This sub-study was complemented by data collected through focus groups with university teachers from one of the universities participating in the survey. The focus group interview protocol was based on questions arising from the questionnaire (cf. Table 4 and Appendix IV).

**Table 4.** Protocol of the focus group

<b>I – Demographic characteristics</b>	
Age, gender, academic degree; training area, professional category, department in which the participants worked, teaching experience, study cycle, field of knowledge, , and other positions or functions..	
<b>II – Questions (semi-structured questions)</b>	
<b>Dimension</b>	<b>Specific Goals</b>

<b>1</b>	<b>Being a teacher in higher education - perceptions and motivations.</b>	<ul style="list-style-type: none"><li>- To understand the difficulties, challenges and opportunities in the assessment of learning from the perspective of university teachers.</li><li>- To get to know the present motivations and perspectives about the future of university teachers.</li></ul>
<b>2</b>	<b>The teaching and learning process in higher education</b>	<ul style="list-style-type: none"><li>- To get to know the university teachers' conceptions of assessment;</li><li>- To get to know the university teachers' practices of assessment.</li></ul>
<b>3</b>	<b>The assessment of learning in higher education after Bologna</b>	<ul style="list-style-type: none"><li>- To get to know the changes in higher education in the post-Bologna period;</li><li>- To understand ways of organising the teaching and learning process in higher education;</li><li>- To get to know possible changes in the assessment of higher education learning in the post-Bologna period.</li></ul>
<b>4</b>	<b>The relationship between assessment practices and the teaching and learning process</b>	<ul style="list-style-type: none"><li>- To understand the conceptions of assessment of learning in the perspective of university teachers;</li><li>- To get to know the assessment methodologies used in the context of higher education;</li><li>- To understand the relationship between assessment and learning in the context of higher education.</li></ul>
<b>III – Comments</b>		

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Assuming that the focus groups allow to listen and obtain useful information for the understanding, discussion or resolution of a phenomenon or problem, these focus groups allowed to deepen some questions resulting from the questionnaire and to identify, understand and analyse, in more detail, the conceptions and practices of assessment of university teachers, as well as implications arising from the implementation of the Bologna Process. Through the use of focus groups, we intended to explore these issues in an informal, fluid and flexible way (Bryman, 2008), in a space where participants feel comfortable and confident to give their opinion (Krueger & Casey, 2009). Participants were selected according to specific characteristics (teachers from the five specific fields of knowledge and different study cycles) to provide an adequate environment for communication and discussion of the topics. All participants volunteered to participate in the focus groups (with the help of key informants, for example, programme coordinators or other teachers). The focus groups took place at a time and place suggested by the participants, with only the researcher and the participants present.

### **Participants in the focus group**

Nine focus groups were conducted with university teachers from the same scientific areas, with a total of 38 teachers (19 female teachers and 19 male teachers) in one of the universities participating in the survey. Table 5 summarises the participants' data.



**Table 5.** Demographic characteristics of the participants (focus group)

<i>Field of knowledge</i>	<b>Number of focus group</b>	<b>Participants</b>	<b>Age</b>	<b>Gender</b>		<b>Teaching experience</b>
				F	M	
Medical and Health Sciences	2	7	[33-54]	7	0	[9-21]
Exact Sciences	2	7	[46-58]	2	5	[22-32]
Engineering and Technology Sciences	2	13	[41-60]	1	12	[12-38]
Social Sciences	2	7	[28-59]	6	1	[1-33]
Humanities	1	4	[43-61]	3	1	[15-30]
<b>Total</b>	<b>9</b>	<b>38</b>		<b>19</b>	<b>19</b>	
				<b>38</b>		

The number of participants in each focus group ranged from 2 to 9 participants. Their age ranged from 28 and 61 years. Most of the participants taught in the Engineering and Technology field of knowledge, and had more than 15 years of teaching experience. The focus groups lasted on average 86 minutes, for a total of 775 minutes of recording and 164 pages of transcripts.

## **Sub-study 2: Perceptions of programme coordinators/supervisors about assessment in higher education after the Bologna Process**

To get to know and understand the conceptions and practices of assessment in higher education from the perspective of the coordinators, an online questionnaire was designed (cf. Figure 27).

	<b>METHODS</b>	<b>PARTICIPANTS</b>
<b>SUB-STUDY 2</b>	Questionnaire June – July 2018	60 Programme coordinators
Perceptions of university programme coordinators/supervisors about assessment in higher education after the Bologna Process		1 Portuguese public university  Fields of knowledge: Medical and Health Sciences; Exact Sciences; Engineering and Technology Sciences; Social Sciences; and Humanities

**Figure 27.** Methods and participants of the Sub-study 2

The questionnaire was composed of both closed and open-ended questions. The use of open-ended questions enabled to go deeper into the participants' points of view. The questionnaire was validated by two external experts (higher education university teachers with experience as programme coordinators, from different study cycles and experts in assessment in higher education). The final version

of the questionnaire was improved taking into account the comments and suggestions of the external experts. Table 6 illustrates the structure of the questionnaire.

**Table 6.** Structure of the questionnaire with programme coordinators/supervisors

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<b>I – Demographic characteristics</b>
Age, gender, teacher experience, coordinating experience, the field of knowledge, and the cycle of study.
<b>II – Perceptions about assessment in higher education context after the Bologna Process</b>
Themes
Overall effects of the implementation of the Bologna Process on higher education institutions
Changes on assessment as a result of the Bologna Process
Most used assessment methods
Strengths and aspects to be improved in the assessment practices
Articulation between learning outcomes and assessment practices
<b>Comments</b>

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The questionnaire was designed taking into account the general goals of the project and the need to deepen data collected through the survey and the focus groups with university teachers. Two groups of questions were included: (1) Demographic characteristics of the participants; and, (2) perceptions about assessment in higher education context after the Bologna Process. Issues related to professional experience as university teaching and as programme coordinators were included, allowing to understand if the participants already performed functions of coordination before the implementation of the Bologna Process.

Additionally, the participants were asked about the overall effects of the implementation of the Bologna Process on higher education institutions (according to a 5-point Likert scale 1=very positive, 2=positive, 3=neither positive nor negative, 4=negative, and, 5=very negative). They were also asked about changes in assessment as a result of the Bologna Process (1=yes, 2=maybe, 3=no, and 4= does not apply). Participants were asked to justify their responses. Three open-ended questions about the use of the different assessment methods and the strengths and aspects to be improved in the assessment practices were also included in the questionnaire. Finally, coordinators were asked to write about the articulation between learning outcomes and assessment practices in the courses and modules, and about the coordinating meetings of the programme (cf. Appendix V).

Data collection was performed online by completing the questionnaire on the Google Forms platform ([https://docs.google.com/forms/d/1o0J2nkXFNzmXwabSdw1cSf9iFpRZRKJ2-6\\_sX8fCH-U/prefill](https://docs.google.com/forms/d/1o0J2nkXFNzmXwabSdw1cSf9iFpRZRKJ2-6_sX8fCH-U/prefill)). The questionnaire was shared via email to the institutional contacts of the programme coordinators or sent by postal mail. Data were collected at one Portuguese public universities involved in

the previous sub-study, during June and June 2018, coinciding with the conclusion of the 2017/18 academic year.

### ***Participants***

The participants were programme coordinators in a Portuguese public university who also participated in the first phase of the research project. Table 7 summarises the participants' demographic characteristics. Almost all of them (58) completed the questionnaire using a link provided via e-mail and two participants sent their questionnaire via institutional mail. Programme coordinators/supervisors are actively involved in designing, administering, and interpreting the courses and programmes they coordinate. Nevertheless, they also have teaching experience and, for both reasons, they are key informants about how programmes work. Although this area of research has implications for policy and practice in tertiary institutions, little is known about the vision of the programme directors/coordinators about the assessment practices after the Bologna Process.

Taking into account the ethical procedures and the research goals, the programme coordinators from one of the participating universities were asked to complete the questionnaires. An inventory of 2017/2018 academic year programmes and a list of the contacts of coordinators was identified, according to "2018 Institution Programme Guide". This task was undertaken in May 2018, through the University's official channels. A total of 211 programme coordinators were contacted via email, from all study cycles and from the five fields of knowledge.

The majority of the participants were male (55.0%). Half of the participants were between 44 and 50 years old, and the majority of them had more than 15 years of experience. Participants came from different fields of knowledge: Medical and Health Sciences, Exact Sciences, Engineering and Technology Sciences, Social Sciences, and Humanities, with a greater number of social science participants (46.7%). About half of the participants coordinated a master's degree programme (48.3%) and 36.7% have between two and five years of coordination experience (cf. Table 7).

**Table 7.** Demographic characteristics of the participants (Sub-study 2)

<b>DEMOGRAPHIC CHARACTERISTICS</b>	<b>n</b>	<b>%</b>
<b>Gender</b>		
Male	33	55.0
Female	24	45.0
<b>Age</b>		
30-40	2	3.3
41-50	30	50.0
51-60	21	35.0
More than 60	7	11.7
<b>Teaching experience</b>		
5-15	5	8.3
15-25	29	48.4
More than 25	26	43.3
<b>Coordination experience</b>		
Less than 1	4	6.7
1-2	9	15.0
2-5	22	36.7
5-10	15	25.0
More than 10	10	16.7
<b>Cycle of study</b>		
Undergraduate	13	21.7
Integrated master degree	8	13.3
Master degree	29	48.3
Ph.D. and Ph.D. Programme degrees	10	16.7
<b>Field of knowledge</b>		
Medical and Health Sciences	1	1.7
Exact Sciences	5	8.3
Engineering and Technology Sciences	16	26.7
Social Sciences	28	46.7
Humanities	10	16.6
<b>Total</b>	<b>60</b>	<b>100</b>

### **Sub-study 3: Intervention and Training Project**

Based on the results of previous sub-studies, an Intervention and Training Project (ITP) was developed. It was intended to look at teachers' conceptions and practices of assessment throughout a semester by promoting, at the same time, a formative and participatory approach (cf. Figure 28).

This project aimed at collaborating with teachers in the study of their practices in a collaborative and professional development logic. It included the analysis of interaction strategies and potential and limitations of various assessment methods and their implications for teaching, learning and academic results. The development of the two courses was monitored over a semester to discuss the appropriation of knowledge by students and the development of transversal skills, the transdisciplinarity of knowledge, pedagogical innovation and student-centred teaching (Esteves, 2008). This project also considered the Assessment for Learning principles, including the issue of formal and informal feedback, opportunities to

experiment and put into practice knowledge, relevant assessment tasks, an “appropriate balance between formative and summative assessment” and autonomy of students (McDowell, et al., 2011, p. 750).

	<b>METHODS</b>	<b>PARTICIPANTS</b>
<b>SUB-STUDY 3</b>		2 Courses from 2 Master's degree in Teacher education
Intervention and Training Project	Questionnaires Focus Group Interviews Monitoring sheets	1 Portuguese public university
	January – September 2019	Field of knowledge: Social Sciences
		4 semi-directive interviews * 2 teachers
		2 Focus groups * 5 students
		2 Questionnaires * 34 and 31 students (respectively)
		Monitoring activities * 34 students

**Figure 28.** Methods and participants in sub-study 3

At the beginning of the intervention and training project, teachers' expectations and methodological and pedagogical assumptions were explored through a semi-directive interview that also included the collection of data about their assessment methodologies (cf. Appendix VI). At the end of the project, a new interview was held with the university teachers involved to carry out an overall assessment of the project (cf. Appendix VI). The interviews were conducted in person at the beginning and end of the intervention and training project and, subsequently, analysed using the content analysis technique. Students were also consulted about their expectations at the beginning of the semester concerning the course under analysis, by completing an expectation sheet on the assessment and first impressions about the course, under the form of a written questionnaire (cf. Appendix VI).

At the end of the semester, a new questionnaire was designed to provide a general report of the assessment practices (cf. Appendix VI). Focus groups were also held with the students to analyse the potential and constraints associated with the assessment practices (see Appendix VI). Additionally, the work developed during the semester was monitored with the students in articulation with the teachers involved in each project. Figure 29 illustrates the data collection process. Throughout the research process, the access to information was guaranteed by sharing it with the teachers and students, namely through a synthesis of each data collection instrument (cf. Appendix VII).

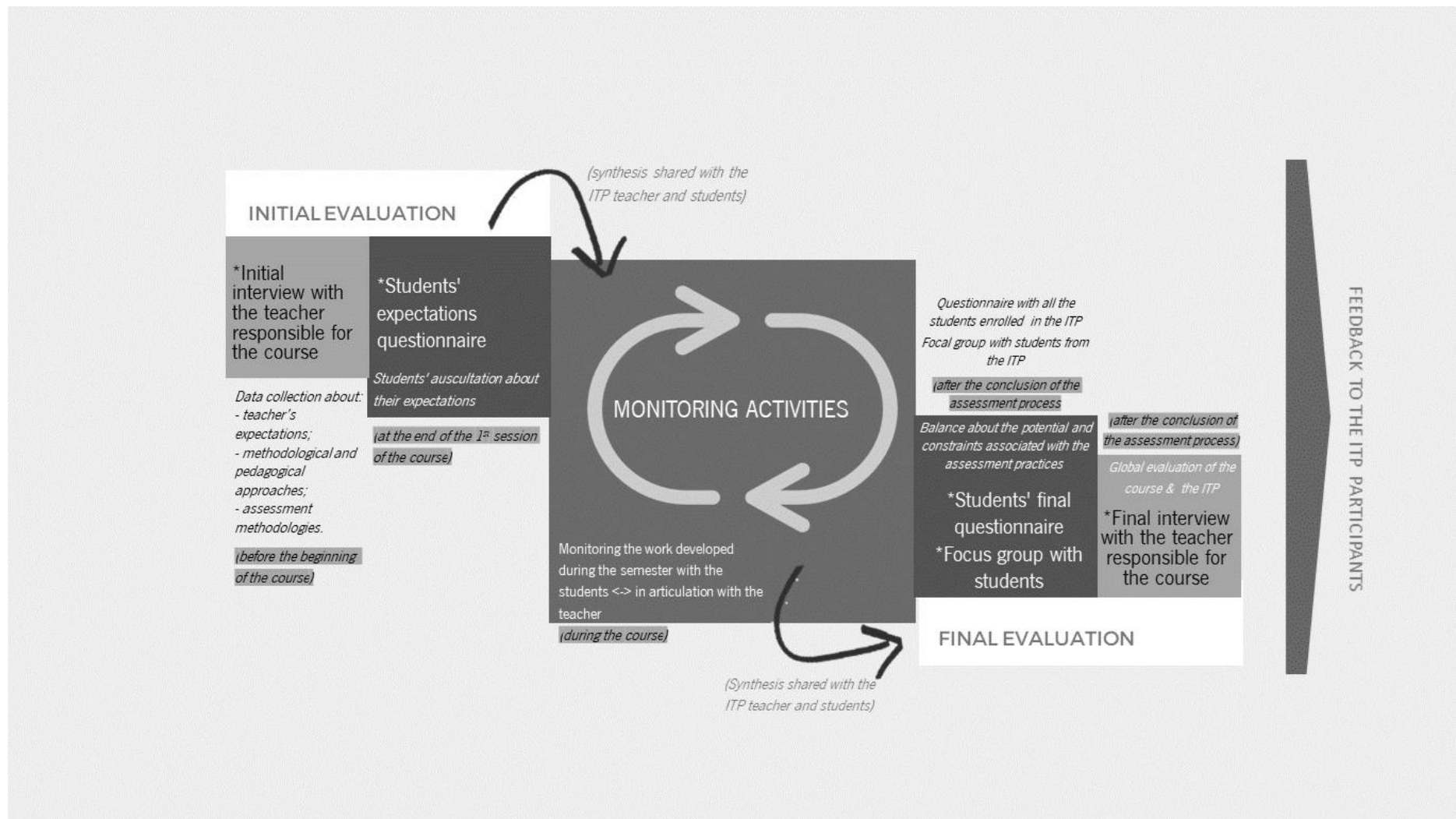


Figure 29. The Intervention and Training Project (ITP) data collection process

## Participants

This project was developed over a semester in two curricular units of Master's Degree programmes in the scientific area of Social Sciences, more specifically in teacher education. Next, the participants of each group are described (cf. Table 8).

**Table 8.** Demographic characteristics of the participants (Sub-study 3)

<b>Course A</b>		<b>Course B</b>	
Teacher	Female Age: 54 years Teaching experience: 30 years Academic degree: PhD Professional category: Assistant Professor Teacher in undergraduate, master's degree and PhD programmes With pedagogical training	Teacher	Female Age: 46 years Teaching experience: 22 years Academic degree: PhD Professional category: Assistant Professor Teacher in undergraduate, master's degree and PhD programmes With pedagogical training
Students	9 students 3 males and 6 females Age [20-35]	Students	25 students 2 males and 23 females Age [21-43]

### 3.2.5. Data analysis

In this research, the IBM Statistical Package for the Social Sciences (SPSS) Statistics (v.24) was used to analyse the quantitative data. The SPSS is one of the most widely used software in social sciences (Bryman, 2008; Field, 2009, Babbie, Wagner, & Zaino, 2015; Muijs, 2011). The AMOS v. 21.0, and, JAMOVI v.0.9.5.16 were also used to analyse the TCoA inventory. The use of this computer programmes allows to analyse large data sets and prepare data in a single step with automated data preparation. It also allows organising data and rigorously and systematically analysing the information statistics. Different procedures were used, e.g. descriptive statistics through exploratory factor analysis (EFA) and confirmatory factor analysis (CFA), standards deviations, correlation between variables; multivariate analysis of variance (MANOVA), non-parametric tests, among others.

In the TCoA inventory (Sub-study 1), factor analyses (exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) using SPSS v. 24.0, AMOS v. 21.0, and, JAMOVI v.0.9.5.16 were performed and data examined to analyse Portuguese university teachers' conceptions of assessment. Small amounts of missing values (i.e. 39 missing responses across 27 items;  $M=0.80\%$ ) were imputed with the expectation maximisation procedure (Dempster, Laird & Rubin, 1977). Little's missing completely

at random chi-square test was not statistically significant ( $\chi^2 = 631.21$ ,  $df = 585$ ,  $p = .09$ ) indicating that the imputation did not distort the start values for item means, standard deviations, and covariance/correlation matrices.

Having adopted a multiple indicator, multiple causes (MIMIC) data collection framework, items were factor analysed to determine which items grouped into the factors for which they were designed. Given that the New Zealand TCoA model existed, confirmatory factor analysis (CFA) was used to determine if the data fit into the model. Three different versions of the NZ TCoA statistical model were tested (i.e. hierarchical nine factors, inter-correlated nine factors, and inter-correlated four factors). Each model failed because the factor covariance matrix was not positive definite, suggesting that too many factors had been specified in the model and that fewer factors would be preferable. Given this inadmissible situation, exploratory factor analysis using maximum likelihood estimation (MLE) and oblique rotation was implemented (Costello & Osborne, 2005). Conventionally, eigenvalues  $>1.00$  are used to indicate the number of factors or dimensions in a data set; however, this is not a strong basis for determining the number of factors (Courtney, 2013). The recommended methods suggested that there were between three and eight factors, which were systematically specified and inspected for conceptual and statistical fit. To be considered acceptable the factor structure had to have item loadings  $>.30$  and no cross-loadings  $>.30$  (Bandalos & Finney, 2010). Of the six models inspected, the pattern matrix for four factors seemed the most promising conceptually and analytically. While three or more items per factor are preferred, in multi-factorial models, it is possible in CFA to identify factors having just two items (Bollen, 1989).

The solution that had best conceptual fit to these constraints was then tested for fit using CFA; this approach is not truly confirmatory because the model was developed with the same data on which it is being tested. Thus, this is restrictive analysis because it forces items to load only on their conceptual factor and determines if the model fits the data (Anderson & Gerbing 1998). Inspection of modification indices identified items that did not have a simple structure (i.e. they were attracted to other factors or items outside their own factor). All modelling was done in AMOS (IBM, 2017) using MLE estimation, which is defensible given that the item response scales with five or more ordinal options are known to give a good approximation to continuous scales (Finney & DiStefano, 2006).

Determination of the quality of a model rests on how well the simplified model (i.e. no cross-loadings between items and other items or factors) corresponds to the data. Multiple fit indices are reported, but it is noted that some indices are not resistant to model complexity and sample size (Fan & Sivo, 2007). Specifically, the chi-square test is overly sensitive to models with large degrees of freedom;



hence, a statistically non-significant  $\chi^2/df$  ratio indicates acceptable fit (Wheaton, Muthén, Alwin & Summers, 1977). Additionally, the comparative fit index (CFI) is favourable toward simple models (i.e. three or fewer factors), and the root mean square error of approximation (RMSEA) is favourable towards complex models (i.e. more than three factors). In contrast, the gamma hat and standardised root mean residual (SRMR) indices are stable across model variation. Models do not need to be rejected if  $\chi^2/df < 3.80$ , gamma hat and CFI  $> .90$ , and RMSEA and SRMR  $< .08$ . The closer the indices are to unity or zero respectively, the better the model. When multiple admissible models are compared, differences of  $> 10$  in the Akaike Information Criterion (AIC) indicate that the model with the small values is to be preferred (Burnham & Anderson 2004).

The data from the scales “most valued assessment methods”, “most used assessment methods” and “practices of assessment” were the object of exploratory factor analysis (analysis of the main components). Statistical analyses were performed using the IBM SPSS Statistics 24 software. To explore the instrument's internal structure, exploratory factor analysis (EFA) was performed using the principal component analysis method (PCA) (Field, 2009).

The assumptions for carrying out this analysis were measured using the KMO (Kaiser-Meyer-Olkin) to analyse the adequacy of the sample and the Bartlett sphericity test to test whether the intercorrelations between the items are not configured as an identity matrix (Field, 2009).

In KMO, values above 0.5 were considered acceptable and values above 0.7 were good (Hutcheson & Sofroniou, 1999). In Bartlett's sphericity test, test statistics with significance levels of  $p < .05$  indicate that the data are appropriate for conducting principal component analysis (Tabachnick & Fidell, 1996). The extraction method was PCA with varimax rotation. The decision on the number of factors to be retained was made based on the Kaiser criterion, so all factors with eigenvalues greater than 1 were considered. To assign items to each factor, only factor loads  $> .35$  are considered.

The fidelity of the subscales was tested by assessing the internal consistency of the items, calculating the Cronbach's alpha. In general, alpha values greater than .70 are considered as acceptable values, however, in the case of an exploratory study, this value may decrease to a minimum of .60 (Hair, Black, Babin, & Anderson, 2009).

After defining the internal structure of the scales, the total scores of each dimension were calculated, adding the respective items and dividing this value by the number of items that integrate it.

We started by calculating the descriptive statistics for the total sample, analysing the distribution of these variables. Next, the relationship between the scores in the different dimensions of valuation and use of assessment methods and the demographic and professional characteristics of the participants was explored. Regarding demographic characteristics, in the age variable, for this sub-study, two groups were considered for analysis: 1) teachers under 45 years of age; 2) teachers over 45 years of age. This change in the time units concerning the initial questionnaire allowed to obtain more adequate units of analysis and groups with a more balanced number of participants (Cadime, Silva, Ribeiro & Viana, 2018). In the variable professional experience (professional variables), the length of service was added as follows: 1) teachers with less than 15 years of experience; 2) teachers with more than 15 years of experience. The professional categories “associate professor with aggregation” and “assistant professor with aggregation”, and “associate professor” and “assistant professor” were also joined. This change in the time units and professional categories concerning the initial questionnaire allowed to obtain more adequate units of analysis, having used the Bologna Process implementation date as a framework for the definition of these time units. To perform these analyses, multivariate analysis of variance (MANOVA) was used. The assumptions of independence of the observations, univariate normality and homogeneity of the variance-covariance matrices were guaranteed (Field, 2009). The partial eta-square ( $\eta^2$ ) values were calculated as a measure of the effect size, considering the following guidelines for its interpretation: small effect,  $\eta^2 > .1$ ; medium effect,  $\eta^2 > .3$ ; large effect,  $\eta^2 > .5$  (Cohen, 1988).

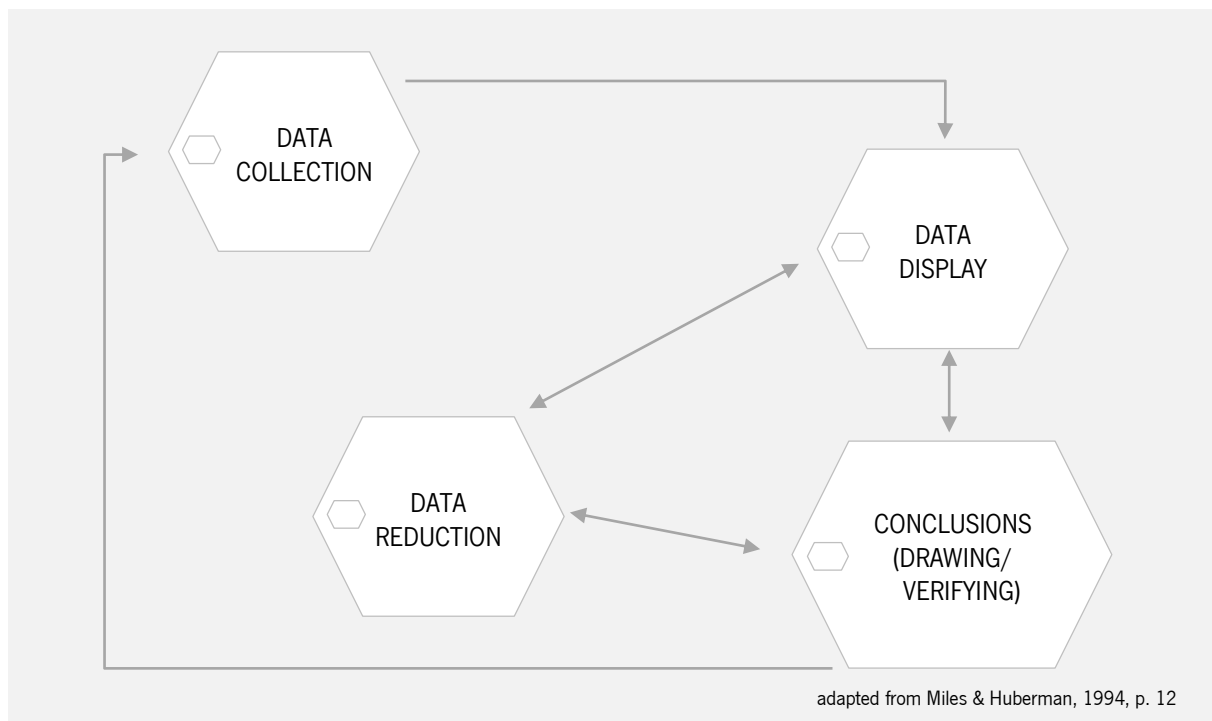
In cases where several independent statistical tests were performed simultaneously, a Bonferroni correction was performed (Field, 2009). When the assumptions for the use of parametric tests were not satisfied, we opted for the use of non-parametric tests (Mann-Whitney and Kruskal-Wallis tests) (Field, 2009).

Finally, the correlations between the most valued and most used assessment methods were tested using Spearman's correlation coefficient (Field, 2009). This coefficient varies between -1 and 1, indicating the direction and strength of the correlation, with a greater proximity of these extremes corresponding to a greater association between the variables (Field, 2009), considering the values from 0.1 to 0.3 and -0.1 to -0.3 weak; the values from 0.4 to 0.6 and -0.4 to -0.6 moderate; the values from 0.7 to 0.9 and -0.7 to -0.9 strong and the perfect values 1 and -1 (Dancey & Reidy, 2007) in the interpretation of the values of  $r$ . In all analyses,  $p < .05$  values were considered as thresholds for acceptance and/or rejection of null hypotheses (Field, 2009). Lastly, in the Sub-studies 2 and 3, descriptive statistics were performed to analyse the quantitative data, using the IBM SPSS Statistics 24 software.

In the context of this research, content analysis was the selected method to analyse the qualitative data. Esteves (2006, p. 107) defines the content analysis as the "generic expression used to designate a set of possible techniques for processing previously collected information". Primarily associated with the quantitative view (Berelson & Lazarsfeld, 1952, cited by Esteves, 2006) where it was used as an "investigative technique for the objective, systematic and quantitative description of the communication content" (Esteves, 2006, p. 108) and, later, in the 70s with the works of Holsti (1968) it assumes a more qualitative perspective as a "technique for making inferences by systematic and objective identification of the specific characteristics of a message" (Esteves, 2006, p. 108). Currently, content analysis has become a privileged technique for analysing qualitative data and to describe and interpret the content of a document, helping to reinterpret messages and achieve an understanding of their meanings at a level that goes beyond common reading. In its evolution, content analysis has oscillated between the rigour of the numbers supposed objectivity and the 'fertility' of subjectivity, in an increasing valuation of qualitative approaches logic (Esteves, 2006).

Analysis and codification were carried out in an attempt to reinterpret messages and in a confrontation between a previous frame of reference and the collected empirical material (Esteves, 2006; Guerra, 2010). We used the content analysis technique because it is "a set of communication analysis techniques that uses systematic and objective procedures to describe the content of messages" (Bardin, 2009, p. 40). It also allows "to make inferences by systematic identification and objective of the specific characteristics of a message" (Esteves, 2006, p. 108). Bardin (2009) warns to the delicate nature of the content analysis, suggesting that the classic category analysis based on the repetition of the frequency of the themes of all interviews should be overcome. Alternatively, the author suggests that all the information richness should be considered to transmit "the essence of the meanings produced by the people, letting out the latent, the original, the structural, the contextual" (Bardin, 2009, p. 91). In this perspective, a semantic criterion was used (Miles & Huberman, 1994), through the combination of a deductive and inductive approach in the analysis of the qualitative data. Content analysis may be inductive, deductive, or both (Cho & Lee, 2014). In a qualitative perspective, we opted for an inductive analysis, starting from the perceptions and experiences of the subjects from which we seek to develop theoretical knowledge. This analysis was complemented by a critical intersection with the preexisting theory. Through the "logical deduction of the pre-existing theory", in content analysis, the researcher develops units of analysis, from which he/she develops categories of analysis; counts the occurrences; and, finally, interprets the results which are "compared with the predictions of the pre-existing theory and conclusions for theory are drawn" (Ezzy, 2002, p. 84).

Therefore, in the context of this research, content analysis is considered to be the method appropriate to analyse the data collected through the open-ended questions of the questionnaires, focus groups and interviews. The categorisation or transformation of open-ended qualitative responses “is especially common in survey analysis, as it allows a combination of those responses with the bulk of the quantitative data for further analyses—without losing the availability of the original text.” (Bazeley & Kemp, 2012, p. 66). Content analysis was operationalised according to four distinct phases of analysis, guided through the principles of completeness, representativeness, consistency, exclusivity and relevance (Bardin, 2009), and by recognising the interactive nature of the data analysis (Miles & Huberman, 1994) (cf. Figure 30).



**Figure 30.** Interactive model of data analysis (adapted from Miles & Huberman, 1994)

After proceeding to the data collection, its organisation and presentation, we carried out a data reduction process (Miles & Huberman, 1994, p. 10) which consists on “selecting, focusing, simplifying, abstracting and transforming the data that appears in written-up fields notes and transcriptions”. It is a form of analysis “that sharpens, shorts, focuses, discards, and organises data in such a way that ‘final’ conclusion can be drawn and verified” (Miles & Huberman, 1994, p. 10). This process interactively takes place with the data display, understood as “an organised, compressed assembly of information that permits conclusion drawing and action” (Miles & Huberman, 1994, p. 11) and from which conclusions are drawn and verified in an interactive process with the data display and the data reduction:

“The coding of data, for example, data reduction, leads to new ideas on what should go into a matrix (data display). Entering data requires further data reduction. As the matrix fills up, preliminary conclusions are drawn, but they lead to the decision, for example, to add another column to the matrix to test conclusion.” (Miles & Huberman, 1994, p. 12).

In the content analysis, a mixed approach and the definition of more general categories were privileged (Bardin, 1995; Esteves, 2006), articulating an inductive (emergent character of the data) (Cho & Lee, 2014) and a deductive perspective through the definition of categories of analysis in compliance with the research goals and the theoretical framework (Ezzy, 2002). The categories of analysis were semantic (Miles & Huberman, 1994).

In the questionnaire with university teachers open-questions’ (Sub-study 1), the analysis of the participants’ discourse, combined with a critical review of the literature, supported the following central dimensions: 1) Changes in assessment practices; 2) Influence of the Bologna Process on the changing of the assessment practices (see Table 9). Each dimension originated a set of themes and categories similar to the questionnaire’s protocol, according to the answers “Yes”, “No” and “Maybe”.

**Table 9.** Dimensions, themes and categories of content analysis (open-ended questions of the questionnaire)

<b>Dimensions</b>	<b>Answers</b>	<b>Themes and categories</b>
1. Changes in the assessment practices	1.1. Yes	a) Structural and organisational factors
	1.2. No	b) Factors related to the changes introduced by the legal and institutional framework
	1.3. Maybe	
2. Influence of the Bologna Process on the changing of the assessment practices	2.1. Yes	c) Factors related to the context of practice
	2.2. No	
	2.3. Maybe	

In the structural and organisational factors category, references to factors, directly or indirectly, linked to the circumstances (more or less challenging) in which the teachers’ work is developed were considered (e.g. workload, number and characteristics of students, or resources). As for the factors linked to changes introduced by the legal and institutional framework, references to legal and institutional documents were considered, as well as curricular plans, among others. Finally, regarding the context of the practice, references to the classroom and assessment practices were included.

All focus groups (Sub-studies 1 and 3) were transcribed and coded, without references to name of people, locations or persons which were deleted. Analysis and coding were performed in an attempt to

reinterpret messages and in a confrontation between the previous reference framework and the empirical material collected (Esteves, 2006; Guerra, 2010). In the focus group with university teachers (Sub-study 1), the analysis of the participants' discourse, combined with a critical review of the literature, supported the following central dimensions: (1) Being a teacher in higher education - perceptions and motivations, and (2) The assessment of learning in higher education after the implementation of the Bologna process (cf. Table 10).

**Table 10.** Dimensions, themes and categories of the content analysis (focus groups)

<b>Dimensions</b>	<b>Themes and categories</b>
1) Being a teacher in higher education - perceptions and motivations	a) Motivation to teach b) Perceptions about the future
2) The assessment of learning in higher education after Bologna	c) Conceptions of assessment d) Assessment practices e) Changes in the assessment practices (in the Post-Bologna context)

Finally, in the questionnaire for programme coordinators (Sub-study 2), open-questions were analysed taking into account the critical review of the literature. The following themes were identified: (1) changes as a result of the Bologna Process; (2) assessment practices (3) learning outcomes and assessment practices; (3) opportunities to discuss assessment in the context of the programmes.

### **3.3. Reliability and validity of the research**

In any research process, rigour is a fundamental characteristic (Bryman, 2008). The research reliability refers to the consistency in measurement" (Anderson, 1998) and "describes the extent to which a research instrument or method is repeatable" (Burton & Bartlett, 2005, p. 26). Bryman (2008) identifies three key factors of reliability: (1) stability (slight variation in the re-administration of a measure to a group); (2) internal reliability (indicators consistency); and, (3) inter-observer consistency (subjective judgment). Reliability is an assessment of the consistency of any method and assumes special importance in positivist research, especially large-scale research (Burton & Bartlett, 2005). However, a "high level of reliability of a data collection instrument does not necessarily mean that it is accurate" (Burton & Bartlett, 2005, p. 26). Reliability is a "synonym for consistency and replicability over time, over the instrument and over groups of respondents" (Cohen, Manion & Morrison, 2007, p. 146) and is related to accuracy and precision (Cohen, Manion & Morrison, 2007).

The validity complements reliability and refers to the “extent to which what measure reflects what we expect to measure” (Anderson, 1998, p. 13). Validity and its measurement play an important part in determining the appropriate methodology to employ. It refers to the “truthfulness”, “correctness” or “accuracy of research data” (Burton & Bartlett, 2005, p. 27). It is a central key to effective research (Cohen, Manion & Morrison, 2007) and has specific requirements both in quantitative and qualitative research. In qualitative data the validity might be addressed through “the honesty, depth, richness and scope of the data achieved, the participants approached, the extend of triangulation and the disinterestedness or objectivity of the researcher” (Cohen, Manion & Morrison, 2007, p. 133). Additionally, the participants’ subjectivity, their opinions, attitudes and perspectives may contribute to the validity of the data, understood as a matter of degree more than an absolute state (Cohen, Manion & Morrison, 2007). In quantitative data the validity may be improved “through careful sampling, appropriate instrumentation and appropriate statistical treatments of the data” (Cohen, Manion & Morrison, 2007, p. 133).

To overcome some of the issues identified at the level of the reliability of the qualitative data, rigorous documentation of the different research phases was conducted, namely the collection of data (Lessard-Hébert, Goyette & Boutin, 2005). Moreover, there was a constant triangulation of techniques and inferences between researchers and between researchers and participants (Lessard-Hébert, Goyette & Boutin, 2005). Concerning quantitative data, the adequate statistical treatments of the data were guaranteed (Cohen, Manion & Morrison, 2001).

### **3.4. Ethical Considerations**

Like all human behaviour, research is also subject to strict rules of conduct which guarantee the safety of the participants and the seriousness of the research process:

“All human behaviour is subject to ethical principles, rules and conventions which distinguish socially accepted behaviour from that which is generally considered unacceptable. The practice of research is no exception” (Anderson, 1998, p. 16).

In a research project, the ethical principles assume a fundamental role. In this case, attention was paid to the existing ethical standards in the field of research in education at the international level and also the general principles stipulated in the Code of Ethical Conduct of the University of Minho. Assuming the

ethical principles as the set of “rules related to procedures considered correct and incorrect by a certain group” (Bogdam & Biklen, 1994, p. 75), the respect and good practices of scientific research was ensured during the research process i) by respecting the ethical principles of research and the quality of the research process; ii) by ensuring the confidentiality of data; iii) by obtaining the informed consent (through the development of research protocols); and iv) by voluntary participation. Approval from the Ethics subcommittee of research on social sciences and humanities was sought (Ref. SECSH 036/2016) (cf. Appendix I).

Regarding research with human subjects, two fundamental issues are identified: (1) informed consent; and, (2) the protection of subjects against possible damage (Bogdam & Biklen, 1994). These two aspects aim to ensure that participants adhere to a research process aware of its nature, risks and possible benefits. Besides, ensuring that the benefits outweigh the risks is necessary to avoid the exploitation of the participants.

### **Access to the context of the research**

The access to the institution or organisation where the research intends to take place and the acceptance represents a core issue in the research ethics:

“investigators cannot expect access to a nursery school, college or factory as matter of right. They have to demonstrate that they are worthy, as researchers and human beings of being accorded the facilities needed to carry out their investigations” (Cohen, Manion & Morrison, 2007, p. 55).

First, it is imperative to gain official permission to undertake the research, and the research process and methods should be appropriate. Moreover, confidentiality in the analysis and dissemination of the findings should be “negotiated with relative openness, sensitivity, honesty, accuracy and scientific impartiality” (Cohen, Manion & Morrison, 2007, p. 58).

To this purpose, contact was made with the presidents of the Faculties or Institutes of five Portuguese public universities to obtain permission to carry out the study. In the first sub-study, the programme coordinators were requested to provide a contact list of university teachers. Subsequently, the university teachers were contacted to schedule a time and place to complete the questionnaires. Following the same procedures, university teachers from one of the participating universities were invited



to participate in the focus groups (cf. Appendix II). In the second sub-study, all programme coordinators from the areas under study from one of the five universities were invited to complete a questionnaire (cf. Appendix II). Finally, in the third sub-study, two teachers responsible for two of its courses on one of the participating universities were invited to participate in the development of the research and training project. Contacts were made both in person and via email.

### **Informed consent**

All participants were fully informed and provided signed written consent. Informed consent is the most important principle for ethical standards. It arises “from the “subject’s right to freedom and self-determination” (Cohen, Manion & Morrison, 2007, p. 52) and is particularly important in various cultures and contexts (e.g. Europe, USA). The research participants must be previously “informed of nature and the purpose of the research, its risks and benefits, and must consent to participate without coercion” (Anderson, 1998, p. 18).

Anderson (1998) identify six basic elements that should be considered anytime a person is invited to participate in a research project:(1) the explanation of the research purpose; (2) the description of eventual risks or discomforts; (3) the description of eventual benefits or incentives; (4) the disclosure of alternative procedures that may be beneficial to the participant; (5) availability to answer questions or doubts about the research process; and, (6) a statement about voluntary participation in the study. Briefly, informed consent must identify the research purposes, its benefits and/or risks, the nature of the task to be performed, the rights of the participant and the name(s) and contact details of the person(s) responsible for the investigation. Cohen, Manion and Morrison (2007) add to these elements the possibility of disclosing appropriate alternative procedures that may be advantageous to the participants.

In the present research project, research protocols were devised and sent to the presidents of the Faculties or Institutes. The protocols (cf. Appendices IV and VIII) contained the goals of the research project; the instruments and procedures to be used, information about the duration of each instrument, a statement about voluntary participation, information about the confidentiality of the information, information about data analysis, and the reference to funding entities. The contacts of the researcher were also included.

Additionally, preceding each of the phases and moments of data collection, informed consent was filled out by each participant (cf. Appendices IV and VIII). The informed consents were given in

duplicate to each of the participants, together with a research protocol in which they were aware of the central aspects of the data collection process. A signed copy of the informed consent was collected and stored by the researcher.

### **Confidentiality**

Data confidentiality is a crucial aspect of research and was a central concern in the development of this research project. Confidentiality “involves a clear understanding between the researcher and participant concerning how the data will be used” (Anderson, 1998, p. 20). It implies that the participants’ identity remains anonymous and the protection of the individuals’ identity. Concerns about data confidentiality intersect with concerns about the anonymity of participants. Anonymity is another core issue in research ethical considerations. The absence of anonymity occurs when the information provided by the subjects may, somehow, reveal their identity:

“A participant or subject is therefore considered anonymous when the researcher or another person cannot identify the participant or subject from the information provided” (Cohen, Manion & Morrison, 2007, p.64).

Participants will be guaranteed access to the results of the research (information retraction), and confidentiality and anonymity will be guaranteed by the omission of all types of data referring to institutions and participants and by the use of fictitious names or codes. Also, the data were exclusively used for research purposes and, in case of publication, participants and universities were identified using a code (e.g. Teacher 1; Student 1; University A). Participants were also informed about the confidentiality of the data. Access to the research data was reserved to the researcher. In the case of focus groups and interviews, permission was also requested for audio recording and permission to transcribe excerpts in the investigation reports, ensuring data confidentiality. Additionally, whenever the participants referred to places, people or other elements that could contribute to their identification, these references were suppressed or replaced (Teixeira, 2010). This will ensure the need to preserve the participants' identity in a safe and trusting environment.

### **Role of the researcher**

The way each researcher positions himself/herself in conducting and developing a particular investigation is a central aspect of the investigation process. The researchers’ value system “which is shaped by

upbringing, education, and professional training” influences the researcher decisions about research and the way he/she conducts the research project (Kimmel, 2007, p. 7). Additionally, recognising that “the relationship between researcher and participants informs and shapes the research process itself” (Flores, 2003), to access the participants' opinions, mainly in a qualitative perspective, we must “maintain an open and mutually enriching relationship with them”, informing the participants about the research goals and activities, protecting them from possible risks and repercussions of the information (Lessard-Hébert, Goyette & Boutin, 2005, pp. 84-85). These were the guidelines of this research project.

How each researcher positions himself/herself concerning the object of his/her research, his/her options and the design he/she adopts has repercussions, not only in terms of findings but also in the course of his/her research, reflecting his/her own epistemological and philosophical conceptions (Flores, 2003). In this perspective, reflexivity (Lincoln & Guba, 2005) was particularly important in reflecting on the role of the researcher. Reflexivity “is the process of reflecting critically on the self as researcher” (Lincoln & Guba, 2005, p. 210), it forces us to “to come to terms not only with our choice of research problem and with those with whom we engage in the research process”. In this sense, we tried to answer questions such as: Why do this research? For whom? Which are the implications of the for higher education? (Flores, 2003; Lincoln & Guba, 2005).

### **3.5. Limitations of the study**

This research project entails a number of limitations. The first difficulty concerns time constraints and the availability of participants. Data collection took place between 2016 and 2019. However, to obtain the university teachers' contacts and responses turned out to be a hard task to do. The responses were sometimes delayed and, in some cases, no response was obtained from the participants. In other cases, teachers revealed no availability to participate in the focus group or to fill in the questionnaire. These difficulties have originated a temporal dispersion of the instruments and, in the special case of the questionnaires, a limited response rate.

To overcome these difficulties, the introduction of an additional research instrument was decided. The research design was adjusted and a questionnaire with both closed and open-ended questions was devised in an online platform. Travels were made around the country to collect data (interviews, focus groups and questionnaires). The sequentially of the research design allowed for an easier data collection. However, the distance between the five contexts represented some additional challenges.

## **CHAPTER IV**

### **SUB-STUDY 1: PERCEPTIONS OF UNIVERSITY TEACHERS ABOUT ASSESSMENT IN HIGHER EDUCATION AFTER THE BOLOGNA PROCESS**

## **Chapter IV – Sub-study 1: Perceptions of University Teachers About Assessment in Higher Education after the Bologna Process**

In this chapter, data from the questionnaire with university teachers are presented, particularly concerning teachers' conceptions of assessment, the most valued and most used assessment methods, and assessment practices. Qualitative data from the questionnaire resulting from the questions about the changes introduced in the assessment practices after the implementation of the Bologna Process are also described. Data arising from the focus groups are also analysed.

### **4.1. Questionnaire with university teachers**

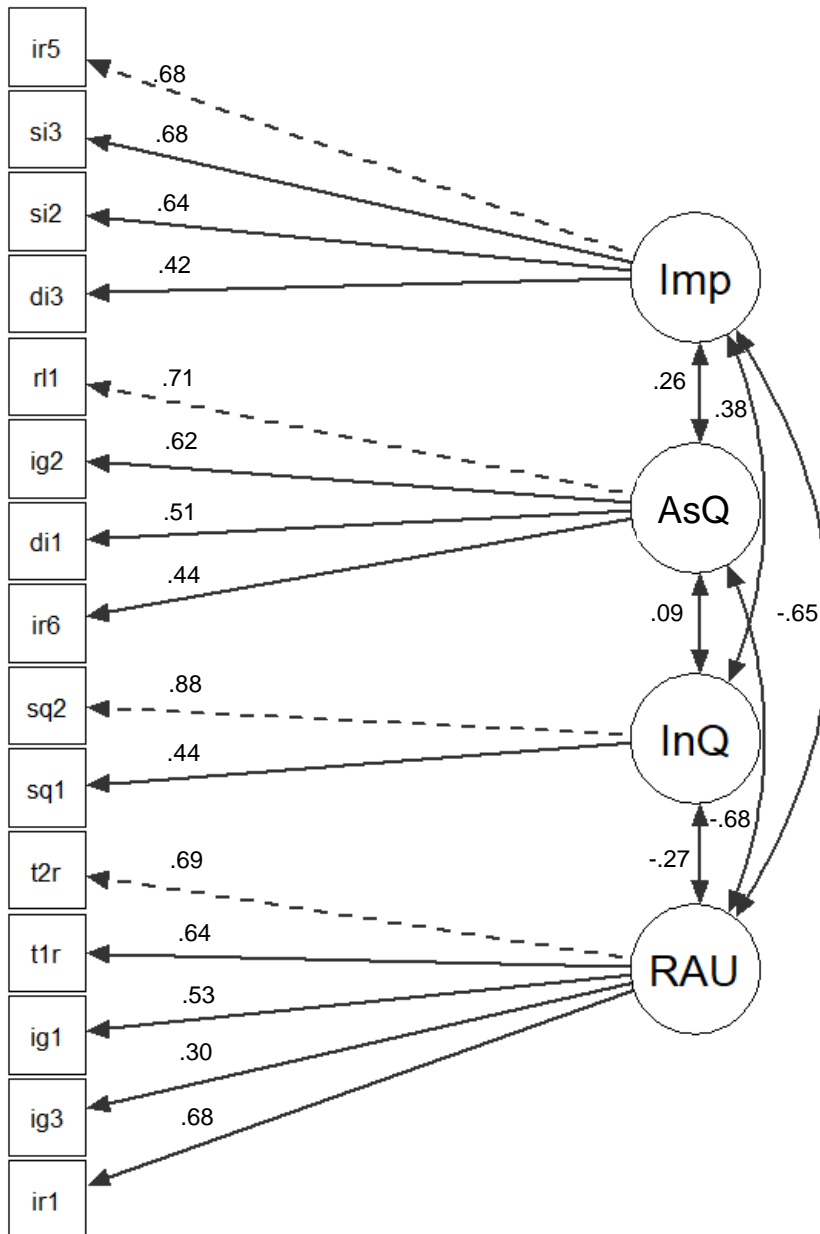
This section presents the findings of the questionnaire with university teachers. Data were collected through a questionnaire administered to Portuguese university teachers (n=185) from five Portuguese public universities. The participants hold different professional categories and come from the following scientific areas: Medical and Health Sciences, Exact Sciences, Engineering and Technology Sciences, Social Sciences and Humanities.

#### **4.1.1. Conceptions of assessment**

First, university teacher's conceptions of assessment are presented using the four-factor (Student Accountability, School Accountability, Improvement, and Irrelevance) resulting from Teachers Conceptions of assessment (TCoA) inventory (Brown 2006a) adapted to the Portuguese context (Gonçalves 2011, 2016). The inventory was applied to answer to the following research goals: (1) To get to know university teachers' conceptions of assessment; and, (2) to identify the influence of demographic and professional variables on university teachers' conceptions of assessment.

The four factors from this relatively small sample of Portuguese university teachers were: (a) assessment is for improvement, (b) the reliable quality of assessment, (c) assessment indicates the quality of institutions, and (d) teachers do not use assessment. However, three items had cross-loadings  $>.30$  (i.e. ir4, rel3, sa2), three items had loadings  $<.30$  on all factors (i.e. ir2, si1, ir3), and five items had loadings  $<.45$  (i.e. ti3, sa3, sa1, dia2, sq3).

After removing these items, 15 out of 27 administered items were retained in four factors (Figure 31), with good model fit values ( $\chi^2=181.34$ ;  $df=98$ ;  $\chi^2/df=1.85$ ,  $p=.17$ ; CFI=.873; gamma hat=.948; RMSEA=.068 (90%CI=.052-.083); SRMR=.069; AIC=257.348).



**Note.** Imp=Improvement; AsQ=Assessment Quality; InQ=Institutional Quality; RAU=Reject Assessment Use; all values are standardised; dashed line indicates seed path.

**Figure 31.** Schematic factor structure of Portuguese university teachers' conceptions of assessment

To aid interpretation, four items that had negative loadings on their factors (i.e. ir6, ti1, ir1, and ig1) were reverse scored. The inverse meaning to these items has been inserted in red in Table 11 to guide interpretation.

**Table 11.** TCoA Portugal higher education factors and items

Code	Statement
<b><i>Improvement</i></b>	
ir5	26. Assessment that I do has a <b>positive impact on teaching</b>
si3	22. Assessment that I do <b>helps students improve</b> their learning
si2	13. Assessment that I do <b>feeds back to students</b> their learning needs
dia3	21. Assessment allow me to <b>identify students' metacognitive competencies</b> .
<b><i>Assessment Quality</i></b>	
rel1	6. The results obtained from the assessment that I do are <b>trustworthy</b>
ig2	16. Assessment that I do is <b>fair</b> to students
dia1	3. Assessment that I do is a way to <b>determine how much</b> students have learned from teaching
ir6*	27. Assessment that I do is <i>[not]</i> an <b>imprecise</b> process
<b><i>Institutional Quality</i></b>	
sq2	10. Assessment that I do is an accurate indicator of my <b>institution's quality</b>
sq1	1. Assessment that I do provides information on <b>how well my institution is doing</b>
<b><i>Reject Assessment Use</i></b>	
ti2*	14. The results from the Assessment that I do <i>[not]</i> <b>modif[y] ongoing teaching</b> of students
ir1*	7. Assessment that I do is <i>[not]</i> <b>congruent with my pedagogical beliefs</b>
ti1*	5. Assessment that I do is <i>[not]</i> <b>integrated with teaching practice</b>
ig1*	8. I do assessments and I <i>[do not]</i> <b>make use of the results</b>
ig3	17. The results from the Assessment that I do are <b>pedagogically ignored/irrelevant</b>

**Note.** Standardised loadings from CFA; \*=item reverse coded with inverse meaning inserted into text *in italic*; words in bold indicate key idea of item.

Factor inter-correlations (Table 12) were reasonably low. However, the Improvement and Assessment Quality factors had a moderately strong inverse relationship to Reject Assessment Use. This inverse relationship indicates that using assessment for those two purposes was not rejected or irrelevant, which seems logically coherent. Scale estimates of reliability were not strong, but this should not dominate interpretation since the overall model shows good fit and only five items had loadings <.50 on their factor.

**Table 12.** TCoA Portugal higher education factor inter-correlations and reliability estimates

<b>Factors</b>	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>
I. Improvement	(.70)			
II. Assessment Quality	.26	(.67)		
III. Institutional Quality	.38	.09	(.56)	
IV. Reject Assessment Use	-.65	-.68	-.27	(.72)
Raw Mean ( <i>SD</i> )	3.95 (0.49)	4.04 (0.51)	3.39 (0.82)	1.73 (0.47)
Effect Size (Cohen's <i>d</i> absolute value)				
II. Assessment Quality	0.21			
III. Institutional Quality	<b>0.83</b>	<b>0.98</b>		
IV. Reject Assessment Use	<b>3.74</b>	<b>4.03</b>	<b>1.66</b>	

**Note.** Values on diagonal are McDonald's  $\omega$  scale reliability estimate values; Cohen's *d* in bold = large effects.

To examine strength of endorsement for each scale, Bartlett factor scores ( $M=0$ ,  $SD=1$ ) were computed separately for each factor. These scores estimate more accurately the weighted value of each item on the latent factor that predicts it (DiStefano, Zhu and Mîndrilă 2009). Table 13 shows the mean factor score by key demographic characteristic.

**Table 13.** TCoA Portugal higher education factor Bartlett scores by demographic characteristic

<b>Demographic characteristics</b>	<i>n</i>	<b>Factors</b>			
		<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>
<b>University</b>					
A	36	0.49	0.06	0.32	-0.10
B	34	-0.02	0.20	-0.06	-0.10
C	60	-0.19	-0.11	-0.01	0.34
D	36	-0.32	-0.14	-0.16	-0.15
E	19	0.30	0.16	-0.16	-0.43
<b>Gender</b>					
Male	74	0.10	-0.05	-0.05	0.11
Female	87	-0.07	0.06	0.00	-0.09
<b>Field of knowledge</b>					
Medical and Health Sciences	21	-.06	.11	.18	.03
Exact Sciences	16	.68	.09	.24	-.08
Engineering and Technology	50	-.43	-.16	-.23	.31
Social Sciences	77	.14	.03	-.01	-.15
Humanities	21	.05	.10	.22	-.15
<b>Professional category</b>					
Full Professor	10	0.73	0.47	-0.05	-0.24
Associate Professor with aggregation/qualification	11	-0.21	-0.29	-0.77	-0.18



Demographic characteristics	n	Factors			
		I	II	III	IV
Associate Professor	15	-0.44	-0.38	-0.35	0.08
Assistant Professor with aggregation/qualification	8	0.63	0.25	0.15	-0.31
Assistant Professor	117	0.02	0.07	0.08	0.05
Lecturer	12	0.20	-0.23	0.53	-0.25
Other	12	-0.66	-0.30	-0.18	0.26
<b>Teaching experience</b>					
Between 1 and 5 years	17	-0.38	-0.26	-0.31	-0.01
Between 6 and 14 years	37	-0.11	-0.13	0.27	-0.02
Between 15 and 25 years	78	0.02	0.14	-0.09	0.05
More than 25 years	53	0.16	-0.04	0.04	-0.05

**Note.** Factor I=Improve; II=Assessment Quality; III=Institution Quality; IV= Reject Assessment Use

Multiple analysis of variance (MANOVA) of mean scores was conducted with main effects for university, sex, professional category, scientific field, and years of experience and all two-way interactions for these five predictors. Given the small sample sizes in each group, the observed power was below the conventional  $1-\beta=.80$  for all analyses except for two predictors. To avoid Type II errors of not finding a real association when it is present, only these two effects for which there is sufficient power are reported. There was a statistically significant effect for the interaction between University and Professional category (Wilks'  $\lambda_{(24)}=.493$ ,  $p=.01$ ,  $1-\beta=.98$ , Partial  $\eta^2=.16$ , Cohen's  $f=.23$ ) and the main effect of University (Wilks'  $\lambda_{(16)}=.644$ ,  $p=.03$ ,  $1-\beta=.83$ , Partial  $\eta^2=.10$ , Cohen's  $f=.12$ ). These represent medium and small effects respectively, but the overall message is that the four conceptions of assessment have reasonably similar means across the contributing demographic characteristics of participants.

#### 4.1.2. Perspectives of university teachers about assessment methods

In this section, the most used and valued assessment methods are identified and analysed. For that purpose, the scales on the valuation and use of assessment methods, adapted from Pereira (2011; 2016) and Gonçalves (2016), were validated. The scales were designed to broaden the spectrum of the original study of Pereira (2016) to the perspectives and practices of university teachers, and to provide answers to the following research goals: (1) to identify the most used and valued assessment methods from the perspective of university teachers; (2) to identify the influence of demographic and professional variables on the valorisation and use of assessment methods; and, (3) to identify a possible relation between the most valued and the most used methods of assessment.

In the most valued assessment methods scale, the KMO value allowed to prove the adequacy of the sample (KMO=.828) and the result of the Bartlett test revealed that the data are adequate to carry out this analysis,  $\chi^2(91)=1209.61$ ,  $p<.001$ . Likewise, on the scale of most used assessment methods, the KMO value was also high, suggesting the adequacy of the sample (KMO=.762), and the result of the Bartlett test revealed that the intercorrelations between the items are sufficiently high for this analysis,  $\chi^2(91)=836.67$ ,  $p<.001$ .

Table 14 reports the results of the EFA for the valuation and use of assessment methods by the participants in the study.

A first extraction with the scale on the valuation of assessment methods revealed the presence of three factors with eigenvalues  $>1$ , explaining a total of 64.24% of the variance. Items grouped in the same factor suggest that factor 1 represents the Collective and Individual Methods; that factor 2 represents Portfolios and Reflections; and, that factor 3 represents the Tests and Exams. Cronbach's alpha values were high for factors 1 ( $\alpha=.880$ ) and 2 ( $\alpha=.850$ ), but poor for factor 3 ( $\alpha=.448$ ), with the option of excluding the items which incorporated this factor (1-Written tests/exams and 2-Oral tests/exams). However, because of the relevance of the item 1 (Written Tests/Exams) at the level of the study participants' responses and also at the level of national and international studies (e.g. Pereira, Flores & Barros, 2017; Pereira & Flores, 2016; Barreira et al., 2015; Myers & Myers, 2015; Flores et al., 2015), it was analysed as an observable variable.

After removing the two items mentioned, a new PCA was performed, using the remaining items. The results of this analysis are presented in Table 14. Three factors were obtained with eigenvalues greater than 1, explaining 69.17% of the variance: (F<sub>1</sub>) Collective Methods; (F<sub>2</sub>) Portfolios and Reflections; and (F<sub>3</sub>) Individual methods. All items presented high factor saturation in the respective factor (cf. Table 14) and Cronbach's Alpha values  $>.70$ . The items 9, 11 and 12 simultaneously saturated simultaneously in two factors, it was decided to remain these items in the factor in which they presented the greatest factor load (Tabachnik & Fidell, 1996) considering that their content was in accordance with the factor.

In the frequency of the use of the assessment methods scale, a first extraction revealed the presence of four factors. The four factors extracted in the analysis were: 1) Collective Methods; 2) Portfolios and Reflections; 3) Individual methods; and 4) Tests and Exams. The reliability statistics, calculated using Cronbach's alpha, revealed the existence of acceptable values for factors 1 ( $\alpha=.822$ ), 2 ( $\alpha=.772$ ) and 3 ( $\alpha=.693$ ). However, Alpha values proved to be unacceptable for factor 4 ( $\alpha=.342$ ), and

we opted for their exclusion. Similar to the previous scale, the item 1 - "Written Tests / Exams" - was also adopted, in subsequent analyses, as an observable variable due to its relevance. New factor extraction was performed after removing items 1 and 2. The results of the second analysis are presented in table 14, through a 3-factor structure that explains 61.15% of the total variance. All items presented high saturation values. Items 5, 8, 11 and 12 showed saturations in more than one factor, and it was chosen to include them in the factor with the highest factor load (Tabachnik & Fidell, 1996) because its content was congruent with the factor.

**Table 14.** Components and factor loadings of the items of the measures about the valuation and the frequency of using assessment methods

	FACTORS - VALUATION OF ASSESSMENT METHODS			FACTORS – FREQUENCY OF THE USE OF ASSESSMENT METHODS		
	1 Collective Methods	2 Portfolios and Reflections	3 Individual Methods	1 Collective Methods	2 Portfolios and Reflections	3 Individual Methods
6 - Practical or experimental group work	.808			.848		
8 – Group Project	.713			.622		
10 – Group report	.789			.790		
14 – Group oral presentation	.730			.733		
3 – Collective portfolio		.770			.800	
4 – Individual portfolio		.840			.811	
11 – Individual written refleccion		.726			.558	
12 – Group written refleccion		.666			.635	
5 - Practical or experimental individual work			.740			.565
7 – Individual project			.718			.745
9 – Individual report			.660			.660
13 - Individual oral presentation			.756			.733
<i>Eigenvalues</i>	6.064	1.170	1.067	4.549	1.472	1.317
% Variance	50.53%	9.75%	8.90%	37.91%	12.26%	10.97%
<i>Cronbach's alpha</i>	.848	.850	.807	.822	.772	.693

**Note.** Items 1) Written tests/exams and 2) Oral tests/exams were removed on both scales.

### Differences in the most valued and most used assessment methods taking into account the demographic and professional variables

Table 15 presents the results of descriptive statistics related to the valuation and use of assessment methods. The normality tests proved to be statistically significant, suggesting the non-normality of the distributions. Therefore, priority was given to the analysis of asymmetry and Kurtosis values (cf. Table 15). The asymmetry and Kurtosis values are very close to zero for all factors on both scales, suggesting the absence of substantial violations of normality, which allowed us to proceed with the MANOVA analysis. However, it was found that the values of asymmetry and Kurtosis of the observable variable "tests and

written exams” were high, which made it impossible to include these scores in multivariate analysis of variance, having chosen to perform nonparametric tests for their analyse.

The “Written Tests/Exams” emerge as the most valued and used methods by the university teachers, while the “Portfolios and Reflections” are the least valued and used assessment methods (cf. Table 15). The results of descriptive statistics also reveal a positive trend in the valuation and using of both individual and collective methods.

**Table 15.** Descriptive statistics of the most valued and most used assessment methods

	N	%	Mean	Standard deviation	Asymmetry	Kurtosis	KS tests	
							KS	P
<b>VALUATION OF ASSESSMENT METHODS</b>								
Factor 1 – Collective methods			2.60	0.881	-0.333	-0.875	.167	<.001
Factor 2 - Portfolios and reflections	163	88.1	2.05	0.901	0.393	-1.067	.139	<.001
Factor 3 – Individual methods			2.67	0.868	-0.399	-0.763	.152	<.001
Written tests/exams			3.24	0.784	-0.917	0.565	.251	<.001
<b>FREQUENCY OF THE USE OF ASSESSMENT METHODS</b>								
Factor 1 - Collective methods			2.58	0.857	-0.217	-0.777	0.108	<.001
Factor 2 - Portfolios and reflections	171	92.4	1.82	0.736	0.797	0.156	0.132	<.001
Factor 3 – Individual methods			2.44	0.714	-0.071	-0.444	0.108	<.001
Written tests/exams			3.37	0.811	-1.106	0.425	0.332	<.001

**Note.** KS = Kolmogorov-Smirnov.

### ***Influence of demographic variables on the valuation and use of the assessment methods***

The multivariate tests showed that there is no influence of the age on the valuation (WILK’S  $\Delta=.969$ ,  $F(3, 159)=1.683$ ,  $p=.173$ ;  $\eta p^2=.031$ ) and in the use of different assessment methods (WILK’S  $\Delta=.960$ ,  $F(3, 167)=2.339$ ,  $p=.075$ ,  $\eta p^2=.040$ ), as well as gender at the valuation (WILK’S  $\Delta=.965$ ,  $F(3, 136)=1.652$ ,  $p=.180$ ;  $\eta p^2=.035$ ) and the use of different assessment methods (WILK’S  $\Delta=.980$ ,  $F(3, 143)=.993$ ,  $p=.398$ ,  $\eta p^2=.020$ ). There were also no statistically significant differences between male and female teachers ( $U=3217$ ,  $p=.994$ ), nor between age groups ( $U=4026$ ,  $p=.635$ ) in the valuation of written tests and exams. Likewise, no statistically significant differences were identified between men and women,

( $U=2861.50$ ,  $p=.173$ ) and between age groups ( $U=4047$ ,  $p=.588$ ) in the frequency of using written tests and exams.

### ***Influence of professional variables on the valuation and use of the assessment methods***

The MANOVA results revealed no statistically significant effects of the professional category (WILK'S  $\Delta=.963$ ,  $F(9, 382)=.658$ ,  $p=.747$ ,  $\eta^2=.012$ ), of the years of experience (WILK'S  $\Delta=.977$ ,  $F(3, 159)=1.220$ ,  $p=.304$ ,  $\eta^2=.023$ ), and the frequency of pedagogical training (WILK'S  $\Delta=.967$ ,  $F(3, 156)=1.756$ ,  $p=.158$ ,  $\eta^2=.033$ ) in the valuation of the different evaluation methods. Likewise, the results of the multivariate analysis indicated that there was no influence of the professional category (WILK'S  $\Delta=.926$ ,  $F(9, 402)=1.430$ ,  $p=.173$ ,  $\eta^2=.025$ ), years of experience (WILK'S  $\Delta=.968$ ,  $F(3, 167)=1.854$ ,  $p=.139$ ,  $\eta^2=.032$ ), and the frequency of pedagogical training (WILK'S  $\Delta=.954$ ,  $F(3, 163)=2.632$ ,  $p=.052$ ,  $\eta^2=.046$ ), in the use of different assessment methods.

With regard to the influence of the study cycles on the valuation of assessment methods, multivariate tests revealed that there are no statistically significant differences at the level of the *Licenciatura* (WILK'S  $\Delta=.967$ ,  $F(3, 159)=1.794$ ,  $p=.150$ ,  $\eta^2=.033$ ) and PhD Degree programmes, (WILK'S  $\Delta=.971$ ,  $F(3, 155)=1.569$ ,  $p=.199$ ,  $\eta^2=.029$ ). Nevertheless, the results of MANOVA identified the existence of statistically significant differences, although with negligible effect size, between the teachers who teach in the Integrated Master degrees programmes and those who do not, WILK'S  $\Delta=.913$ ,  $F(3, 151)=4.786$ ,  $p=.003$ ,  $\eta^2=.087$ . Univariate tests indicate that teachers who teach in this cycle of studies, on average, value portfolios and reflections less than teachers who teach only in other cycles (cf. Table 16). The multivariate tests also suggested significant differences, although with negligible effect size, in the valuation of the different assessment methods between teachers who teach in Master's degree programmes and those who do not, WILK'S  $\Delta=.922$ ,  $F(3, 159)=4.508$ ,  $p=.005$ ,  $\eta^2=.078$ . The results of the univariate tests allowed to conclude that teachers who teach in this cycle of studies value collective, individual and portfolio methods and reflections more than those who do not teach in this cycle of studies (cf. Table 16).

Concerning the use of different assessment methods according to the different study cycles, multivariate tests revealed no statistically significant differences in the use of different assessment methods by teachers who teach in *Licenciatura* degree programmes and those who do not, WILK'S

$\Delta=.959$ ,  $F(3, 167)=2.366$ ,  $p=.073$ ,  $\eta p^2=.041$ . Nevertheless, the results of MANOVA allowed to verify the existence of statistically significant differences, with small effect size, between teachers who teach in the Integrated Master's degree programmes and those who do not, WILK'S  $\Delta=.852$ ,  $F(3, 158)=9.174$ ,  $p<.001$ ,  $\eta p^2=.148$ . Teachers who teach in this study cycles, on average, use collective methods more frequently and portfolios and reflections less frequently (cf. Table 16).

The multivariate tests also suggested significant differences in the frequency of use of the different assessment methods between teachers who teach in the Master's degree programmes and those who do not, WILK'S  $\Delta=.898$ ,  $F(3, 167)=6.293$ ,  $p<.001$ ,  $\eta p^2=.102$ , as well as among those who teach in PhD programmes and those who do not, WILK'S  $\Delta=.949$ ,  $F(3, 163)=2.910$ ,  $p=.036$ ,  $\eta p^2=.051$ . In both cases, the results of univariate tests allowed to conclude that teachers who teach in these study cycles use the collective, individual and portfolio assessment methods, and reflections more frequently than those who do not teach in those same study cycles (see table 16).

**Table 16.** Results of the univariate tests to analyse the effect of the study cycle on the valuation and frequency of the use of assessment methods  $\eta^2$

	LICENCIATURA DEGREE					INTEGRATED MASTER DEGREE					MASTER DEGREE					PhD DEGREE				
	Yes M (SD)	No M (SD)	F (df)	P	$\eta^2$	Yes M (SD)	No M (SD)	F (df)	P	$\eta^2$	Yes M (SD)	No M (SD)	F (df)	P	$\eta^2$	Yes M (SD)	No M (SD)	F (df)	P	$\eta^2$
<b>VALUATION OF ASSESSMENT METHODS</b>																				
Collective methods	2.66 (.865)	2.32 (.920)	3.383 (1, 161)	.068	.021	2.72 (.773)	2.56 (.963)	1.292 (1, 153)	.257	.008	2.72 (.844)	2.18 (.897)	10.630 (1, 161)	.001	.062	2.74 (.831)	2.46 (.920)	3.242 (1, 157)	.040	.027
Portfolios and reflections	2.11 (.899)	1.71 (.852)	4.686 (1, 161)	.032	.028	1.88 (.836)	2.20 (.940)	4.593 (1, 153)	.034	.029	2.13 (.892)	1.76 (.888)	4.631 (1, 161)	.033	.028	2.16 (.874)	1.94 (.937)	1.806 (1, 157)	.138	.014
Individual methods	2.73 (.835)	2.38 (.978)	3.661 (1, 161)	.057	.022	2.69 (.801)	2.72 (.908)	.039 (1, 153)	.844	.000	2.78 (.816)	2.25 (.928)	11.360 (1, 161)	.001	.066	2.80 (.745)	2.55 (.980)	2.447 (1, 157)	.069	.021
<b>FREQUENCY OF THE USE OF ASSESSMENT METHODS</b>																				
Collective methods	2.60 (.843)	2.49 (.937)	.388 (1, 169)	.534	.002	2.77 (.748)	2.42 (.907)	6.893 (1, 160)	.009	.041	2.67 (.849)	2.27 (.822)	6.952 (1, 169)	.009	.040	2.73 (.843)	2.40 (.864)	6.231 (1, 165)	.014	.036
Portfolios and reflections	1.88 (.748)	1.54 (.609)	5.179 (1, 169)	.024	.030	1.66 (.682)	1.90 (.709)	4.673 (1, 160)	.032	.028	1.93 (.758)	1.46 (.513)	13.562 (1, 169)	<.001	.074	1.94 (.731)	1.68 (.728)	5.050 (1, 165)	.026	.030
Individual methods	2.48 (.690)	2.21 (.796)	3.685 (1, 169)	.057	.021	2.38 (.704)	2.49 (.715)	.988 (1, 160)	.322	.006	2.54 (.694)	2.09 (.680)	12.774 (1, 169)	<.001	.070	2.56 (.645)	2.31 (.769)	5.276 (1, 165)	.023	.031

**Note.** M (Mean); SD (Standard Deviation); df (degrees of freedom)

As regards to the field of knowledge in which teachers teach, multivariate tests revealed the existence of statistically significant differences, although with negligible effect size, in the valuation of the different assessment methods (WILK'S  $\Delta=.744$ ,  $F(12, 413)=4.063$ ,  $p<.001$ ,  $\eta^2=.094$ ) and of statistically significant differences, with small effect size in the use of the different assessment methods (WILK'S  $\Delta=.694$ ,  $F(12, 434)=5.360$ ,  $p<.001$ ,  $\eta^2=.115$ ).

The results of the univariate tests (cf. Table 17) and the corresponding pairwise comparisons identified a greater appreciation of collective methods in teachers who teach in the areas of Engineering and Technology Sciences concerning teachers in Exact Sciences ( $p=.001$ ) and Medical and Health Sciences ( $p=.047$ ); and in Social Sciences teachers concerning Exact Sciences teachers ( $p=.008$ ). They also made it possible to identify a greater appreciation of portfolios and reflections by teachers in Social Sciences concerning teachers in Exact Sciences ( $p=.007$ ) and Engineering and Technology Sciences ( $p=.049$ ). The other comparisons were not statistically significant.

**Table 17.** Results of the univariate tests to analyse the effect of the field of knowledge on the valuation and frequency of the use of assessment methods

	FIELD OF KNOWLEDGE					F (df)	P	$\eta^2$
	ES M (SD)	CET M (SD)	HMS M (SD)	SS M (SD)	H M (SD)			
<b>VALUATION OF ASSESSMENT METHODS</b>								
Collective methods	1.89 (.897)	2.90 (.644)	2.26 (.926)	2.72 (.887)	2.28 (.895)	5.919 (4, 158)	<.001	.130
Portfolios and reflections	1.46 (.611)	1.87 (.828)	1.83 (.946)	2.35 (.948)	2.11 (.698)	4.361 (4, 158)	.002	.099
Individual methods	2.23 (.968)	2.76 (.824)	2.51 (.985)	2.74 (.864)	2.69 (.735)	1.280 (4, 158)	.280	.031
<b>FREQUENCY OF THE USE OF ASSESSMENT METHODS</b>								
Collective methods	1.79 (.587)	2.90 (.729)	2.41 (.834)	2.69 (.862)	2.12 (.805)	7.582 (4, 166)	<.001	.154
Portfolios and reflections	1.46 (.489)	1.66 (.689)	1.51 (.580)	2.12 (.817)	1.68 (.352)	6.007 (4, 166)	<.001	.126
Individual methods	2.20 (.735)	2.35 (.676)	2.24 (.729)	2.56 (.722)	2.57 (.701)	1.689 (4, 166)	.155	.039

**Note.** M (mean); SD (standard deviation); df (degrees of freedom, ES (Exact Sciences), CET (Engineering and Technology Sciences); MHS (Medical and Health Sciences), SS (Social Sciences), H (Humanities)

Concerning the use of the assessment methods, univariate tests identified the existence of statistically significant differences between teachers from different fields of knowledge, but with negligible effect size, in the use of portfolios and reflections and collective methods (see Table 17), favorable, according to pairwise comparisons, to the use of collective methods by teachers of Engineering and



Technology Sciences concerning teachers of Exact Sciences ( $p < .001$ ) and Humanities ( $p = .004$ ); and, Social Sciences teachers concerning Exact Sciences teachers ( $p = .001$ ). About the use of portfolios and reflections, pairwise comparisons revealed a greater use of these methods by teachers of Social Sciences concerning teachers of Exact Sciences ( $p = .015$ ), Medical and Health Sciences ( $p = .009$ ) and Engineering and Technology Sciences ( $p = .005$ ).

No statistically significant differences were identified between the participants' professional experience ( $U = 3330$ ,  $p = .550$ ); the study cycles, *Licenciatura* degree ( $U = 2090.50$ ,  $p = .369$ ), Integrated Master's degree ( $U = 3647$ ,  $p = .799$ ), Master's degree ( $U = 2689$ ,  $p = .378$ ) and PhD degree ( $U = 3570$ ,  $p = .184$ ); and, the professional category ( $\chi^2 = 0.990(2)$ ,  $p = .609$ ), in the valuation of written tests and exams. However, statistically significant differences were found in terms of the field of knowledge and the frequency of pedagogical training (cf. Table 18). The valuation of written tests and exams is significantly higher in teachers who do not have pedagogical training. Regarding the differences identified in the field of knowledge, subsequent Mann-Whitney tests were applied to examine the differences between groups (pairwise). A Bonferroni correction was applied and the significance level of  $p < .005$  (value resulting from dividing the significance value .05 by the number of tests performed (10) was adopted). Exact Sciences' teachers reported a higher valuation of written tests and exams than Social Science teachers ( $U = 307.50$ ,  $p = .002$ ), and Humanities' teachers reported a greater appreciation concerning Social Sciences' teachers ( $U = 391.50$ ,  $p < .001$ ). The remaining group comparisons were not significant.

Regarding the frequency of using written tests and exams, no statistically significant differences were found between the professional experience of the participants ( $U = 3331$ ,  $p = .488$ ); the study cycles of *Licenciatura* ( $U = 2215$ ,  $p = .648$ ), Integrated Master ( $U = 3501$ ,  $p = .385$ ), Master ( $U = 2810$ ,  $p = .481$ ) and Doctorate ( $U = 3935$ ,  $p = .737$ ); and the professional category ( $\chi^2 = 2.525(2)$ ,  $p = .283$ ). However, statistically, significant differences were found in the scientific area and the frequency of training actions in the use of written tests and exams (cf. Table 18). The use of written tests and exams is significantly higher in teachers who do not have pedagogical training. The valuation of written tests and exams is significantly higher in teachers who do not have pedagogical training. As regards the differences identified at the level of the field of knowledge, subsequent Mann-Whitney tests were applied to investigate the differences between groups (pairwise). A Bonferroni correction was applied and the significance level was set at  $p < .005$  (value resulting from dividing the significance value  $p < .05$  by the number of tests performed (10)).

Exact Sciences teachers reported a higher frequency of using written tests and exams concerning Engineering and Technology Sciences teachers ( $U=280.50$ ,  $p=.023$ ), Medical and Health Sciences teachers ( $U=97.50$ ,  $p=.029$ ) and teachers of Social Sciences ( $U=282.50$ ,  $p<.001$ ); and professors in Engineering and Technology Sciences reported a higher frequency of using written tests and exams concerning professors in Social Sciences ( $U=1298$ ,  $p=.001$ ). The remaining comparisons between groups were not significant.

### ***Influence of variables related to the assessment practices and the Bologna Process on the valuation and use of the assessment methods***

An important aspect in the context of the present research was to understand whether teachers who declare to have changed the way they assess their students value and use different assessment methods than teachers who responded negatively. The results of MANOVA revealed that there is no influence of the change in assessment practices in the valuation (WILK'S  $\Delta=.931$ ,  $F(6, 314)= 1.905$ ,  $p=.80$ ,  $\eta^2=.035$ ) and in the frequency of use (WILK'S  $\Delta=.951$ ,  $F(6, 330)=1.393$ ,  $p=.217$ ,  $\eta^2=.025$ ) of the different assessment methods. Likewise, the results of the multivariate tests did not allow to identify an influence of the recognition of the role of the Bologna Process in changing the assessment practices in the valuation (WILK'S  $\Delta=.985$ ,  $F(6, 310)=.402$ ,  $p=.878$ ,  $\eta^2=.008$ ) and the frequency of use (WILK'S  $\Delta=.949$ ,  $F(6, 326)=1.430$ ,  $p=.202$ ,  $\eta^2=.026$ ) of the different assessment methods.

No statistically significant differences were found between recognising the role of the Bologna Process in changing assessment practices in Higher Education ( $\chi^2=0.101(2)$ ,  $p=.951$ ) in the valuation of tests and written exams. However, statistically, significant differences were found in terms of changing assessment practices in the valuation of written tests and exams (cf. Table 18). Mann-Whitney tests were applied to examine the differences between groups. A Bonferroni correction was applied and the significance level of  $p<.016$  (value resulting from dividing the significance value  $p<.05$  by the number of tests performed (3) was adopted). Teachers who did not change their assessment practices reported a greater appreciation of tests and written exams concerning teachers who answered affirmatively ( $U=935.50$ ,  $p=.01$ ). The remaining comparisons between groups were not significant.

Regarding the frequency of use of tests and written exams, no statistically significant differences were found in terms of the influence of the Bologna Process in changing assessment practices in Higher Education ( $\chi^2=0.104(2)$ ,  $p=.949$ ), as well as from changing assessment practices (see Table 18).

**Table 18.** Results of non-parametric tests for the analysis of the effect of the frequency of pedagogical training actions, area of knowledge, and the indication of changes in the assessment practices in the valuation and use of written tests and exams

	ATTENDING PEDAGOGICAL TRAINING				FIELD OF KNOWLEDGE						INDICATION OF CHANGES IN THE ASSESSMENT PRACTICES THROUGHOUT THE CAREER					
	Yes MR	No MR	U	P	ES MR	ETS MR	MHS MR	SS MR	H MR	$\chi^2$ (df)	P	Yes	No	Maybe	$\chi^2$ (df)	P
Valuation of written tests and exams	83.98	102.60	2923	.012	120.60	96.28	98.95	74.42	123.29	24.644 (4)	<.001	88.58	119.44	97.44	6.677 (2)	.035
Frequency of the use of written tests and exams	82.72	104.95	2775	.002	129.63	105.64	92.26	76.19	97.36	22.347 (4)	<.001	96.34	90.82	83.33	2.527 (2)	.283

**Note.** MR (mean rank); U (Mann-Whitney U);  $\chi^2$  (Chi-Squared); *df* (degrees of freedom), ES (Exact Sciences), CET (Engineering and Technology Sciences); MHS (Medical and Health Sciences), SS (Social Sciences), H (Humanities)

**Correlation between the most valued assessment methods and the most used assessment methods**

Table 19 presents the matrix of correlations between the valuation and the frequency of the use of assessment methods. A significant strong correlation was identified between the valuation and the frequency of use of the different assessment methods. A greater valuation of collective methods, portfolios and reflections, and individual methods are associated with a greater frequency of their use. A positive and moderate relationship was also found between the valuation and the frequency of using written tests and exams.

Nevertheless, the analysis of the results of the Spearman coefficient enables to identify that a higher appreciation of portfolios and reflections is associated with a lower appreciation and use of tests and exams; a higher use of portfolios and reflections is associated with lower use of tests and exams; a higher use of collective methods is associated with a lower use of tests and exams; and, a higher use of written tests and exams is associated with a lower use and appreciation of portfolios and reflections; as well as a lower use of collective methods.

**Table 19.** Correlation matrix between the valuation of assessment methods and the frequency of using assessment methods (Spearman's correlation)

VALUATION OF ASSESSMENT METHODS				FREQUENCY OF THE USE OF ASSESSMENT METHODS			
Collective methods	Portfolios and reflections	Individual methods	Written tests/exams	Collective methods	Portfolios and reflections	Individual methods	Written tests/exams
<b>VALUATION OF ASSESSMENT METHODS</b>							
Collective methods	1	.563**	.623**	-.115	.787**	.400**	.421**
Portfolios and reflections		1	.571**	-.172	.482**	.822**	.489**
Individual methods			1	.054	.408**	.369**	.735**
Written tests/exams				1	-.246*	-.295**	-.079
<b>FREQUENCY OF THE USE OF ASSESSMENT METHODS</b>							
Collective methods				1	.457**	.407**	-.171*
Portfolios and reflections					1	.409**	-.402**
Individual methods						1	-.011
Written tests/exams							1

**Note.** \* p < .05; \*\* p < .01; \*\*\* p < .001

#### 4.1.3. Perspectives of university teachers about their assessment practices

In this section, the perspectives of university teachers about the assessment practices are presented. For that purpose, the scale “practices of assessment”, adapted from Gonçalves (2016), was validated and analysed. A set of closed and open-ended questions were analysed according to the following specific research goals: (1) to get to know university teachers’ practices of assessment; (2) to identify the influence of demographic and professional variables on university teachers’ practices of assessment; (3) to understand the main challenges on assessment from the perspective of university teachers; (4) to get to know possible changes in the assessment practices in the post-Bologna context; and, (5) to analyse the implications of the implementation of the Bologna Process in the assessment practices.

The psychometric properties of the measures were studied, namely the internal structure and the reliability of the scores. To explore the internal structure of the measures, a principal component analysis (exploratory factor analysis) was performed to explore the factors underlying the data. The principal component analysis was conducted using IBM SPSS Statistics 24. The analysis was conducted using an orthogonal rotation (varimax).

A PCA of the data obtained in the measure “Practices of assessment” was performed. The KMO measure was adequate (KMO=.87) and Bartlett’s test of sphericity indicated adequate correlations between the items,  $\chi^2(435)=1825.21$ ,  $p<.001$ , suggesting that the data are appropriate for PCA. Initial analysis indicated that eight components had eigenvalues higher than one, explaining a total of 62.93% of the variance. Considering the literature review on assessment, a new PCA was performed to force three factors. This second PCA yielded slightly lower results to the first one, explaining 42.87% of the variance. However, when analysing the factor loadings, there were two items (Item 2 and 4 - "The assessment that I do focuses on what the students know, understand and use of the curricular goals") with a very low factorial load (>.35). Another item (Item 23 - "I help students to identify their learning needs") highly loaded simultaneously on components 1 and 2. Given its ambiguity, those items were eliminated and the PCA was rerun. The results of this analysis are presented in Table 20. The items that cluster on the same component suggested that: component 1 represented the "*engagement and participation of students in the assessment*"; component 2 represented the "*use of assessment by the teacher in the teaching and learning process*"; and, component 3 represented the "*assessment as a process determined by external factors*". This third PCA yielded slightly higher results than the second one, the four components explained 46.57% of the variance. All items had high factor loadings in the respective component. Cronbach’s alpha was higher than .60 in all the three components (cf. Table 20).

**Table 20.** Components and factor loadings of the items of the measure “Practices of Assessment”

ITEMS	FACTORS		
	1 Engagement and participation of students in the assessment	2 Use of assessment by the teacher in the teaching and learning process	3 Assessment as a process determined by external factors
20 - I provide guidance that helps students to assess the learning of others	.705		
14 - I provide guidance that helps students to assess their own performance.	.679		
25 - I provide guidance that helps students to assess their own learning.	.670		
16 - I help students to identify their learning needs.	.654		
15 - I identify students' strengths and I advise them on how they should be strengthened	.633		
7 - I give students the opportunity to decide their own learning goals.	.631		
26 - Students are helped to plan the next steps of their learning.	.616		
29 - I give students the opportunity to assess the other students' performance.	.602		
30 - I regularly discuss with students, ways of promoting learning.	.571		
18 - Students are helped to think about how they learn best.	.567		
17 - Students are encouraged to identify their mistakes as treasured learning opportunities.	.559		
21 - The errors of the students are valued by providing evidence about their thinking.	.554		
19 - I use questioning to identify the explanations/ justifications of students concerning their performance.	.541		
11 - I provide information to students on their performance compared with its previous performance.	.499		
2 - I use the information which I obtain from the assessment of my students' learning in the planning of future activities.		.736	
1 - The assessment of learning provides me with useful information about students' understanding of what has been taught.		.675	
8 - I use questioning to identify students' knowledge.		.587	
12 -Students' learning goals are discussed with students in a way they can understand them.		.582	
28 - The learning assessment criteria are discussed with the students in a way they can understand them.		.559	
9 - I take into account the best practices that a teacher can use to assess learning.		.511	
10 - My assessment of learning practices help students to learn independently.		.486	
22 - Students are helped to understand the learning goals of each activity, or set of activities, developed.		.475	
27 - Students' efforts are important for the assessment of their learning.		.464	
5 - The feedback that students receive helps them to improve.		.457	
24 - Students' learning goals are mainly determined by the curriculum.			.780
13 - The assessment of student performance consists primarily of assigning a grade.			.680
3 - The learning assessment practices that I develop are determined more by the curricular plan than by the analysis of what the students have been developing in the programme or classes.			.645
<i>Eigenvalues</i>	8.46	2.34	1.78
<i>% Variance</i>	31.32	8.66	6.58
<i>Cronbach's alpha</i>	<b>.894</b>	<b>.796</b>	<b>.619</b>

Table 21 presents the results of descriptive statistics concerning teachers' assessment practices. The assessment practices associated with the use of the assessment in the teaching and learning process

appear as the most used, while assessment practices determined by external factors are the least used (cf. Table 21). The results of descriptive statistics also reveal a positive trend in the use of practices related to the involvement and participation of students in the assessment.

**Table 21.** Descriptive statistics of the university teachers' assessment practices

	n	%	Mean	SD	Asymmetry	Kurtosis	KS tests	
							KS	P
1 – Engagement and participation of students in the assessment			2.71	0.493	-0.072	0.120	0.068	.064
2 - Use of assessment by the teacher in the teaching and learning process	162	87.6	3.14	0.389	-0.113	-0.281	-0.113	.017
3 - Assessment as a process determined by external factors			2.59	0.577	-0.264	-0.303	0.160	<.001

**Note:** KS = Kolmogorov-Smirnov.

The multivariate tests allowed to verify that there is no significant effect of the age, sex, years of experience as a university teacher, professional category and the frequency of pedagogical training by the participants in terms of the different assessment practices. Concerning the influence of study cycles on the use of different assessment practices, multivariate tests revealed the absence of statistically significant differences between teachers who teach in the Licenciatura, Integrated Master and PhD programmes.

Notwithstanding, the results of MANOVA allowed to verify the existence of statistically significant differences, although with negligible effect size, between teachers who teach in Master's degree programmes and those who do not (WILK'S  $\Delta$ =.931,  $F(3, 158)=3.876$ ,  $p=.010$ ,  $\eta p^2=.069$ ). The results of the univariate tests allowed to conclude that the teachers who teach in this cycle of studies attributed more importance to the practices associated with the involvement and participation of students in the assessment, and to the practices associated with the use of assessment by the teacher in the teaching and learning process. Less importance was attached to the practices determined by external factors (cf. Table 22).

**Table 22.** Results of the univariate tests to analyse the effect of the study cycle (Master degree) on the assessment practices

	Study Cycles		F (df)	P	$\eta p^2$
	Master degree				
	Yes	No			
	M (SD)	M (SD)			
1 – Engagement and participation of students in the assessment	2.76 (.476)	2.52 (.513)	6.725 (1, 160)	.010	.040
2 - Use of assessment by the teacher on the teaching and learning process	3.17 (.373)	3.01 (.427)	4.484 (1, 160)	.036	.027
3 - Assessment as a process determined by external factors	2.62 (.588)	2.90 (.482)	6.519 (1, 160)	.012	.039

**Note:** M (mean); DP (standard deviation); df (degrees of freedom)

As regards the field of knowledge, multivariate tests revealed the existence of statistically significant differences, although with negligible effect size, in the use of different assessment practices (WILK'S  $\Delta=.876$ ,  $F(9, 380)=2.366$ ,  $p=.013$ ,  $\eta p^2=.043$ ). The results of the univariate tests (cf. Table 23) and the corresponding pairwise comparisons allowed to identify a greater use of practices associated with the involvement and participation of students in the assessment from the teachers who teach in the areas of Social Sciences compared to those who teach in Exact Sciences and Science of Engineering and Technology ( $p=.031$ ). They also made it possible to identify a greater use of assessment practices determined by external factors in teachers who teach in the areas of Exact Sciences and Engineering and Technology Sciences concerning Social Science teachers ( $p=.029$ ). Finally, the results of MANOVA revealed that there is no influence of the change in assessment practices and the role of the Bologna Process in the changing of the assessment practices on the use of different assessment practices.

**Table 23.** Results of the univariate tests to analyse the effect of the field of knowledge on the valuation and frequency of the use of assessment methods

	Field of Knowledge				F (df)	P	$\eta p^2$
	ES & CET	MHS	SS	H			
	M (SD)	M (SD)	M (SD)	M (SD)			
1 - Engagement and participation of students in the assessment	2.56 (.459)	2.72 (.484)	2.81 (.547)	2.83 (.233)	3.080 (3, 158)	.029	.055
2 - Use of assessment by the teacher in the teaching and learning process	3.06 (.391)	3.10 (.419)	3.16 (.393)	3.34 (.257)	2.548 (3, 158)	.058	.046
3 - Assessment as a process determined by external factors	2.82 (.500)	2.82 (.556)	2.53 (.631)	2.67 (.511)	3.158 (3, 158)	.026	.057

**Note.** M (mean); SD (standard deviation); df (degrees of freedom, ES (Exact Sciences), CET (Engineering and Technology Sciences); MHS (Medical and Health Sciences), SS (Social Sciences), H (Humanities)



### **Changes in the assessment practices**

University teachers were asked about possible changes in assessment after the implementation of the Bologna process. Most of the participants (85,9%) claimed that they have changed the way they assess their students throughout their career; 9.8% reported that there was no change and 4.3% responded maybe (cf. Table 24). When asked whether the implementation of the Bologna Process contributed to change their assessment practices, 47.8% answered affirmatively, 29.1% said “no” and 23.1% responded “maybe” (cf. Table 24).

**Table 24.** Changes in assessment practices and the Bologna Process's contribution to change the assessment practices

	<b>yes</b>		<b>No</b>		<b>Maybe</b>		<b>Missing</b>	<b>Total</b>
	<b>f</b>	<b>%</b>	<b>f</b>	<b>%</b>	<b>f</b>	<b>%</b>		
I changed the way I assess my students	158	85,9	18	9,8	8	4,3	1	185
The implementation of the Bologna Process has contributed to the change of my assessment practices	87	47,8	53	29,1	42	23,1	3	185

### **Influencing factors on the assessment practices**

The factors related to the context of the practice are prevalent when it comes to changes in assessment practices. Structural and organisational factors are considered less influential (see Table 25).

**Table 25.** Changes in the assessment practices

<b>Category</b>	<b>Participants answers</b>	<b>f</b>
a) Structural and organisational factors	Yes	11
	No	2
	Maybe	3
b) Factors related to changes introduced by the legal and institutional framework	Yes	33
	No	1
	Maybe	1
c) Factors related to the context of practice	Yes	89
	No	6
	Maybe	3

The number of students per class, students' characteristics, the type and content of the courses, the material and technical conditions and collaborative work were pointed out as main factors related to the conditions of the teaching from the part of the participants who claimed to have changed the way they assess their students:

*The answer to this questionnaire is difficult because the form of assessment is determined by the number of students. Thus, in the optional courses, I have had more experiences with group/individual work, peer assessment and discussion. (Q14)<sup>15</sup>*

*The general philosophy has remained, but the implementation details go forward based on experimentation, and they adapt to the circumstances (number of students, number of teachers, available equipment/space/technology, schedule/time, etc.). (Q30)*

*The decrease in the number of students per class allowed me to provide a more individualised service (either in individual or group work) and more regular and personalised feedback. The collaborative work which I develop with my colleagues and the joint-teaching of specific courses also enabled to contact with other assessment practices which I have been adopting. (Q59)*

As for the factors related to changes introduced by the legal and institutional framework, the introduction of the Bologna Process, the changes imposed by the institutions and the evaluation processes were identified by the participants:

*The Bologna process and the adoption of the institutions to this model has fostered other forms of assessment, besides the traditional examinations. (Q18)*

*Yes, because over the years, the curricular plan has changed a lot. (Q21)*

*As a result of the teaching policies, higher education financing and the enhancement of my academic career, I was forced to abandon any laboratory and/or practical/industrial class. (Q89)*

The importance of the training experience, self-learning, experience as teachers, experimentation and the introduction of new models of assessment were also emphasised by the participants:

*New practices: to review the exams with students, to discuss exams after the exams take place, discussin of work, worksheets during the courses, to send an exam model before the exam. (Q36)*

*Throughout the teaching-learning process, I felt the need, because of the results, to change the criteria, processes and methodologies in the following years to obtain better results. (Q157)*

*I have diversified and adapted my assessment strategies to the profile of my students and as this profile has been changed, I intensified self-assessment practices and student assessment in my practice. (Q168)*

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<sup>15</sup> The quotations of the voices of the teachers are identified with the number of the questionnaire (e.g . Q1 corresponds to questionnaire 1)

Teachers who did not change their assessment methods point out as structural and organisational factors, for example, the fact that they do not have the power to change the functioning of the curricular units:

*As a guest teacher, the assessment guidelines are defined mainly by the teacher responsible for the course. (Q114)*

*The assessment is determined by superiors. (Q147)*

The absence of changes in the institutional context was pointed out by the participants who have not changed their practices:

*The institution's assessment methods remained unchanged. (Q32)*

As for the factors related to the context of the practice, the belief that teachers assess in the most appropriate way possible prevails. Some responses, however, show the willingness and the need to implement changes in terms of assessment practices:

*The form of student assessment has remained constant in recent years as it is the most suitable for the course. (Q11)*

*I believe that the way I assess continues to be more reliable (Q75)*

*So far I have not modified my assessment practices but I am convinced that in small classes it is necessary to implement new forms of assessment that help the student to develop more skills. (Q119)*

The influence of the context, the characteristics of the students, the study cycle and the contents to be taught are point out by the teachers who answered "maybe" in regard to structural, organisational and cultural factors:

*The assessment depends on the topic and the context. (Q29)*

*It essentially depends on the levels of education and the sociological "profile" of the students in each school year. (Q69)*

*By adapting different forms of assessment to the various cycles that I have been teaching. (Q104)*

The changes in terms of the institution's regulations were the main factor pointed out by the participants who stated that they may have changed their assessment practices:

*The institution changed the regulation. (Q132)*

The focus on the student and on the teaching and learning process, as well as the coexistence of a diversity of assessment methods, were highlighted by the participants who answered maybe in the factors related to the context of the practice:

*Greater attention to students and their learning. (Q34)*

*I continue to attach great importance to written tests because they give me the most objective and fair way to assess the work developed by the student as a whole. Since I teach an Engineering course, I also attach great relevance to practical and experimental works, which enhance more appealing and proactive learning. These works tend to be developed in groups because in the engineering area it is also important to enhance the student's ability to relate and work with others. (Q84)*

*I privilege the project work with exposure/oral defence to develop skills in transmitting information and its justification; control of plagiarism in written works; promoting discussion/debate of ideas related to content and emerging issues. (Q128)*

### **The role of the Bologna Process in changing assessment practices**

The factors related to the context of the practice are the factors with the greatest influence in terms of the contribution of the Bologna Process to change assessment practices. The structural and organisational factors assume a special relevance for the participants who do not recognise the contribution of the Bologna process to change the assessment practices. (cf. Table 26).

**Table 26.** Role of the Bologna Process on changing the assessment practices

<b>Category</b>	<b>Participants' answers</b>	<b>f</b>
a) Structural and organisational factors	Yes	12
	No	9
	Maybe	11
b) Factors related to the changes introduced by the legal and institutional framework	Yes	9
	No	11
	Maybe	2
c) Factors related to the context of practice	Yes	44
	No	19
	Maybe	12

The receptivity of institutions to innovative assessment practices, the changes in the students' profile, and the existence of smaller size classes were the main aspects highlighted by the participants who recognised the impact of the Bologna process in changing the assessment practices. Nonetheless, the deterioration of the teaching conditions was also identified:

*Because the kind of students we have forces us to take action to update our teaching and assessment skills. Bologna has created or questioned what we were doing and I think the reality is changing (Q119)*

*Somehow yes. Despite the number of students per class and their diversity, it was possible in some situations to divide students into shifts to achieve more oriented teaching and assessment. On the other hand, it was also possible to intensify collaborative work. (Q173)*

*At first, I believe that Bologna drew attention to the need to diversify the forms of assessment and to adapt to the "new" student-centred learning paradigm. In practice, with the reduction of contact hours and with huge classes, this first effect ended up fading in some courses. (Q184)*

The formal changes imposed by Bologna (e.g.: six-monthly courses, ECTS, among others) and the standardisation of the assessment criteria and programmes were emphasised by the participants. Nevertheless, these changes have, according to participants, led to both positive and negative implications:

*The institutions allowed teachers to use less conventional methods (at the time), classroom simulations, debates, presentations using technologies, action research, projects, etc. (Q25)*

*The effort to standardise assessment criteria and ECTS led inevitably to a change of practices that I consider positive. (Q133)*

*"It allowed to revise the courses, but somehow it was below expectations as regards to goals and learning outcomes." (Q171)*

*I believe that more in the formal processes (e.g. documents/course files...) than eventually in the conceptions/practices. Continuous assessment is, for example, more common after Bologna, but often it just generates a bigger number of assessment criteria (e.g. increasing the number of tests). (Q177)*

This ambivalence was prevalent. It was possible to identify factors with positive and negative effects on the assessment practices. The introduction of innovative assessment methods, with a greater focus on student participation, the prevalence of formative and continuous assessment to the detriment of traditional assessment methods, the development of projects outside the classroom and the university itself, the competency-based assessment or feedback were positive changes highlighted by the participants:

*I fully agree, once assessment became more directed to the acquisition of (practical) competencies and whenever necessary to use continuing assessment with feedback on every moment of assessment. (Q8)*

*It contributes to more continuous processes and use of different (and more student-centred) assessment methodologies. (Q20)*

*Although in many cases rhetorical, it introduced the need to think about learning and focus on working with students in the development of activities and not in the old scheme of theoretical classes that today (even due to technological change) students do not stand. (Q172)*

*More assessment of skills. (Q42)*

On a negative side, the reduction of the number of training hours' and the extension of the programmes, the uniformity of teaching practices, and the lack of in-depth and effectiveness of teaching and assessment are reported as determining factors in the assessment practices:

*It has contributed in a very negative way, with disastrous consequences. The courses' duration is less and less limited. In Law school, many students finish the masters' course with less quality and less knowledge than in the previous graduations. (Q31)*

*Yes. Diversification of assessment practices. Artificialism in the real value of classifications. (Q34)*

*It completely transformed everything, given that it made teaching and, consequently, learning more infantile, leading to the need to create new teaching and learning strategies and, consequently, assessment. (Q61)*

*However, it brought rush, which is the enemy of in-depth reading. The students stopped reading books to use photocopies, especially in the 1<sup>st</sup> cycle. (Q152)*

The large number of students per class, the characteristics of students (e.g. lack of autonomy), the resistance of universities and from its various actors to change, the insufficiency of resources and the deficient preparation of the system itself were highlighted by the participants who consider that Bologna had no impact on the assessment practices:

*Bologna only had an impact on the number of hours of classroom teaching. Too many students prevent Bologna from being implemented. (Q10)*

*In my opinion, the students did not assimilate the spirit of the reform implemented by the Bologna Process. I think that students do not have the autonomy of study and research required by the Bologna Process. (Q91)*

*It is difficult to implement it in practice. The autonomy of some students is deficient in this regard. (Q140)*

*My experience is that the University resisted changing, either by the natural resistance of the actors (teachers, students, and formal leaders), whether by the lack of material and human resources needed for an effective implementation of the Bologna Process. (Q165)*

Regarding the factors linked to the changes introduced by the legal and institutional framework, some participants consider Bologna an "administrative formality", a formal transition responsible for modification of formal documents (e.g. curricular plans) but did not have the desired impact on the assessment practices:

*Bologna has changed the curricula of the courses, but with little effect in each course... (Q29)*

*It changed the curricular plans but not assessment practices. (Q46)*

*There were terminological changes (e.g., the degrees became known as master's degrees) but in practical terms of assessment, the changes appear to be insignificant. (Q75)*

*It was a formal transition. (Q106)*

Regarding the factors related to the context of the practice, the same logic prevails: the changes were "cosmetic", the appearance changed but not the practice itself, and in some cases, the changes were done according to the convenience of the different actors. When these changes exist they are "more rhetorical than practical" and resulted, occasionally, from the individual and collective work of teachers who tend to follow a more formative logic, but not necessarily motivated by the Bologna Process:

*The assessment remains to be done by exam, written tests based on multiple-choice questions. It has changed almost nothing because the change in assessment involves a change in teachers' conceptions of what it is to 'learn' and 'teach' and this does not happen by decree. (Q45)*

*It should, but it remains the same. The big changes seem to arise only when it is convenient for the teacher to pass on some of the responsibility and effort to the student... (Q63)*

*The changes in the assessment practices were more rhetorical than practical. The changes are essentially a result of the teachers' work, individually and/or collectively (disciplinary groups, teams, etc.). (Q174)*

The number of students per class, the "closed logic" of some courses, as well as the human and material resources available, were pointed out as structural and organisational factors by the teachers who answered "maybe":

*The reduction of the courses is often limiting in the teaching-learning process (Q1)*

*I do not know, objectively the practices that remain connected with the closed logic of each course have not changed. (Q69)*

*The available bibliography and human resources and conditions greatly affect the implementation of the process. (Q90)*

*There are practices that are hardly applicable if the student ratio remains high. (Q160)*

In terms of the factors linked to the changes introduced by the legal and institutional framework, the “semestrialisation” and condensation of the courses is the main factor pointed out by the participants who recognise that the Bologna Process may have contributed to change in assessment practices:

*I'm not sure it has changed, maybe just condensed! (Q105)*

*Semestrialisation of the courses. (Bologna forced it). (Q146)*

The lack of preparation of the teaching staff and students, the absence of structural changes in terms of assessment, and the prevalence of summative training were highlighted by the participants who answered "maybe". The emergence of more formative practices, the focus on the student and the teaching-learning process, greater concern with assessment, and greater autonomy of students were also highlighted:

*Students simply do not know what the Bologna process is... or they do not want to know because the process only requires a greater amount of individual work (at home) which they do not want... (Q12)*

*Teachers reflect more on this dimension, so I think they may have changed, but there is a lack of training. (Q60)*

*Maybe, it has contributed to increase the typologies of students and to continuous assessment, with more elements of assessment throughout the semester/year. But essentially I think that the logic of the written exam/test and written works with oral presentations were kept. (Q74)*

*It should have contributed to changes in assessment practices, but this has not been the case (or just a few), as it has been the case of the teaching methods. There was an adaptation of teaching to the Bologna Process and not a real implementation of it. (Q163)*

## **4.2. Focus group with university teachers**

In this section, the perspectives of university teachers about the assessment practices and the teaching profession are analysed. For that purpose, data from the focus groups with university teachers from one public Portuguese university were analysed, according to the following specific research goals: (1) to get to know university teachers' practices of assessment; (2) to get to know the main challenges, motivations



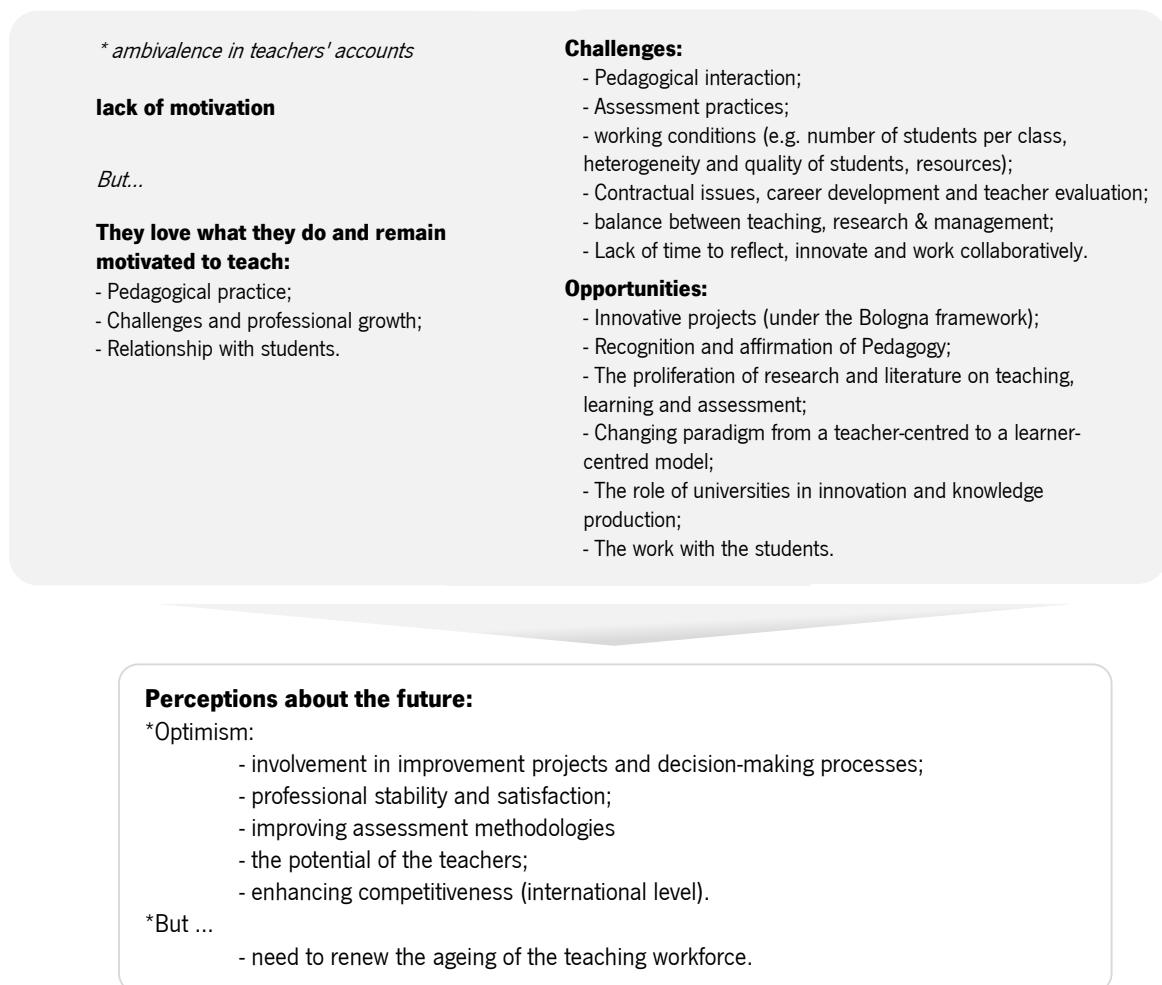
and future perceptions of university teachers in relation to their work; (3) to understand the main challenges in assessment from the perspective of university teachers; (4) to get to know possible changes in the assessment practices in the post-Bologna context; and, (5) to analyse the implications of the implementation of the Bologna Process in the assessment practices.

#### **4.2.1. Being a university teacher - perceptions and motivations**

The teaching work is complex and multifaceted. It presents several levels of complexity and is influenced by a multiplicity of factors. Korthagen's 'onion model' (Korthagen, 2004) identifies the existence of various levels that may influence teachers. The layers are disposed of like an onion including the environment, the behaviour, competencies, beliefs, identity, and mission. Most of these layers remain hidden and just the outer levels (environment and behaviour) can be directly observed by others, and the "outer levels can influence the inner levels" (Korthagen, 2004, p. 80). From this integrative perspective, a "good teacher may be characterised by a state of harmony between the various levels" (Korthagen, 2004, p. 94).

Kelchtermans (1995, 2009) identifies two main dimensions of the teachers' professional self. A first dimension, descriptive, concerns to the self-image, related to the way teacher sees himself/herself or how he/she thinks he/she is seen by others, with issues such as self-esteem, professional motivation (reasons for choosing teaching and to stay or leave the profession) and the perception of the task (how teachers define their work). A prospective dimension is also included which is related to the expectations of teachers concerning the future development of their professional situation. These dimensions are at the origin of the five components of teachers' self-understanding (Kelchtermans, 1995, 2009): self-image, self-esteem, professional motivation, task perception and perspectives about the future.

Taking into account these dimensions and components (Kelchtermans, 1995, 2009) and also the complexity and interdependence of the different layers of being a teacher (Korthagen, 2004) this sub-study intended to deepen some of these components, namely the motivation of university professors for teaching and their perceptions of the teaching and learning process with special emphasis on assessment. Figure 32 summarises the perceptions and motivations for teaching from the 38 university teachers participating in the focus groups.



**Figure 32.** Being a university teacher: perceptions and motivations

### ***Motivation to teach***

The motivation of the teachers participating in the focus groups is quite diverse and ambivalent. It seems to be influenced by several aspects, namely the conditions and context in which they develop their work, the interaction with the students and their love for teaching:

*I am motivated. In post-graduation programmes we have more motivation, it is always related to the research we do. The first cycle is a little bit more about routine. Although we have the freedom and we keep updated, there is always a part of the theme that is repetitive. (Teacher 38, Medical and Health Sciences)*

*From my personal experience as a teacher, I like to teach, it is not always the same, it depends on the classes, the students, the dynamics that are created and the empathy that we have with the students. (Teacher 23, Engineering and Technology Sciences)*

*Do I feel motivated? I would say, under construction, because it is not something I want and it happens, it is something that is on the way. Other colleagues and I are involved in projects here at the university. It turned out to be very motivating and stimulating at that time and with great strategies. Small projects that make possible to make a difference and reflect on all processes. I remember that my colleague was already involved in PBL projects, these are strategies that are interesting and help us redirect. I need a boost here. I don't know how, I needed to find out, to get on the path. (Teacher 32, Medical and Health Sciences)*

*Motivation, I don't want to be politically correct, but I don't feel very motivated. It is difficult to answer this, it depends on the days. My motivating factors have to do with the articulation between the professional and family dimensions. We have no schedule; it would be easier if we had a fixed schedule. We have a lot of challenges, a lot of limitations, a lot of restrictions but I also think it is an interesting challenge to understand how we can achieve specific goals by overcoming negative situations. I also like this constructive perspective. We are building a school that depends on us, on our attitude, on the effort we dedicate to it, even if it is a small part, it depends on us. It is our responsibility. (Teacher 35, Medical and Health Sciences)*

Despite the abundant references to lack of motivation, the love for working with students and teaching as well as project development are pointed out by several teachers who perceived teaching with optimism:

*Today I saw a cartoon, shared on a social network by a colleague, who says: "We want a holiday! When? Already! We are a university teacher. For what? To write three articles, to read five books, and finally to do a translation!" - it's a little bit like that. The motivation comes from joy for the topics we are working on and the research and, of course, if we like it, we are motivated to teach those areas. Because you are being paid to do something you like. (Teacher 17, Social Sciences)*

*I really like teaching, thinking about new things, new projects, it is very important to me. (Teacher 25, Humanities)*

*When we like our profession, we stop working for a lifetime! (Teacher 13, Engineering and Technology Sciences)*

*There are no weekends, there are no holidays. Last week I had three days in a row which were great because I stayed at home working on a report and I was pleased to stay at home like an "incarcerated mummy" working on a report! But in fact, I have always considered the academic context much stimulating, the classes themselves (despite the decreasing of the perseverance) are always stimulating meetings, especially at the level of the 2nd and 3rd cycles, the 1st is already starting to be a little heavy. I like teaching, its performative side, the conferences, the scientific meetings, the research. It gives pleasure and is highly rewarding, the problem is that it is not only that. (Teacher 18, Social Sciences)*

*On the one hand, I think that all of us, or at least the majority of us, really like what they are doing and it implies that we are motivated. On the other, in terms of career*

*development or other aspects, some people may feel without any perspectives. I feel motivated! And it is difficult to explain the reasons, the main thing is that I really like what I am doing but that's it. (Teacher 8, Engineering and Technology Sciences)*

*I am still having a good time. Teaching allows me to do research, I am now preparing for my PhD. I hope to have some years to take advantage of this good side of research and teaching. Also, I enjoy the contact with the students. I still have all the perseverance and availability to teach. (Teacher 19, Social Sciences)*

*It is difficult to explain our motivation because we are involved in everything. Then we don't have time for anything and why do we do that? But it is because we like it! It is because we like it! (Teacher 8, Engineering and Technology Sciences)*

*Every year I am thinking about what I am going to do next to motivate the students and I still come to the next year thinking about what I can do differently, I have not yet reached the stage for the year it will be the same thing... (Teacher 29, Exact Sciences)*

*From the teaching perspective, I feel a motivation peak. I want to try to do new things in my classes and even in the group and in the department. From a personal point of view, maybe five years ago I was not as motivated as I am today. I am particularly happy about this peak of motivation that I am experiencing. I hope it will last at least a few more weeks! (Teacher 9, Engineering and Technology Sciences)*

*There is always an inclination for chaos, the lack of resources, the lack of motivation for everything that has already been said but we are already used to it, we have been through much worse things. We know that we are not a priority field of knowledge but here we are. And, well, somehow it also gives us motivation and, despite everything, we still have students! (Teacher 25, Humanities)*

*The students motivate me! If I have a group of committed students, who ask questions, who can get things out of me, I feel motivated. If I have a lot of "hay bales" I will not kill the hunger! Motivation depends on the students! (Teacher 5, Engineering and Technology Sciences)*

*I haven't given up yet! I like to teach, I like my students, I like the link that I create with the students, I really like that! I'm very happy about it. I am self-motivated in that sense. (Teacher 28, Exact Sciences)*

The way teachers develop and organise their classes is a central element in the development of learning-centred system (Zabalza, 2006) particularly in the context of the Bologna Process. The development of innovative projects and of learner-centred activities emerge as opportunities for professional growth and as motivating factors for teachers. Teachers' motivation seems to be channeled to other areas such as research:

*I have more motivation for other activities, for example, research activities, especially if we are talking about teaching the first cycle, graduate school is very motivating, The first*

*cycle, especially at the end of some years, starts to be more repetitive. But I'm still motivated and I think I finish classes more motivated than I start them. There are other activities for which I am most motivated, primarily. (Teacher 37, Medical and Health Sciences)*

Teachers also emphasise the importance attached to research on the expense of teaching:

*If it weren't for anonymity, I probably wouldn't say this but when I signed up for my job it specified university teacher! That is what I signed in my contract. I'm a researcher who teaches some classes, that's how I feel. I like both. I am highly motivated to teach and to do research. (...) But this is my case, they give us rules and I play with the rules they give me. In terms of teacher evaluation, it is 60% research and only 40% teaching. I think it is not well structured and it is a message that it sends us. That's how I read it. (Teacher 21, Engineering and Technology Sciences)*

*I think that the university has given more importance to research. My path has been very focused on teaching. For many years, either I didn't understand well or I was distracted and only in recent years have I been more involved in research, which is, in fact, predominant in our career. So, from that point of view, I don't know if this is a good model. (Teacher 23, Engineering and Technology Sciences)*

*And it is curious that in another university, the teachers who have the least cautious research part constantly receive the teaching merit award because they pay attention to students as they should. (Teacher 21, Engineering and Technology Sciences)*

*Regarding motivation and taking into account that we have these three dimensions of teaching, research and management, and if teaching is not the most important one, therefore the motivation is also low. I have a lot of work, and I speak only for myself, if I have a lot of work, I "cut" in the teaching activities. (Teacher 24, Humanities)*

The university teachers have to conciliate the several dimensions of their work, e.g. teaching, assessment, administration tasks, external commitments, with research and publishing (Pedrosa-de-Jesus & Watts, 2019). The pressure for research outputs (Smith & Brown, 1995) represents an important challenge to the development of the work of teachers involved in the focus groups:

*Accumulation of functions. Right now there are too many things that are asked from us at the same time and namely lack of time for research. (Teacher 25, Humanities)*

*One of the biggest challenges we currently have is trying to conciliate the various aspects of our activity. There is an institutional discourse, which I understand, with a very strong focus on developing research activities, quality research. And, at the same time, this is a factor of positive external impact, in society and, obviously, in education. What happens is that conciliating research requirements with teaching is difficult. For several reasons, one of them is the lack of time. In my specific case, the performance of management functions increases this challenge. (Teacher 17, Social Sciences)*

*I am on a research project, so the time I dedicate to teaching is lower because I dedicate a lot of time to the research project. If we must have funded projects or diversified projects, it is necessary to exist a balance between what is required of us in terms of research and of our pedagogical practices. (Teacher 35, Medical and Health Sciences)*

Regarding the research dimension, the mismatch between research and teaching is also highlighted:

*A very important aspect is this mismatch between research and teaching, with an impact at national and international level. This has a perverse side that is particularly painful for us because we have to produce research related to what we are investigating. This will be required institutionally. And the problem is that we have to produce in Portuguese for our students because in English they don't read it, and the scientific production has to be English internationally. There is a mismatch here unless we multiply to publish with international projection, coordinate the projects, plus classes and the production of materials for students who are not open to reading in English, you see. This complicates the teacher's life, which will not be the most painful in the world, but it is complicated. (Teacher 18, Social Sciences)*

*As teachers, we have three areas of work: teaching, management and research. Of these three areas, teaching is overlooked. For several reasons, but apparently as has already been said because research is more important in the evaluation of teachers, for the university itself, for rankings. And that dimension spends a lot of time, resources and energy. Teaching, the preparation of classes and the assessment systems, I say as a self-criticism, is left behind. (Teacher 24, Humanities)*

Other teachers assume their lack of motivation. They stress as main justifications the lack of time to reflect about the practice, the teaching-learning-assessment paradigm, the work overload and the difficulties in reconciling private and professional life. However, despite the lack of motivation, they continue to work:

*I am demotivated, I am not politically correct, although I may have days, it is not because of the institution itself, it is because of the paradigm in which we find ourselves. (...) There are moments which are more encouraging due to the relationship with students. I love being with them but I would like to be different. It is a frustration because I liked more time to work and to be with them effectively, time to think about what I do, this requires reflection. I would like to have more time, it is not the papers, it is really the relationship with the students. It bothers me. Sometimes we do it for love, the implementation of more active methodologies, namely this PBL experience. And then what bothers me is that there is scientific evidence that all this should have existed 50 years ago, active methodologies and everything. Theoretically, if I am demotivated I should not do anything. I am demotivated but I still do it. (Teacher 34, Medical and Health Sciences)*

*My purpose is very personal. We all feel this gap between what is required in terms of research practices, of what we have to publish, and the inexistence of funding. We have to investigate and, at the same time, teaching. For me, this is the reason for external*

*demotivation. Then I have the internal ones that are personal. (Teacher 36, Medical and Health Sciences)*

*I have been teaching since the beginning of September and every week I have classes and this may contribute to my demotivation, not having a little break during the school year. (Teacher 36, Medical and Health Sciences)*

*We have many hours of classes; we have a highly demanding performance in teaching. (Teacher 33, Medical and Health Sciences)*

The intensification of academic life and its consequent implications for reconciling the different dimensions, tasks and responsibilities of university teachers is one of the most significant challenges pointed out by the participants in the focus groups:

*In the last few years, the university teachers' life changed... (in brackets because I think it has lost). It has intensified so much that it is really very difficult. We don't sit down to think and to work together! And I think that's what's going on. (Teacher 2, Social Sciences).*

*To reconcile the different dimensions, tasks, responsibilities of university teachers. Teaching, extension, research, and from here try to respond correctly to all these needs. In the teaching dimension, the challenges are great and go through structural dimensions. I think we all have approximately 100 students. We have small rooms for the number of students that exist. We also have a strong laboratory and experimental dimension and I feel always challenged because we effectively have a large number of students to perform the different procedures. It seems that there is always a paradox between what we have and what we would like to have in reality. (Teacher 32, Medical and Health Sciences)*

The dimensions' overlap of the teachers' work leads them to highlight the challenges associated with time management as the following excerpts illustrate:

*For me, it is time management, the multiplicity of activities, tasks and there is no time for each one to be done with the desired depth. (...) I would like to invest in more research-related teaching. This is what I would like to do, but above all, I think I would like to dedicate myself more to teaching. However, many other tasks are very time consuming and steal me time to dedicate to interacting with students and teaching processes. That was the contract that I signed with the university. However, the university was including and adding more functional tasks. (Teacher 2, Social Sciences)*

*I think that there is a crucial problem which is time management. We have a lot of requirements; it is not too many functions! I think that the functions that we have are well distributed: it is teaching, research, interaction with society and management. The problem is that we have too much of everything, don't we? In my particular case, I think we have an excess of Master students and PhD students. (Teacher 3, Social Sciences)*

*I agree with this issue of the difficulty of time management taking into account the various requirements and activities that we have and which are increasing because there has been a significant revolution in this institute in the number of teachers a few years ago. But, on the other hand, a very strong appeal to the creation of new training offers, to attract students, which I understand but which end up overloading the teachers a little. (Teacher 1, Social Sciences)*

Despite having ideas and the desire to innovate, some teachers do not find time to innovate, adjust and to create new challenges for students:

*We may have ideas for developing projects, but then, because of this more administrative part, we do not have time to create new things. There is no time to reflect. (Teacher 24, Humanities)*

*We choose to keep the same methodology as in previous years because we don't have time to think about other things. (Teacher 26, Humanities)*

*Another problem is that we have teaching throughout the year and that makes it difficult for us. In other universities, teachers only have 2/3 of the year teaching. (...) which means that they have 1/3 of the year to dedicate to other things, to travel, to investigate. You're stuck here, always! (Teacher 24, Humanities)*

The work overload felt by the teachers also have effects on students' work which becomes intensified by the absence of collective work practices and collective reflection:

*It is a big problem. For example, this week students are overwhelmed, they are not used to this type of tests, they are scared (I am talking about the first year) and we cannot articulate anything between us because we do not get together. After all, we do not have collective work practices, am I right? With collective reflection, perhaps, we were able to articulate many things in the assessment field. (Teacher 2, Social Sciences)*

Other teachers highlight the time limitations associated with using more learner-centred methods:

*If students start, in the 2nd semester, to do a task in March/April, I often cannot assess this task until the end of the semester. Of course, the students feel uncomfortable and they are right, I answer that I deliver the assessment within the legal deadlines. (Teacher 24, Humanities)*

*We have a project-based learning model and the big challenge is the workload involved, especially for those more dedicated to the project. All courses from the first year are participating in the project during the first semester. The workload associated with teaching and learning is so high. Then we also have those experiences in the fourth year. The challenge has to do with time required for these demanding activities. (Teacher 23, Engineering and Technology Sciences)*

The teachers' pedagogical training, the preparation for the exercise of the teaching profession, and the importance of having time to learn to teach are also issues highlighted by the participants:



*We had time to learn. I have never taught classes and I came here and I had to learn a lot of new things and the university gave me time to learn. I had a pathway. Not today. Someone who has a doctorate enters, a PhD, it is purely scientific evidence, and then teaching is a disaster. (Teacher 28, Exact Sciences)*

*Whoever comes in here must have a constructivist approach. They have to learn for themselves. It is not a minor problem! With all our qualities and flaws, we know how to teach, but we learned to do that. It has nothing to do with saying a few things at a conference. It is about knowing how to teach and manage groups. (Teacher 29, Exact Sciences)*

Teaching is the “profession on which all other professions depend” (Darling-Hammond, 2018, p.1). It is a deeply complex profession which implies a “wide and deep basket of knowledge that teachers need to have” (Darling-Hammond, 2018, p.1). On the one hand, teachers need to understand how individuals learn, and on the other, how they learn differently. The university context, due to the nature of their training offers and the audiences involved, adds to all this complexity. Within this perspective, adequate preparation for the development of the profession takes on special importance. The participants' discourse reveals weaknesses at this level, intensified by an individualistic and competitive culture, characterised by the scarcity of meeting moments and collective reflection, in which asking for help from colleagues can be seen as synonymous with incompetence (Teacher 1, Social Sciences):

*This type of discussions without pressure and of discussion and sharing are the most important. I, as an assistant professor, confess myself, in terms of doctoral thesis dissertations and everything, a word of knowledge or sharing would sometimes solve many hours of isolated search for knowledge. But institutionalising this practice is a step, I think it shouldn't be just personal. (Teacher 4, Social Sciences)*

The challenges identified by some participants from Medical and Health Sciences underline the complexity of teaching and point to a paradigm shift, from the teacher who is the source of knowledge to the teacher who helps and supports the knowledge process, a change in which the focus shift from teaching to learning (Light & cox, 2003):

*The student is encouraged to search and, for that reason, he/she can reach places that we never reached. In addition, in the classes, we do not always address the subjects we research, so we all have to research and try to understand other themes. Naturally, the students with technology reach places that we will never arrive and we must learn to say I don't know! (...) We are not encyclopedias. We will not know everything. They will have to know it. Perhaps our role will be to help them select the correct information. I think this is one of the problems, there is a lot of information available and they have to understand what is and is not worth it and we have a slightly different role than a few years ago when the information was not so available. (Teacher 37, Medical and Health Sciences)*

The assessment tasks increase this complexity, proving to be a difficult and challenging enterprise for the participants:

*I may be skewed because we are talking about assessment but I would say that it is one of the most difficult things we have to do. Of course, we have challenges to motivate students but the assessment is one of the most difficult things that we have. On the one hand, the activity itself is not always pleasant for us. On the other, we think that we invest a lot in different teaching and learning approaches but we were unable to match this effort in the assessment. How to assess what we want to develop? It is one of the things that we have difficulties with. (Teacher 37, Medical and Health Sciences)*

*We define the skills and competencies that we want students to acquire. Then we have to transform it into a consistent assessment. This is the most difficult part. (Teacher 38, Medical and Health Sciences)*

Other participants from this field of knowledge extend the challenge in terms of the teaching and learning relationship in which the assessment is included, namely the pedagogical relationship established with the students and the quality and variety of the assessment strategies:

*For me, the relationship between teaching and learning is the biggest challenge in which assessment is included, where the impact of all these issues is revealed, on knowledge, research, preparing and thinking about things. And this is even more of a challenge because afterwards there are feelings of unfairness, of inadequacy, of always using the same tools, of not having time to innovate for what is suitable for this process. There are a lag and a feeling of non-quality here. (Teacher 34, Medical and Health Sciences)*

The concern with the fairness of the assessment pervades other scientific areas, as it is evident in this quote:

*My biggest horror is to be unfair with a classification. The appreciation is one thing, the classification is another. That terrifies me! It is a nightmare! I don't like to think about it. So, it is a nuisance, it rubs my head. I don't have time to do other things, like writing books or articles. I would love to do these things, I don't have time! Then, of course, I look dumb in many situations and I am not the intellectual I should be. (Teacher 3, Social Sciences)*

Other teachers revealed apprehension about the effectiveness of the teaching and learning process carried out through the assessment process: "But my doubts about the challenges of assessment is to leave some meaningful knowledge" (Teacher 4, Social Sciences). Also, the information and communication technologies and open access to multiple sources of information are challenges which lead to some feelings of insecurity among teachers:

*Currently learning is just a click away and we have to show to students that what exists on the internet is not always better, we have to show them that we are better than these tools that they find. (Teacher 30, Exact Sciences)*

The ageing of the teaching workforce is also identified by some teachers as factors that contribute to the lack of motivation of teachers participating in the focus groups:

*I don't feel demotivated. Either I am older or I feel that the students are younger. (Teacher 25, Humanities)*

*We are older every year, and students come to us with the same age every year, and this produces a problem of compatibility because we are increasingly distant. (Teacher 28, Exact Sciences)*

*And then we have another problem, which is the ageing of the teachers, I think I am, I am not but someone else almost my age is the Department's 'Benjamin'. And being the Benjamin of the department with 41-year-old is a bit sad, it means that there is no one full of desire to create his/her identity, to leave his/her footprint because we all left our footprint 10 years ago. (Teacher 21, Engineering and Technology Sciences)*

*I feel that I am more pessimistic with the notorious deterioration that I have seen in other retired colleagues as a result of the lack of time for administrative work. I like teaching a lot, I don't agree with the colleague who dedicates more time to research than teaching. As I like teaching I try to be more involved there because of the students. (Teacher 27, Humanities)*

The literature shows the deterioration of the working conditions of the university teachers (Altbach, 2003) due to a number of pressures such as accountability, massification, deteriorating financial support and administrative controls (Altbach & Chait, 2001). These aspects are present in the voices of the teachers involved in this sub-study which highlight the contractual conditions, teacher evaluation criteria, career stagnation and the precariousness of some contracts, particularly in younger teachers as challenges to the development of the teaching profession:

*I notice in myself and other younger colleagues here, with precarious work contracts, the difficulty in articulating teaching with other professional activities, I feel some difficulties in doing this management. There is always something left behind ... (Teacher 19, Social Sciences)*

*The crisis here was felt, we have little human resources, although they think we have too many people. I've been looking at my schedule for a while and I have classes every day. I don't think this is normal. (Teacher 25, Humanities)*

*If we move up or not in the career, any process starts now with the following "- Let's do something new there. How many points does this give to evaluation? - No points. - So it's not worth it." (Teacher 16, Social Sciences)*

*Did you see our ages and when we come to the University? This colleague always has good evaluations or, in this case, excellent evaluations but no one is interested. To have excellent or fair, to effort ourself's or not, I mean... And the career perspectives are non-existent. The most important is that our memory is short, we do this year and for the next year, we insist again. We try to motivate students again. (Teacher 16, Exact Sciences)*

*I find this anecdotal, being an assistant teacher ad eternum is also demotivating... Motivation I don't have but I don't think it is essential at this stage, it drops to a stationary state I do my job, because from a professional point of view I always prepare my classes, always! (Teacher 28, Exact Sciences)*

*The problem with the university career in Portugal is that it is pyramidal, as opposed to what exists in other countries. The career evolution structure is legitimately based on merit, but there are no vacancies so there is no one with merit! Naturally, with our curriculum, in other areas, it will probably be easier to progress, here it is not. (Teacher 30, Exact Sciences)*

In the institutional context, the absence of support structures, the bureaucratisation of the work, the overlapping of evaluation cycles, and even the absence of mechanisms able of guaranteeing the quality of the teaching and learning processes are identified by the participants as demotivating factors:

*We are being commanded by highly bureaucratic and time-wasting machines, that makes us tired! Then, instead of simplifying our work, they complicate it! We have several platforms but we should have only one, we have to put the same data, the same information on various platforms simultaneously and for various purposes, poorly made platforms! (Teacher 3, Social Sciences)*

*This university has had an explosion in terms of research and has failed to create a support system for researchers that allows them to make life easier. This does not exist. We waste a lot of time when we could dedicate to teaching or improve teaching. (Teacher 22, Engineering and Technology Sciences)*

*Indeed, this context in which we live, in which we have the feeling of being in constant evaluation, everything we do is evaluated. We experienced different evaluation cycles: research centres, the university, the teaching cycles in that we teach, our assessment cycles as teachers, all of which generates a wealth of reports, forms, administrative requirements that are highly demotivating. On the one hand, we have a side of motivation that is that we like the topics we investigate and what we teach and that was probably what led us to make this professional choice. The demotivation comes from the side of this machine in which the person feels that he/she is part of a gear and that makes it, at times, too painful, to make him/her forget that side that the person likes most. (Teacher 17, Social Sciences)*

*The excessive bureaucratisation does not help us. At least I have felt that, in some aspects, the administration wants to help us. (Teacher 11, Engineering and Technology Sciences)*

*The bureaucratisation of our work, for example, the teaching performance evaluation, isn't it?! The reports we have to do annually for the teacher performance evaluation and other issues related to this bureaucratisation that end up distracting us from our focus. (Teacher 1, Social Sciences)*

*No one cares if I teach all of my classes or if I meet my learning goals. I think that there should be a system to monitoring what teachers do and that also values it. I teach a less good class, nobody knows. Is it true? Nobody even knows if I taught that class at all. I think that there is a quality for the teaching part that should be ensured but I don't see how it may work. (Teacher 20, Engineering and Technology Sciences)*

These aspects are identified by some of the participants as challenges to which they are unable to respond or change: “It is the feeling that we have not succeeded, the number of things that we criticise and that I have the feeling that we are not able to change. Therefore, some things are not in our hands” (Teacher 9, Engineering and Technology Sciences). Furthermore, teachers highlight the difficulties in terms of introducing changes, not only structural changes such as the introduction and reconfiguration of courses but also simple changes such as the typology of the classes or even the schedule:

*When you wanted to create the new course I think you suffered a lot, everything has its reasons but, in the end, it is stupid! The market is demanding, the know-how is here. However, developing new courses seems something out of this world. This year, for example, in the first year, I wanted to finish with the theoretical and practical hours' separation. I didn't mind to complete the missing classes, it's not in my teaching service but I would do it! And I couldn't get the programme supervisor's authorisation to change the schedule. I had the trouble finding a room. Sometimes it is not even extraordinary to change. (Teacher 20, Engineering and Technology Sciences)*

The participants also highlighted aspects related to working conditions, namely in terms of the configuration of teaching spaces and physical and material conditions for the development of classes. On the one hand, the classic configuration of spaces, with auditoriums and platforms, influences the pedagogical relationship by emphasising the teacher and magistral teaching. On the other, it complicates the development of group activities, as illustrated in the quotations below:

*We need smaller classes and another dynamic in the classroom. We have the room configured to a platform. I wish the room didn't have that configuration. We could have group work, the classrooms themselves invite to the theoretical class. It is a small thing, but it could change. (Teacher 25, Humanities)*

*The layout of the room is a central and symbolic element in the relationship between student and teacher. But there is another issue at a higher level, which is that things get better if they have more value and recognition in terms of teaching evaluation. (Teacher 24, Humanities)*

*Then there is another issue here, which is the physical spaces of the university are from 50 years ago. We have amphitheatres, which are not suitable for working groups, we want to have group dynamics, the university does not allow us to request rooms, we do not have these spaces, we feel good but whenever I want to develop workgroups, I have to request 3 rooms for 100 students so that, according to Bologna, we can accompany students in small workgroups. These are challenges to which the university does not respond and the student is increasingly discouraged. (Teacher 33, Medical and Health Sciences)*

*Yet, better are the platforms! Bologna says that the student is the centre of learning and that the teacher is no longer the centre, but the platforms. I'm always watching when I fall. The platforms kill me. Help! (Teacher 36, Medical and Health Sciences)*

The incompatibility of the physical spaces with the teaching dynamics requested by Bologna is accentuated by the deterioration of the spaces and structures and the scarcity of materials for the development of teaching:

*What we have seen is the degradation of equipment. Every year I report it, we have already to buy materials for our classes. Now don't ask me to say if I am motivated, the classes are still working, but don't ask me for a smile. But certainly, if we walk happier students can work better. (Teacher 28, Exact Sciences)*

*The university's physical structures are, in some cases, completely obsolete. The amphitheatres do not have conditions for all students, the classrooms do not have blinds, the wireless is always falling. This year I was teaching in a winter coat because there was no heating. (Teacher 30, Exact Sciences)*

*This is another question. The University started Bologna 10 years ago. We found that the teaching method has changed, the paradigm (if we want to say so) but the physical spaces are the same, the organisation is the same. Interestingly we want to do something different with the same hardware (Teacher 7, Engineering and Technology Sciences)*

*Another aspect is the infrastructures, they have the same configuration since its conception and in the international master's degree we struggle to find a room with proper conditions, I think this is a challenge for the university. (Teacher 22, Engineering and Technology Sciences)*

These difficulties are mainly highlighted by the teachers from areas with a high experimental and laboratory component, whose work depends on the constant investment in infrastructure and materials:

*We must not forget that we use Bologna in a counter cycle with the investment in Higher Education. And what happened is that we introduced a method that needed a more important experimental component and, at the same time, the laboratories stopped investing, they started not allowing students to enter in the laboratory. And therefore,*

*the two things in the counter cycle have prevented Bologna from being applied. (Teacher 9, Engineering and Technology Sciences)*

*We also do practical work, we go to the laboratory, we build things. Students suffer in the process to realise what it costs, the difficulties and we also have the theoretical classes. But these experiences are not paid for by the department. It has no budget, I do not complain about the department. We pay for this with funds from the research group, which is a subversion and because we have superiors receptive to these experiences (...). Omelettes are not made without eggs, but that is a subversion of the principle it is! And our motivation ends up going down a little bit, if we don't have support why are we going to get upset and sacrifice other aspects of our life for this, it's because we like it! But this is positive, despite the drawbacks we have managed to overcome them. (Teacher 21, Engineering and Technology Sciences)*

Under the scope of Bologna, students are a central element in the teaching and learning process. For this reason, their characteristics, interests and motivations are strong influencing factors in teaching. The concern about how to motivate students is prevalent in the discourse of the various participants, who recognise that the success of the pedagogical relationship depends on their involvement:

*The big challenge I feel is being able to motivate students, isn't it? Because, in my case, and I think it's everyone's here, we try to contribute to success, right? And success is teaching, they are doing the jobs, etc. I already ask myself: "Is that our role?". I already said to some students: "What are you doing here?" -, And the truth is that some do not know what they are doing here. They are all young people, this part of motivating them is very complicated, this is a great challenge. (Teacher 12, Engineering and Technology Sciences)*

*My big challenge is that students are not interested in learning and I have no way of making them interested because, besides the large mass, we also have students who are excellent and it is great to teach them, but there is a huge fringe of students who I don't know how to catch them and that's my biggest challenge. (Teacher 21, Engineering and Technology Sciences)*

The characteristics of the students, their diversity and heterogeneity are also strong components in their motivation for learning and, therefore, in the motivation of teachers:

*The great challenge that I feel at this point in my professional life has to do with motivating students. We have very different new students, they were born with the internet, with a cell phone, we have all seen that sometimes they are in a class with their cell phone to follow the class (most of them, maybe they are doing other things) and there is a dilemma of the language that I sometimes feel. I am not 100% sure but there is a difficulty here that I also feel to motivate them and bring them to class. (Teacher 9, Engineering and Technology Sciences)*

*I think they are different from us. They cannot read a text concentrated as we can. They are the internet generation; they are used to having everything immediately. Mentally they work differently from us (Teacher 11, Engineering and Technology Sciences)*

*In the undergraduate programme, there are very weak boys and girls, they don't know how to write, they don't know how to read, they don't know a lot of things, they don't know the meaning of a word. (Teacher 3, Social Sciences)*

*The student has to be proactive, this is important, we do not have students with a spirit compatible with Bologna. (Teacher 5, Engineering and Technology Sciences)*

*We have a large percentage of students who are working. It is a recent reality. We have to understand the conditions of these students, we have to understand them. (Teacher 2, Social Sciences)*

Another aspect mentioned by the participants is the quality of the students, as a result, of the low demand for some programmes, which is reflected in the students' motivation and, consequently, teachers' motivation:

*In this area, we pick up students who come here in 2nd/3rd choice and this creates demotivation on the students. I feel a great effort to find strategies to motivate them, especially in the 1st year, where the subject I teach is not very appealing. I feel like I have to come up with strategies to make it less painful for them and me. Sometimes it is a little bit demotivating because students should already be motivated to do the tasks that they are supposed to. But it can also be challenging in the sense of looking for strategies to get around it. (Teacher 25, Humanities)*

*I think there is less autonomy. I don't know if the students are good or not. We as a school also have little capacity to attract talent. What I mean is that the raw material we have is not the best, probably in other schools it is better. (Teacher 24, Humanities)*

Despite the various efforts made by these teachers, the close relationship established with the students, based on their centrality in the teaching and learning process, paradoxically seems to be in counter-cycle with the Bologna Process.

*We are increasingly distant to students at a time when we should be closer. The Bologna process should have introduced greater proximity, pedagogical innovation, but it was precisely at this time that we started to get more distance from students, largely because of the ratios. On average we have 100 students per class and the resources are not much more, and this contributes to using less innovative strategies at a time when we were asked to make strategies with fewer students, more adapted to the needs of the students. Also, we are unable to provide an answer, because of the number of things we have to do. Sometimes we have such a close relationship with students but we cannot help them, because we don't have time. We identified a whole set of generational issues that we could answer, but we were unable to do so. (Teacher 36, Medical and Health Sciences)*



The high number of students per class was one of the greatest difficulties identified by teachers and which may justify some of the pedagogical distance. In the opinion of some teachers, the high number of students influences the pedagogical relationship and the teaching and learning strategies used, and in particular, the assessment strategies:

*I will be short and sweet: there can be no strategy with the number of students we have in the classroom. (Teacher 16, Exact Sciences)*

*The large numbers! The challenge we have today of implementing a course, and when I say implementing a course I mean the teaching process, the assessment process. There are the large numbers of students! The large numbers prevent us from being more proactive. (Teacher 5, Engineering and Technology Sciences)*

*Also the issue of large classes. We initially started with fewer students and it was easier for us to get to know the students better, it was a much better interaction, it was a group of smaller students. We started with 50 students and at the moment we have 120 or more. (Teacher 38, Medical and Health Sciences)*

*It is a large number of students in the classroom. Because of all of these changes not only the teaching and learning process but the assessment process itself is challenging. (Teacher 15, Exact Sciences)*

Additionally, the lack of student autonomy cultivated in previous teaching cycles and incompatible with the spirit and requirements of Bologna is also a challenge that teachers have to deal with:

*We should provide our students with high-quality services and this is very complicated when we have, in some courses, 70%/80% of students with a medium level of education which makes it completely impractical for us to be able to have a high level of demand because that would be a complete disaster. (Teacher 29, Exact Sciences)*

*Their attitude is what is most important, that mental laziness of them. The other day I was in the public transports listening to two students, one was happy because he had managed to do the course with 9.8. He got away with 9.8! And the other had taken 9.6, had 9.6 and after the teacher put some holy water there to give him 9.4 and he passed! Oh man, wonderful, they were all happy! (Teacher 15, Exact Sciences)*

*It seems to me that globally the students' level is decreasing in terms of the 1st year of the Degree, in terms of skills. And in this particular year, you need to work on basic things like work structures, how to do a job. Things that I think they should know. (Teacher 27, Humanities)*

*Even in the Master's degree, they have not a great level lately, and I have not much pleasure in teaching. I do not know why. Maybe it was Bologna that cut the degrees from five to three years, if more students are doing the master's, the result is that they enter with less knowledge. In terms of PhD, I liked it but again the students showed less-solid knowledge base. (Teacher 27, Humanities)*

*The student does not arrive at the university a virgin. He/she already has years of teaching and assessments; he/she already has an attitude towards teaching that should be worked on. The student comes to the university hoping to behave as if we were in the previous 12 years. We are not going to be able to suddenly transform the student. The students come, and it is very confusing for them, there is no book, the course must have a book, any kind of bible. And if we say: "read these texts" -, they don't want to read all those things. They are waiting to receive information, almost like typewriters, from the teacher, they are here to register, like in a kind of notary. Here there is a passivity towards learning that needed to be changed and that at the university is problematic. It was before Bologna, but Bologna was supposed to provide a completely different student profile. (Teacher 18, Social Sciences)*

The decrease in the quality of students seems to assume special emphasis in the initial training cycles and influence students' autonomy. The students' autonomy is identified as one of the teachers' difficulties and is more accentuated under Bologna framework and in comparison with other international students:

*This is evident in their autonomy; it is very difficult to make them working autonomously. We have the same number of hours that we had in the past but the number of hours that students dedicate to the course is not enough. (Teacher 29, Exact Sciences)*

*Students find it difficult to be autonomous in thinking. And I try, whenever possible, to promote this autonomy in terms of rationalising and thinking. Sometimes the first interactions are a bit unsuccessful because the classifications are low. They end up getting approved in the courses (I think) but that is one of the points that I try to improve whenever possible. (Teacher 8, Engineering and Technology Sciences)*

*What I feel is that they are shaped to be passive and then they come here and are like "anemones" looking at us. I look at other countries and we are so good or better than them, why can't we cultivate this from an early age? It is an original sin that we inherited from secondary school. (Teacher 21, Engineering and Technology Sciences)*

*Students are indeed less autonomous, they often just read and do what they are asked to do in the classroom. They don't come prepared, they don't prepare for the class at home or in the library and the teacher is counting on that autonomous work but the students don't come prepared. The teacher gets demotivated because he/she prepared the class, but because there was no preparation on the part of the student, he/she cannot put it into practice. That delays everything and you do not follow the syllabus as you would like to. This is a problem for most students. It is the day-to-day conversation in the galleries. What can we do? What can we change? We find ourselves doing a test that will count for the assessment in the first 15 minutes of the class! This creates demotivation in the students and the teachers. (Teacher 26, Humanities)*

*We also have autonomous students, who do research, but these will be a minority. Most people do not have this independence to do the work resulting from the liberation of collective time. (Teacher 18, Social Sciences)*

*I notice a big difference between our students and European Erasmus students. In general, the differences I notice is that Erasmus students have in principle a greater willingness to participate in class. They also have a greater ability to work autonomously. I cannot do general radiography about Bologna, but it seems to me that there have been important advances in terms of the assessment systems and practices, working in groups and projects, type of dynamics and practices that, in one way or another, we have all incorporated. But, again, Bologna implies work at home, ECTS imply that. And the general thing is that students are working as little as possible. And, attention, I am not focusing on the students, it is something that we are doing wrong! (Teacher 24, Humanities)*

*The students arrive at the university and someone told them that a good student is to be sited there very alert and recording as much information as possible, working on that information to write down in a test. (Teacher 19, Social Sciences)*

*In the Bologna Process, there is a strong focus on individual student work at home. What we find is that, more and more, there is a lack of maturity of students Therefore, they need a more accompanied work and we realise that, it is important! Contact hours are important! They do not study alone at home no matter how much we draw attention to it. (Teacher 15, Exact Sciences)*

A few teachers delegate the responsibility for the success of the teaching and learning process on the students. Students' motivation and interests are essential for the success of the teaching and learning process and are not likely to be changed by the teacher effort:

*One of the things that I notice over the years is that their process in a particular course depends more on them than on us. I decided to give extra classes a year ago, I proposed extra classes to those who fail the first test and showed up, we are talking about hundred students, only 5 showed up! It is not our job. I think our role is less important than the motivation or the training they have. If they are already trained, if they already have the motivation to be good students they are good students. A student who already comes with weak work habits seldom begins to improve here. (Teacher 15, Exact Sciences)*

Other teachers highlighted the students' resistance to the development of more active practices. Some students prefer a more passive role and a more utilitarian logic in the development of the assessment tasks:

*I also notice a lot of resistance on the part of the students who are not used to be instigated, to be provoked, because they adopt a very passive attitude waiting for things to happen. This conflict/struggle is always a very difficult thing. At least for me, it has been difficult to overcome because I ask them to read and we are suggesting, we are proposing tasks but their involvement... Either I am not understanding things well or it always ends up falling far short of the involvement that I would like. (Teacher 4, Social Sciences)*

*In my case, what happened is that I had some resistance because my assessment methodology is a little different from the other courses, the students said that the work was more arduous than the test. Because assessment was a group work it was more desirable to miss classes because the assessment was not a test. Then in the Master's resides the difficulty and they make oral presentations. (Teacher 19, Social Sciences)*

*It costs me a lot to understand this very utilitarian style. It seems that I have nothing to learn from the colleagues' presentations, I have nothing to learn from anyone other than the teacher. It is what I deduce, that is, my colleagues will not say anything interesting. One of the reasons why I don't have presentations in class is because I have a lot of students and it would be very time-consuming. But whenever I could schedule presentations I did it but I had to make the presence mandatory or I had to deal with that same speech. And the direction of the student who presents the work is also very interesting because it seems that he/she is only talking to the teacher and it seems that he/she forgets that his/her colleagues are there. And I "force" to pass the word to colleagues first, I try to instigate participation, forcing colleagues to comment, "pulled to pieces" and only then do I make my comments. Can I learn anything from my colleagues? It seems not! (Teacher 17, Social Sciences)*

Surprisingly, other teachers reveal that some students prefer or are more comfortable with more traditional assessment logics, which again conflicts with the Bologna's autonomous and proactive student profile:

*In a conversation with the students of one of the master's degree, I found out that students prefer to be less free to explore the topic, they prefer the test, they realise that they are being assessed even more fairly compared to their colleagues. Because if I ask a student to comment on a document, that is very open, students feel lost, and they just reproduce a part of the document and we are also almost without material and without assessing. Sometimes students prefer something more direct and even more infantilising and totally against the Bologna spirit! (Teacher 18, Social Sciences)*

*The students are used to having their tests scheduled at certain times because they are probably used to do that in secondary school, they are used to feeling pressure in some assessment peaks. It means that when I propose the challenge for continuous assessment, I cannot move forward. I did not succeed in one of the groups, but I warned them that the next semester we were going to have another type of assessment and I prepared them. But they prefer the assessment peaks. I have been talking to other colleagues, a working group on pedagogical innovation, and in which we have discussed students' reactions to a more individualised assessment and they have the same opinion in other areas. They prefer an assessment peak because they manage their time without having to study, and then tests all at that time, do study during the night and go straight to do tests. This has been very difficult for me to change. (Teacher 30, Exact Sciences)*

*This is against Bologna, where it is assumed that there is an academic stimulus for a greater intervention of the students, but students are very passive even about things like participation in conferences and scientific meetings. The prototype of the Bologna student would be an individual who would look for scientific meetings that were a little*

*to the side, still related to the Master's degree that had the participation of foreigners or even other national researchers from other universities and that would bring something more. In one of the master's degree, the students almost did a campaign to end the conferences on Fridays because they damage the classes and the subject matter. Where are we? It is such utilitarianism. (Teacher 18, Social Sciences)*

The Portuguese model, without limitations on the number of registrations to complete the training cycles, represents, in the opinion of one of the teachers, a limitation to the good development of the teaching and learning process, showing the permissiveness of the system:

*But I must also say that our students are not so committed because it is allowed to do a course ad eternum, without having a time limit to attend a course. Some students take three or four years to complete a single course! The university itself is permissive with this ad eternum, unlike other European universities where the student has three attempts to complete the course. I think it is a failure of our system. The student should realise that he/she has a limit and that he/she cannot be here five or six years to take a programme of three. And that he/she cannot repeat an exam year after year and get 1.5 marks from 0-20! This demonstrates that our system is permissive. (Teacher 30, Exact Sciences)*

Also, the plagiarism, the difficulty in developing group activities and the growing distance from the of the practice contribute to the lack of motivation of teachers:

*A big challenge is plagiarism. It is a problem these days, it is almost an epidemic. Plagiarism, semi-plagiarism, things that students do not even know is plagiarism. To start with if I ask for an essay there are lots of sites with essays available, others that sell jobs! This is a challenge for the assessment. One of the consequences that I am seeing is that people revert to the test, some of my colleagues are no longer working, they have too much work and cannot evaluate. (Teacher 25, Humanities)*

*Students no longer work in groups, they work separately from each other and then put everything together, or when they do not distribute tasks among each other. Because they don't have time to get together with colleagues, they don't get together to work. (Teacher 29 Exact Sciences)*

*Our graduates are increasingly removed from the context of their profession, from professional knowledge. From the contextual and curricular point of view, I would need this knowledge, although we could take examples, it would be much more reliable, much more significant, to have monitoring between this knowledge and this type of work and the contextualised, integrated training. And these moments, these multiple stages, are increasingly separating the training process from the students' integration process and constantly postponing it. (Teacher 4, Social Sciences)*

Finally, the pressure on results, rankings and goals achievement is an additional factor that also contributes to the lack of motivation of teachers participating in the focus groups:

*Still, regarding the challenges, there are pressures of approvals, there are the pressures of statistics and there is also a notion, which I think we all have, that there is always a level to be reached. There is great difficulty in reaching each other because the groups are often not close enough for this to happen. (Teacher 29, Exact Sciences)*

*The worst is the heavy organisation under the cover of modernity. It is like working in a call centre. There is a brutal communication deficit between people on the ground and those who interpret the rankings. (Teacher 28, Exact Sciences)*

Despite the various challenges identified, some of the teachers highlight a number of good practices and opportunities capable of enhancing and leveraging their work. One of these opportunities is the desire to innovate and develop research projects, taking advantage of the impulse of Bologna:

*For example, being willing to innovate through a research project. For example, after Bologna, I introduced new elements in my assessment system to meet the philosophy of Bologna, the final exam logic ended in part, because the institutional logic maintains the final exam, and in the continuous assessment I introduced elements of different nature. (Teacher 24, Humanities)*

Others talk about more local initiatives, in the department, such as the rotation of teachers in the teaching of the different courses, inviting them to introduce changes:

*We have an advantage here that helps us to get motivated, here in the department after three years of teaching a course we run more or less in a mandatory way and the contents after three years will be different. (Teacher 30, Exact Sciences)*

The growing recognition and affirmation of pedagogy in the higher education context and the proliferation of research and literature on teaching, learning and assessment are also mentioned by the participants as motivating factors and instigators of more innovative practices:

*And even now in terms of literature, there is much more research, it was thought about the subject and of course, this is going on, people are reading. (Teacher 26, Humanities)*

*And also the fact that Pedagogy has a more prestigious position today than it did 30 years ago. (Teacher 24, Humanities)*

Some of the participants recognise the need for more profound changes, in terms of the teaching and learning process, moving from a teacher-centred to a more learner-centred model, in which teacher training is of paramount importance:

*A little change in the paradigm perspective of the interaction process with the students themselves, very much in the traditional perspective of the "full professor", the expression in the sense of a transmitted mastery knowledge that students will study is no longer resulting. But changing to a perspective in which I am with the students, in*

*which I try. I need the training to understand how I can have different dynamics of involving students and I don't know what else to do... (Teacher 4, Social Sciences)*

The University is identified as a privileged place "where teachers can innovate, where they can do things" (Teacher 24, Humanities) with optimism and belief in their potential, in transdisciplinarity, and innovative projects:

*I am an optimist, the horizon is very wide, we went through a very complicated phase from several points of view: material, economic, energy, a lot. But at the same time, the situation is recovering. What I like about the university is that it is a place where you can innovate, where you can do things and there are few jobs where you can do that! (Teacher 24, Humanities)*

*What has been interesting is the relationship that we have been trying to maintain with other scientific areas, I think there is an opening for us... the organisation at the level of research groups, I think there is an opening that could lead to other types of dialogues, there are projects. (Teacher 26, Humanities)*

*I have born optimist, I don't think much about the professional future, I think more about projects. That is what motivates me. I think more about this challenge, this project, things are happening, they are changing. (Teacher 26, Humanities)*

Despite the widespread complaints about the level of autonomy and motivation of students, some teachers recognise their role as drivers of teaching work:

*Some of the students read, there are culturally far more evolved people than perhaps at my time we say so, in cultural terms, etc. I think this is even better than what was here a few years ago, they were perfect illiterate of everything that was not directly related to what they were doing and their interests. I have noticed that there are (not all, obviously, a minority) people with a more developed worldview than a few years ago. (Teacher 13, Engineering and Technology Sciences)*

*I just think that students are used to researching information in a different way than we are used to and following other logics. (Teacher 11, Engineering and Technology Sciences)*

One of the teachers contradicts the globalised perception that Pre-Bologna students have a more adequate profile, exemplifying with a student perspective:

*I had a doctoral student who had done a degree before Bologna and who thought that post-Bologna students were more prepared to do the PhD than she was. No, she thought Post-Bologna was better prepared! And I found this interesting because they were more formatted with the assessment system. (Teacher 25, Humanities)*

Another positive tendency identified by the teachers is the greater involvement of the students in addition to the traditional representation in the representative bodies, namely through tutoring programmes:

*This year the school has made an effort to give students a voice and this is important. It is true, that they have representation, but some Pedagogical Councils, the voice is very not strong, we can put it that way. (Teacher 33, Medical and Health Sciences)*

*This year we started introducing 4th-year students as 1st-year mentors in the sense that they feel more included even in the training of younger colleagues and will benefit from it. (Teacher 35, Medical and Health Sciences)*

The proposals, suggestions or examples of improvement are abundant in the participants' accounts. One of the described a proposal for improvement in terms of better student preparation:

*I always thought that we should have a more transversal course in academic writing here at the university. I think there should be a cross-curricular course called academic writing because universities out there have this. Teachers should not "spend" time explaining how to write an introduction, for example. (Teacher 27, Humanities)*

Teachers recognised the need for greater appreciation of teaching and assessment as improvement: "If teaching and assessment are more highly valued, it will be halfway for things to improve. On the other hand, I think I need to recycle, get to know, remember..." (Teacher 24, Humanities). There are several suggestions and opportunities for improvement identified in the teachers' accounts, namely investment in their training, participation and involvement in innovative experiences, use of technology, networking, careful reflection on the cycles of studies and courses, and the development of their professionalism:

*There were projects with colleagues from other schools in the university. It was a very interesting opportunity for us to reflect collectively, we often miss this collective reflection, and to seek to research, to question our practices, to understand them better and innovate them even in the evaluation practices, make them most participated. Taking a step or two forward to what we already did and discussing it with colleagues and this is a job that is not seen much in universities, despite Bologna. Your project talks a lot about Bologna, doesn't it? These projects started before Bologna in 2000. (Teacher 1, Social Sciences)*

*Sometimes there could be more dialogue, but it has nothing to do with the Bologna Process. There should be more dialogue between departments. To say: "- Oh my dear ones, please see these matters as they are poorly prepared!". (Teacher 15, Exact Sciences)*

*I need some teacher training and updating, more specifically about the assessment system. (Teacher 24, Humanities)*

*Probably, from top to bottom, the ministry is saying that Integrated Masters have to end. It is a good time to think about how we are going to restructure this. But probably we are not going to have time for doing that again because this is going to be for tomorrow. (Teacher 30, Exact Sciences).*



*We have a digital, virtual world that is more important to students than we are in the classroom. I have integrated the use of the mobile phone in teaching and learning. (Teacher 31, Exact Sciences)*

*There is one thing that we don't do and that we could do. It is a very cheap thing used in the Health Sciences area. They are teaching a class about a theme or a concept, then teachers ask a question, they have an application for that and quickly get the answers and the results, they know how many got it right and did not. (Teacher 9, Engineering and Technology Sciences)*

### **Perceptions about the future**

The perceptions about the future include teachers' expectations about their jobs and their feelings about it (Kelchtermans, 1995, 2009). They are a result of the teachers' experience, their reflection, and their capacity to incorporate reflectiveness in their practice. Despite the constraint and limitations highlighted, the participants show some optimism about the future. This optimism is associated with the involvement in improvement projects and decision-making processes, professional stability and satisfaction, their potential as teachers, the investment in improving assessment methodologies, and enhancing competitiveness (at the international level). However, the participants also highlighted the necessity for renewal due to the ageing of the teaching workforce:

*I am naturally optimistic because I try to imagine myself as an active agent and not as a sad agent. But there is another problem that I talked about before, with the ageing of the teaching staff, there is no one bringing us new themes for what we have to teach and I am one of the few people connected to a cutting edge area and I have a lot of demand from the industry in this area. But there are more job offerings than students graduating in that area. And the department doesn't have enough elasticity. But I don't blame anyone in particular because it has no elasticity. After all, there are no young people. (Teacher 21, Engineering and Technology Sciences)*

Professional stability and satisfaction are especially relevant in the teachers' perceptions about the future in relation to the continuity of their functions, as the quotations below illustrate:

*We have stable careers and, therefore, in the future, I plan to continue doing the same thing. (Teacher 37, Medical and Health Sciences)*

*Me too, it's not that I have a strong reason to change. I feel satisfaction with what I do. (Teacher 38, Medical and Health Sciences)*

Nevertheless, the perceptions related to the stability of the participants' workplace reveal teachers' reflectiveness and criticism about their practices. Teachers appeared to be enthusiastic with

improvement, for example, by renewing the assessment methodologies or participating in working groups to discuss and improve the assessment practices:

*We have to be able to assess more complex things that are less tangible and that we think are important. Particularly in these professions, you are expected to be a good professional at the human level, to have empathy, but then how do you assess this in practice? We are already working on that, we already have sub-groups of work. I am in the assessment sub-group, I still have to read a lot and study about it to have better ideas. We are not going to invent the wheel, other people have already done this, but we can always adapt it to our reality. But at least we will be trying. That is one of our goals. (Teacher 37, Medical and Health Sciences)*

This perspective of improvement is reinforced by the participation and involvement in projects and in the decision-making process, which necessarily implies greater autonomy for the teachers:

*If I think I'm on the way in terms of motivation, in terms of possibilities, I smile. We can have a good future, in terms of restructuring the programme itself. I would like to have an active voice in this at various levels, in terms of content and strategies to be used. I would also like to be more autonomous from the teaching point of view. We have a prevailing chair here, not only to the student but also to peers, we have everything very top-down and we have some difficulty in having different strategies. (Teacher 32, Medical and Health Sciences)*

In this perspective, the potential of teachers as initiators of change is recognised, assuming that what defines the university are the people (Teacher 10, Engineering and Technology Sciences):

*Although I am demotivated, I have a lot of hope for the future. At this moment, we have a group of teachers in very different working positions that sometimes work together. We do very interesting things together. The school has never been so well equipped on the knowledge and the training for its teachers. This is of great hope for the future! The team is still relatively young and is trying to keep it clear from the more archaic attitudes, it cannot be otherwise! We already punched the table at meetings saying we want to do it and we go forward. Also, I would like to keep the opportunity to work with smaller groups of students, to know them, to know all their names. This is extraordinary! It's a super privileged context! It's a luxury! To me, this is hope! Archaic people will have to fall! (Teacher 35, Medical and Health Sciences)*

*The University is the people, isn't it? And, therefore, this identifies an issue from the frequent meetings we have, not only in the research centre but also in other discussions, that is identifying non-conformities. This is the awareness that the negative aspects exist and that they have to be addressed in these difficulties. Consequently, the University is the people! (Teacher 10, Engineering and Technology Sciences).*

The Bologna's challenges and the growing globalisation of the learning systems challenge higher education institutions to reconfigure themselves and to open up to the world. One of the challenges posed by an Engineering and Technology Sciences participant in regard to the university is to become more competitive internationally:

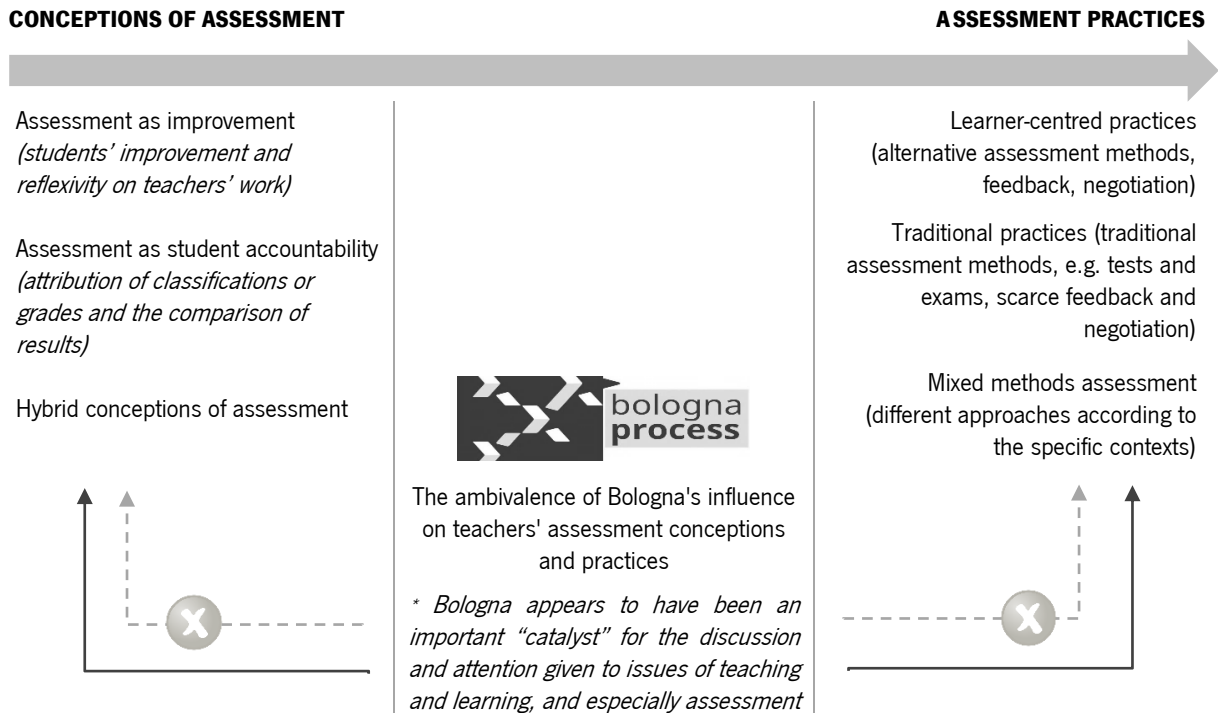
*In the long term, the challenge is to compete with any university in the world. It is possible that in the future courses will be taken at a distance, sooner or later, we will have to compete at that level and we do not know exactly how higher education will be at that level. How can we compete with other universities that have distance learning courses? (Teacher 23, Engineering and Technology Sciences)*

#### **4.2.2. The assessment of learning in higher education after Bologna**

Assessment is a hot topic in the academic world and also in society, originating a wide range of issues and subjects (Carless, 2015). Some of the issues that arise in this discussion are the suitability, fairness and reliability of the assessment methods, as well as teachers' conceptions of assessment as they can influence their practices. Does the assessment methods assess the right things? "Does assessment help students to develop the skills they need for lifelong learning?" Does assessment empowered students to take a more active role in their learning process? What kind of feedback promote improvement and inform students effectively about their own progress? "What kind of assessment tasks are most promising in supporting students' learning" (Carless, 2015, p. 3). What are the forms of assessment valued by both staff and students? (Savin-Baden, 2003).

Taking into account these questions and themes this sub-study intended to deepen some of these aspects, namely, the conceptions and practices of assessment of the university teachers and their perceptions about the impact of the Bologna Process in their assessment practices.

Figure 33 summarises the perceptions and practices of assessment from the 38 university teachers participating in the focus groups.



**Figure 33.** Conceptions and practices of assessment

Data from the focus groups identified the coexistence and oscillation between two logics, a logic of improvement of learning, which includes reflexivity on teaching, and another logic, more focused on student accountability through the attribution of classifications or grades and the comparison of results. These conceptions also influence teaching practices, making it possible to identify the coexistence of more learner-centred practices, based on feedback practices, as well as more traditional assessment logics. This ambivalence of conceptions and practices of assessment also extends to the role of the Bologna Process in the participants' assessment practices.

### ***Conceptions of assessment***

The conceptions of assessment influence, more or less consciously, the actions and behaviours of teachers (DiLoreto, 2013). These can be influenced by both individual and contextual factors (Opre, 2015). The participants revealed the coexistence of different conceptions of assessment, consistent with an assessment perspective based on the improvement of the teaching and learning process, through more active methodologies and problem-solving activities; and, with more traditional logics, based on marking or grading and accountability.

Assessment is used by some of the teachers to improve their teaching and their students' learning (Brown, 2002, 2006, 2017). In some cases, teachers are looking for an assessment capable of solving real problems of the students' future professional contexts and of preparing them for the demands and interests of the labour market:

*We intend that assessment will be focused not only on knowledge but we look for issues that lead to problem-solving. That is because we think that this will be the need that people will feel in the professional world. Skills are also essential in this perspective. We tried to define these assessment areas because we thought they were relevant. (Teacher 37, Medical and Health Sciences)*

*To promote discussion of more controversial issues, which sometimes do not have an exact answer, but several answers. (Teacher 38, Medical and Health Sciences)*

*I use a pedagogy that, perhaps, is the pedagogy of liberation. I think that people study, know and learn, attend training to look at the world in another way. As Paulo Freire says, to read the world in another way, and therefore people may become happier, more powerful, as you want to call them. In terms of organising the classes, the way I organise the didactic question, I... invent, create, imagine situations in which I can start everything upside down and in which students start anything that interests them a lot, and go out there and end up learning what matters. Therefore, activities that are, as a rule, very practical, very linked to anything concrete and real aspects, and necessarily involve, however much it may not seem at all times, very important theoretical issues. (Teacher 3, Social Sciences)*

*By the way, I would like to say, because I have a strong connection to the industry and it is natural that this will change, why? I have attended several hiring interviews, including a great friend who is a consultant and who does these interviews. He doesn't even ask the candidate the average grade of the programme. Therefore, he selects professionals, graduates, engineers, masters, doctorates for positions and does not value the average grade. Therefore, it is natural that this will be changed. People have to have a classification for example for public contracts, but when it is in private, companies choose how they want. (Teacher 12, Engineering and Technology Sciences)*

Also related to the improvement of teaching, the demand for training and the involvement in innovative projects are also highlighted by the participants:

*Since 2003, I have mainly been focusing on my practice as a trainer, because there have been several projects here which involved many teachers. The team decided to do studies in one of the courses, each teacher chose a course in a semester and did an exploratory study in which, in short, he aimed at better understanding and improving his practice. In that experience what I did was to shift the training axis to professional experience and I finally started to designate this approach, which in the meantime I came to develop, by: "Pedagogy of experience". Therefore, if I wanted to characterise what I do with teacher training, I would use this expression - pedagogy of experience -*

*which is a pedagogy that has the professional experience of teachers as its centre, having as its central goals their critical understanding and transformation, but also the training experience. It is a pedagogy that involves students, teachers, and the teaching methodologies that are used. They actively participate in their assessment, in the assessment of the course. (Teacher 1, Social Sciences)*

In other examples, it is possible to identify hybrid assessment conceptions which oscillate between a student accountability perspective and the attempt to reconcile with the Bologna goals:

*Regarding the assessment, I am moderately satisfied. I want to use the Bolognese model, but after the time I dedicate to other things, there is little attention. Also the way I structure the course and the assessment system I have do not foresee it within the teaching and learning process. I have classes and then there are the moments of assessment, a test, a debate, something. I don't have it very well integrated. (Teacher 24, Humanities)*

Nevertheless, assessment based on the transmission of knowledge is also present in the participants' accounts, especially as a result of large classes:

*I think the question is about teaching or transmitting knowledge. If we have a receiver on the other side, we transmit knowledge, tutorial teaching simply. Being in an auditorium with more than hundred students (where we just have space for barely 100) but which quickly empties, just start the semester (in four weeks I no longer have problems with space), for obvious reasons and in which the only chance is for a person to transmit knowledge to the class, do it in a tutorial format because even if there are two or three students sitting in front that are usually interested, in the second, third and fourth rows are then the bales of straw. (Teacher 13, Engineering and Technology Sciences)*

Likewise, teachers recognise the existence of a traditional assessment logic, based on examination and accountability, which is institutionally legitimised:

*But also the habits that we have here at the university, and in the country in general, take us a lot to this logic of having the exam because we still have an exam period. There is not a time of performance or a time of something else. So, we assume that we have to have that instrument. (Teacher 9, Engineering and Technology Sciences)*

*Ideally, students would take the exam when they were prepared for it. (Teacher 7, Engineering and Technology Sciences)*

Other teachers reveal some discredit for the innovative potential of some instruments as the wheel has already been invented and it works. They state that the recent renewal trends in the field of assessment are just fashion movements:

*In our areas, in general, everything was already invented. There are always fashions in which it is believed that everything can be revolutionised, but the only radical*

*constructivist I knew was Einstein and he has been there for a long time because the rest is impossible, I can't. Each of us may have an approach with some nuances but the way science is transmitted will not be reinvented, it requires background, it requires cumulative homework to establish a base that allows us to evolve and that comes from those who are learning and teaching, it comes from that. It's all made up. All we can change are just details. (Teacher 28, Exact Sciences)*

### **Assessment practices**

The participants in the focus groups used distinct assessment practices, such as more active methodologies and learner-centred assessment practices and more traditional assessment methodologies, in accordance with their conceptions of assessment.

The university teachers used a variety of assessment methodologies, which may differ according to the context, namely the typology of the curricular units, the study cycle, and, above all, the number of students per class. Teachers tend to use more innovative assessment strategies with smaller groups, in classes with a more pronounced practical component, and more advanced study cycles, as the following quotes demonstrate:

*I have been fortunate to have classes with fewer students (15/20 students), completely manageable by me, the theoretical and theoretical-practical component and in which I have challenged students to have a more personalised assessment. We stopped doing tests and started to do another type of assessment tasks. But the student's prefer to have two tests. Why? Because this kind of assessment implies autonomous work at a weekly pace that students are not used to. (Teacher 31, Exact Sciences)*

*We have several types of classes, theoretical, theoretical-practical or tutorial. Despite having theoretical content to give, I always say: this is what you have to know and after that, we will think about other things. That's how I see myself in the classroom thinking with students what they have to know. Making students think. Classes are more privileged spaces, more practical, tutorials because we have fewer students. We have that opportunity. We analyse the practices from the documents they write, from the record of the practices, and give them feedback to make them think about what they write. Formal, summative assessment moments, no! Because I understand that the assessment is continuous, that is the most important to me. But then there are the summative demands. The classification/grade demanding is what bothers me the most because I have no training for that. (Teacher 34, Medical and Health Sciences)*

*In terms of strategies, I consider that we have a better opportunity in smaller groups, where we use more motivating and interesting strategies and that we hope have*

*contributed to student learning: case studies, learning diaries, portfolios, we send letters to students. (Teacher 33, Medical and Health Sciences)*

*In this course, I did a project-based learning experience, in a completely amateur way. If you analyse my practices carefully you will see that they "suck" but, for me, they are already excellent. And what I did: I give them an "injection" of theory at the beginning during the first three weeks, which are exhausting, and then we have five hours where we sit down to work, everyone sits in groups, I walk around the groups to follow the development of their work. It is very interesting, although it does not work as well as I would like, because it is competing with other subjects that have assignments all the time to deliver. And I only have one assignment at the end of the semester. With this model of work, they easily succeed unless they had not completed the assignment. (Teacher 21, Engineering and Technology Sciences)*

*For example, in the theoretical-practical classes, students worked in groups always with me present. There were moments of collective presentation, but there were also moments that were not of collective presentation. But there was work in which I was going by the groups and working with the groups, that is the only way to do it. But, in any case, it is not possible, not always with the quality you want because there are many students! And even in this class of 50 and such, as I say, I can identify around 10-12 by name... (Teacher 2, Social Sciences)*

Despite several limitations to the development of teaching identified in 4.2.1, namely, in terms of the high number of students per class, one of the teachers involved in the focus groups identified the use of more learner-centred assessment practices, for example poster sessions, to boost the assessment process:

*What I have done in the last three years: in the preliminary presentation they make a poster presentation, they know that in the afternoon the three members of the group have to explain the poster and we, the teachers, will be there anytime during the afternoon it gives me more flexibility as a coordinator and to the students. I simplify the process, and I think it has worked well, the tutors stop by the poster session during the afternoon, they ask questions, they understand and assess all the posters. And it has gone well... (Teacher 11, Engineering and Technology Sciences)*

In more specific contexts, learner-centred practices emerge as a way to handle some of the challenges faced by teachers in terms of assessment, namely, plagiarism:

*It is more project-based and I have no problems with plagiarism or anything. The first project is individual and the second is collective. They are different projects, more to create and not so much information to search, I try to effectively shape that. (Teacher 26, Humanities)*

*I have even introduced 1<sup>st</sup> graders to make a portfolio for students to learn how to properly use and cite references. (Teacher 25, Humanities)*



The massive use of the information and communication technology may “afford the opportunity for online assessment, immediate feedback and computer-marked assignments, they also provide the breeding ground for the increase in plagiarism” (Bloxham & Boyd, 2007, p. 4). Despite some attempts in terms of innovation, traditional assessment practices continue to prevail. The context, difficulties in implementing a continuous assessment and the students' resistance to the application of more learner-centred methodologies are the main factors identified by the participants:

*For me, there is a great difficulty in the assessment, which is the continuous assessment versus the more summative assessment. If I try a continuous assessment for many students, I end up having less time to teach the contents, right? I have felt this difficulty and, on top of that, the assessment is a complex process. (Teacher 11, Engineering and Technology Sciences)*

*Once again the big numbers, I end up adopting some classic techniques like the written test because of that. (Teacher 5, Engineering and Technology Sciences)*

*I also agree that more assessment moments (there the students feel obliged to study) may be good. But we are bringing more work for us! I did three tests... (Teacher 15, Exact Sciences)*

*When we have large classes we are always more limited in terms of the tools we can use and we have a more traditional assessment. But even in more traditional courses. Obviously, in smaller courses, we have other opportunities and we can use other assessment tools, other approaches, all of that. When we have very large classes with very extensive syllabi it is not possible. (Teacher 31, Exact Sciences)*

Surprisingly, some teachers highlighted students' resistance to introducing non-traditional assessment methods:

*I already had the opportunity to propose oral presentations. But it only worked in some contexts and under given conditions. The question of assessment is not so much having clear ideas about what we can do, but much more about the context allows us to do. Typically, the context leads us to do what is most traditional because it is what students want, it is what they are most used to do because it is also what we are used to and that gives us less work, it is not attainable to do 40 individual assessments half way through the semester. (Teacher 28, Exact Sciences)*

*In a course I did something completely different, students have to define the assessment criteria. It went well, the students decided to do two tests (laughs). (Teacher 30, Exact Sciences)*

Other teachers opted for the use of mixed assessment methods. The mixed method combination of traditional assessment methods and learner-centred assessment methods is important to balance the constraints of both methods and to enhance students' learning (Sambell, 2011). Teachers adapt

themselves to circumstances and maintain different approaches according to the features of each context, using different combinations and approaches to assessment and rethinking strategies, for example, by reinventing and adapting the classic tests:

*My first style was to imitate the teachers that I liked. I immediately saw that it didn't work. Then I ended up adapting myself to the circumstances: if it is a tutoring class or if it's a practical class with 15 students. I try, in any case, to have different approaches to diversify strategies because if there are students who like to work in groups, then there are always two or three who prefer to study and take a test and I try to opt for a mixed approach. And I'm thinking about doing something new, I don't know how it will go, I am going to give mini-tests, I don't know how is going to be... I will try to draw attention to some aspects of the learning process here. I do not intend that will be a demonstrative or cumulative assessment moment, I just want to call attention to that set of knowledge. (Teacher 9, Engineering and Technology Sciences).*

*We also have a differentiation between practical and theoretical classes, which I hate. I have lectures, exercises to solve with the students. It would be good if the students were more autonomous, I tried to encourage them to do things alone, some of them can do it, others cannot. I also develop group work activities. In the first year's course, we always had a prototype construction. This year we are not going to do that but we always had this more experimental component. The assessment is usually made through tests and, in that specific situation, through the behaviour of the prototype. But mostly through tests, through periodic assessment. There are several tests. (Teacher 20, Engineering and Technology Sciences)*

*Concerning continuous assessment, I manage to do it with the master's students. I have a small test of an experimental part and, throughout the year, they have tasks, which are not tests. It is about the theme they are working on. They have to do bibliographic research, search for articles on the topic and then do the summary, send and present to colleagues. I also integrate mobile phones with quizzes and I also tried flip learning, giving them what they had to learn but it didn't work, not with these groups. (Teacher 29, Exact Sciences)*

*At the knowledge level, we use multiple-choice tests. Then we have competency assessments which are a joint exam. And then we have a part of assessing competencies that they have to do, which I think is 10% of all, basically an assessment of professionalism, of the attitude in the classroom. The activities are developed in the group, and then shared with the large group, so, an important part of the attitudes is there. What we perceive from interaction, from sharing... we have created a routine to make this assessment, immediately after each class and we have an online platform for this. That enables us to have a memory of the students' participation. All teachers participate and each student will be assessed by everyone. Also, if there is any deviation this will have been taken into account. Then another thing that we want to develop is the ability to solve problems, the ability to have critical thinking. But we are not always able to assess this through the multiple-choice questions. I think it is a set of skills that*

*we are even developing in the students, but that we are not able to do that in terms of assessment. (Teacher 37, Medical and Health Sciences)*

The key features of the different methods, their advantages and disadvantages, as well as their suitability for each context, were identified by the participants as important factors in the selection of the assessment methods:

*Because in the written test I have a menu for everyone, but in the oral tests I do not. If the student has a certain level or a certain ability, I can start to give him questions of a higher degree of difficulty and I can probably give him a much higher rating than the one that would result in the average of the written test. (Teacher 17, Social Sciences)*

*Final exam. Students are entitled to that! Last year a student asked for it and I had to invent an exam. It is impossible to assess through an exam what a student has done and learned for four months and the way he/she did so. I don't use the exam system or test. Therefore, there are many activities, some involve writing, some are individual, others are collective. The only chance to face the question of the number of students is to work in teams because in the team I look at you four, it's completely different to look at 54! It is the only way I found to be able to assess, so I organise teamwork. (Teacher 3, Social Sciences).*

Data from the focus groups identified differences according to the teaching cycles, with a tendency to use more traditional methods in the first cycle and more learner-centred methods in the 2<sup>nd</sup> and 3<sup>rd</sup> cycles, as the quotations below demonstrate:

*I have different approaches, both in terms of assessment and teaching. If I am teaching the 1st, 2nd or 3rd cycle because I think that the goals and the capacity for learning are different. My classes, in the case of the 1st cycle, are divided between the theoretical classes and theoretical-practical classes, I am usually responsible for the theoretical classes, which means that the approach to teaching is much more about transmission of content, although I always look for interactions, I try to ask questions and students feel free to ask questions too. It is also true that this has to be complemented by the theoretical-practical (with texts analysis and practical cases/simulations). In the 2nd cycle, there is a more critical approach. Students develop practical work and are assessed for that. In the 3rd cycle, the model is based on sharing, on discourse building, with a small group around a table, where there is more sharing of the responsibility for dealing with the themes that are proposed for analysis. (Teacher 17, Social Sciences)*

*I am not particularly original: in the first cycle, I use tests, in the second cycle I use assignments, I am already using an intermediate mode to direct students, because I realised that they do not have so much autonomy, despite Bologna. Bologna presupposes an autonomy that is often not confirmed in practice. And in one of my Master's course, which is very informative, I take a test but with open-ended questions, a kind of mini papers. From the time I give them the bibliography, there are four questions and they answer at home whenever they want... Everyone was above the waterline except for one person who really could not get it. (Teacher 18, Social Sciences)*

The type of course also seems to influence the choice of the assessment methodology as the following participant describes:

*I depend a lot on the course, they are very different. In integrated projects, the assessment model is completely different from other curricular units. We have content, exercises and project-based teaching. Students are assessed through the presentations and the prototypes they created. There is also a test that affects the individual score, mainly about the project. Typically, we have seven or eight teachers to participate in the assessment. In other courses it is different, it is more based on tests and group work. (Teacher 23, Engineering and Technology Sciences)*

The active involvement of students in the assessment processes is fundamental in the link between assessment and learning (Earl & Katz, 2006), in the implementation of more innovative assessment practices, and in the development of a more autonomous and proactive student profile, compatible with the Bologna's principles. The negotiation of the assessment methodology, in most cases, involves negotiating the dates of the works or tests, and may exceptionally involve the negotiation of the percentages or quotas for each of the assessment elements:

*I present the assessment methodology to the students and after two weeks we have to reach a point, that's it. (Teacher 30, Exact Sciences)*

*The assessment methodology is decided at the beginning of each academic year, even before the start of the courses. The assessment methodology presented to the students does not change much. I think there is no time for negotiation. (Teacher 38, Medical and Health Sciences)*

*Sometimes students ask, there is some negotiation in terms of dates, if they happen later or earlier, to reconcile also with the assessment requirements of other courses. (Teacher 17, Social Sciences)*

*There have already been changes in the percentage of each assessment instrument. Last year they wanted a different percentage but I did not accept because they did not want to give such a high percentage to the group work, they preferred to value the test because they know that I give "0" because of plagiarism. (Teacher 25, Humanities)*

In other cases, the assessment methodology is discussed and co-constructed by teachers and students, even though in practice there is not much change:

*I always leave the 1<sup>st</sup> and 2<sup>nd</sup> session to present the assessment methodology and I always tell them that it is negotiable: the dates, the number of elements and the percentages of each assessment instrument. But it is also true that what I propose at the beginning remains unchanged. I do not know if it is because I am unable to generate discussion, or perhaps because their main attitude is not to participate. (Teacher 24, Humanities)*

Feedback is one of the most powerful factors in the improvement of students' learning achievement (Pedrosa-de-Jesus, Moreira, Silva Lopes, Guerra & Watts, 2019). However, learning from feedback is complex and implies the active role of students in the active construction of their own understanding about the feedback information. Sambell (2011, pp. 11-13) identified a set of common misconceptions about feedback which seem to fit in some of the participants' perceptions about feedback. Some of the focus group participants tend to associate the feedback with the meeting to consult the test or to discuss the grade/classification, to identify errors from previous years, or with a collective review of the main errors in the sessions that follow the exam. This view of feedback raises some questions, namely, the perception of feedback as a product delivered by teachers to students, which is often timeless; and "feedback-as-telling or teacher exposition" that inhibits the learning potential of this mechanism (Sambell, 2011, p. 13):

*Yes. We have the curriculum structure organised by modules. At the end of each module, there is an exam. In the first class after the exam, the coordinator of the curricular area will give global feedback to the exam. (Teacher 37, Medical and Health Sciences)*

*As we are always giving the same courses, we will mention the eternal mistakes. In the mistakes that are more recurring and we end up, or in the following year, or even afterwards, we end up insisting: "- My dear, you are wrong in this!". (Teacher 15, Exact Sciences)*

In more extreme cases, the feedback is non-existent:

*This year, in a class in the third year, I was told this is the first time that we are doing this, and I understand why they do not know how to make reports because they have never been given feedback. (Teacher 28, Exact Sciences)*

The number of students per class appeared to be the main barrier to greater involvement and to a more active role for students in feedback practices:

*The feedback I give as soon I have the results, I discuss the main mistakes with the group, but there are many students. (Teacher 31, Exact Sciences)*

*If I have a lot of students, I can't give feedback. (Teacher 28, Exact Sciences)*

*In large classes, it is difficult to give other feedback than this global one. Obviously, in smaller classes, it is easier to give individual feedback. (Teacher 29, Exact Sciences)*

*Once again, the problem is the numbers. When we have 100 students... I don't know how we can do individual feedback to each student. (Teacher 5, Engineering and Technology Sciences)*

*I can talk about my case, more specifically in two courses, in which they are assessed by a final exam, at that official time for that and, therefore, there is no opportunity to give feedback to students, maybe a dozen students are interested in consulting the test to find out what they did wrong, of those half want to reach a positive result... So, it is not even a legitimate interest, so to speak. It is a quantitative interest only. And I have another course, with five students, that allows me to do something as simple as this: work by goals with corrections that are done from one week to the next, with my comments sent to the groups and that, therefore, is the perfect opposite, but it has to do with the number of students. (Teacher 9, Engineering and Technology Sciences)*

Similar to the selection and use of the different assessment methodologies, the study cycles and the nature of the courses are also influential to the type of feedback developed:

*I have never received protests against the assessment methodology! In the first cycle, I try, after the test, to immediately put the test correction criteria on the e-learning platform and then I schedule a day for students to consult the test after the grades come out. Even in the second cycle, I encourage students to come and consult their work. To my students, I take notes, it's a goldsmith's job that never ends, I schedule meetings with them in the office and draw their attention to the aspects that were less well and ready... (Teacher 18, Social Sciences)*

*In purely experimental courses I give feedback and discuss the results. (Teacher 28, Exact Sciences)*

*This year I did something different in an experimental component: students delivered the reports, I corrected and returned the reports to students, and then I discussed the results with the students. It was the first time that it happened. (Teacher 30, Exact Sciences)*

*Many times in practical classes I already gave feedback, but then when they deliver the assignments, they have to make a small presentation and at that moment it is what works best, it is there, at that moment... (Teacher 26, Humanities)*

Nevertheless, some of the teachers have a more formative view about feedback (Black & William, 2019), as expressed in the quotations below:

*I believe that we should transform the moments of assessment into moments of learning through more individualised feedback. I don't know how we could do it later in practice. But I think there is room for improvement. (Teacher 37, Medical and Health Sciences)*

*There has been a great effort for the students to have feedback during the assessment process! This feedback is extremely important, I think that without it, the learning process is very incomplete. (Teacher 5, Engineering and Technology Sciences)*

Other teachers revealed an effort to develop more effective feedback practices by involving students more actively. These practices are associated with more active and reflective teaching and learning activities and assessment methods such as project-based learning or reflections, involving formal and informal feedback and peer feedback practices:

*This year it has been particularly difficult, I meet weekly with my interns, they send me weekly reflections and I send timely feedback on their work, and it works well! But, there is a small group. (Teacher 2, Social Sciences)*

*In Project Based Learning we have already a well-oiled methodology, in collaboration with peers and normally stable. We tried to adjust the model throughout the years. We do student surveys, our surveys, and we do a workshop with them and there's always that feedback. Of course, this represents a lot of work, but we have to make that effort every year. We occasionally adjusted these goals and delivered them to the students at the beginning of the year with everything detailed. (Teacher 23, Engineering and Technology Sciences)*

*When I meet with students this is what we do: they bring and present their didactic proposals to their colleagues, which they are developing in the internship projects, and they discuss the proposals. Everyone gains from each other's experience, from the presentations and the colleagues' opinions. (Teacher 1, Social Sciences)*

*In the course that I apply project-based learning, what I do is informal. I interview students almost every week, but I don't make records, I ask for reports that they upload and where they explicit the goals for the following weeks and I interview them. I create an informal message, I get in touch with the students, I know their names, which is something I have a lot of difficulty with. I can do it because there are 20, maybe a little more. Oh and, a very funny thing: I have 25 students but only half are actually enrolled in the course, the others are voluntarily attending the course. (Teacher 23, Engineering and Technology Sciences)*

Similar to other studies in the context of higher education (Esterhazy, 2019; Henderson, Ajjawi, Boud & Molloy, 2019a), teachers spoke of students' disinterest for feedback, i.e. the feedback provided through electronic platforms:

*I always send feedback through the blackboard because they also send the assignments through there. I make my comments. This year I asked some students before the test if they had read my comments about the work, and they didn't even know that I had commented on their work. So, there is also this inglorious work. This is in the 1st Cycle, in the 2nd Cycle the classes are smaller and there are oral and more dynamic presentations. (Teacher 25, Humanities)*

Yet, other teachers recognised that there were drawbacks in their assessment practices, revealing again the students' lack of interest in getting feedback:

*In that respect, I must say that I have come back to my old practices. I came back violently when I gave a specific class that I do not give now. After the test I gave a general comment and we discussed doubts. Now, for some years now, the feedback mechanisms, except for two courses in e-learning where I have more refined instruments, but otherwise... One thing that caught my attention at this university is students' little interest in the teachers' feedback. I remember that when I was a student, I was one of those who went to see the test, but not to get a better grade, it was to know what I had done. The only feedback that students expect is the grade. (Teacher 24, Humanities)*

### **Changes in the assessment practices (in the post-Bologna context)**

The Bologna Process and the creation of the European Higher Education Area led the Portuguese higher education system to reorganise and to improve its teaching and learning practices, focusing on learner-centred pedagogies, problem-solving initiatives and innovative assessment practices.

Below the main changes that occurred in the assessment practices as a result of the Bologna Process are presented. Firstly, some of the participants recognised that many of the practices instigated by Bologna were already applied in the university context, so the changes were not very significant:

*I think I changed the way I assess a lot. I do not know if it necessarily had to do with Bologna. It had a lot to do with my coming here, and with a certain investment from the school in training about assessment, although we still needed a lot more. (Teacher 37, Medical and Health Sciences)*

*In my specific case, I don't think it interfered much because I always betted on this type of assessment and this continuous interaction with students, right? I understand that only in this process things are being built and things happen naturally. When we have very large classes, the situation is completely different. (Teacher 2, Social Sciences)*

*We were always in the Bologna model. We had a course that wasn't yet but we were already working on the model, there was no adaptation, it was already functioning like that. (Teacher 37, Medical and Health Sciences)*

*I have also been adjusting, without much creativity, some forms of assessment but resulting, not exactly from Bologna, but from trying to answer what the students were asking for. From Bologna perspective, it is only time constraints. (Teacher 18, Social Sciences)*

*I think it depends a lot, we change things over the years, not only with Bologna, even with the group, there was a set of strategies that we were already implementing and we don't even think about Bologna. (Teacher 26, Humanities)*



Other teachers recognise a setback in the assessment practices after Bologna, namely in the reduction of the assessment methods, the suppression of some assessment practices and instruments, the decrease in the level of demand, and the return to more traditional assessment methodologies:

*In my opinion, Bologna was horrible because we lost a lot of time of contact with the students. We also did not adjust the way we teach and that was very bad. But it is not Bologna's fault, it is ours! It's a very simplistic way of looking at it, but it is what I feel, as we don't adapt, it got worse! (Teacher 21, Engineering and Technology Sciences)*

*In the case of the undergraduate programme, I think that I assess worse than I did in pre-Bologna context because the assessment was a more homogeneous assessment for all courses and, therefore, students had more time to prepare for the assessment periods, that were very parameterised. We had more assessment periods and we had something that I consider very important, the oral exams. I did a lot of oral exams but today they are residual. (Teacher 18, Social Sciences)*

*The assessment is basically the same. My feeling is that, perhaps, the level of demand has decreased. (Teacher 14, Social Sciences)*

*What I have been doing, unfortunately, is a setback of these processes, I always made portfolios linked to the practice when there was integrated training and I started to realise that they no longer attributed this meaning to it. And I, unfortunately, returned to the tests because it is the only way to make them read texts and systematise ideas that I would like them to recover later... (Teacher 4, Social Sciences).*

The crystallisation of assessment practices, the survival logic of the departments, and the lack of autonomy and involvement from the part of the students influenced, in the opinion of several participants, the change in the assessment practices requested by Bologna. In other words, there was no change in the assessment practices, and, in other cases, there was a change in the name but not in the paradigm:

*I would say very little, but it was not changed it was disguised. (Teacher 22, Engineering and Technology Sciences)*

*Concerning Bologna, in my practice, I have not strictly changed anything, either in the pedagogical practices or in the assessment practices. (Teacher 3, Social Sciences)*

*What we had with Bologna was just a name change, it seemed that there was going to be a strategy to involve the student but then nobody wants to abdicate, because everything is very important in the contents. all courses are very important, everything is very important. Therefore, there is no Bologna at all. (Teacher 34, Medical and Health Sciences)*

*I can say no. What Bologna wanted to introduce was the students' autonomous work and we have all talked about it, everything is the same. (Teacher 31, Exact Sciences)*

*I think the practice remains the same, we have had some changes in terms of content, we have to condense the contents. (Teacher 29, Exact Sciences)*

*After this logic of the departments that overlaps that of the School's training offer, each one tries to guarantee the maximum number of UCs because of their teachers. Again, survival. (Teacher 30, Exact Sciences) (Teacher 30, Exact Sciences)*

*The departments' survival overlaps the rest. (Teacher 28, Exact Sciences)*

Interestingly, other teachers recognise Bologna's positive impulse to change assessment practices. The diversification of assessment methodologies, the reflection on practices, the problem-solving initiatives, the innovative assessment practices, and the harmonisation of the learning outcomes are some of the changes identified by the participants:

*I would say that those competencies, the parallel competencies. I think that this component has improved a lot, the way our students speak, make presentations, interact with each other. It is not only about disadvantaged, there are also some advantages. (Teacher 7, Engineering and Technology Sciences)*

*Personally, in my practices, I know that they have changed. It meant a reflection too, I don't know if forced, but mandatory! The institution itself promoted this and I was forced to try to assimilate, understand, and to put into practice all of the learning outcomes and all of that. And for me I think it was a significant and positive change, I don't know if it was as positive as you would expect. (Teacher 24, Humanities)*

*We also have more assessment moments, more assessment instruments and we are more aware of that. (Teacher 23, Engineering and Technology Sciences)*

*I speak for myself now, I have changed something in the way I assess, I have changed. But it depends on the classes, even in large classes, even if it is a group essay or a group assignment or a portfolio, that was a type of assessment that I did not do. (Teacher 25, Humanities)*

*My courses are very practical and are more based on projects, group work and work very well with Bologna, because before it was based on tests and exams. (Teacher 26, Humanities)*

*I think Bologna forced us to rethink the courses in structural terms, the typology. We also had to think about the learning outcomes, and at this level, in Europe, there was a harmonisation and that I think was good! In practical terms, perhaps with the introduction of group work, but I do not see many changes, mainly in terms of the reasons I mentioned earlier regarding the student's ability, perhaps it is my fault. (Teacher 27, Humanities)*

The diversification of methods and moments of assessment are other changes promoted by the Bologna Process are therefore identified by the participants:

*Before there was an exam or final assignment, just an element of assessment. (Teacher 24, Humanities)*

*We don't even remember, but the courses were annual. There was a test at the end of the 1st semester, and a test at the end of the 2<sup>nd</sup>. It was very different. Eventually, there were some occasional presentations, but that was it... (Teacher 25, Humanities)*

However, other teachers identified the existence of negative changes driven by the Bologna Process. Interestingly, the reflection or changes in the moments and times of assessment were also identified by the participants, but from a negative perspective:

*In my case, I think I already answered, there was a change that I perceive negatively due to the constraint of this architecture of assessment times. (Teacher 17, Social Sciences)*

*Perhaps it was now time to stop and think, this is all vertigo, we must stop to think about the mistakes that come from the restructuring that took place with the Bologna process and that has not been corrected, courses that are not adapted, things that are not being organised. There is a whole practical process of assessment times, of survival, all of which revolves around survival. This does not allow people to stop and think about what it is that I should structurally change in this course so that it is better and this is not done. Because these conditions, some courses have accumulated a set of structural errors, students feel that. And the university didn't have that time for reflection, some reports are made at the end but maybe nobody reads them, and that is it. It is more of a show of accomplishing things than of changing. (Teacher 28, Exact Sciences)*

Other teachers highlighted the resistance of the academy, especially the university teachers, to the Bologna's impetus for change:

*I don't know if it will be exactly like that because Bologna provoked a lot of resistance in the Academy. For various reasons and, in general, the university teacher is very resistant to changes. Also, Bologna involved a lot of work, brutal work, restructuring the programmes... (Teacher 24, Humanities)*

The participants highlighted the condensation of the programmes as a result of the Bologna process. This condensation of content resulted, in the opinion of the participants, in a reduction in the quality of the teaching and learning process. However, the programmes have not been restructured in the light of the Bologna assumptions:

*I do not think that Bologna has changed anything, perhaps at the Master's level. Perhaps something has changed there because the pre-Bologna Master's courses were based on a base of 5 years and superior knowledge, the 4th and 5th years were years of maturation in terms of what was learned and how it was learned. This became a "little programme". (Teacher 28, Exact Sciences)*

*Attempts were made to compact what were 5-year degrees in 3 years, they continued to call it a degree, but the knowledge remained more limited. After the master's degree, the next 2 years are already considered postgraduate and it is not the same thing. It gives me the feeling that the preparation of the students in the 5 year-programme is different, a 5-year degree... there was an adaptation, but I don't know if this adaptation was made and thought out in the best way. I think that, in general, there was a loss for 1st cycle students. Where it may have had less impact is in undergraduate degrees with an integrated master's degree because there the master's degree is already integrated and it is more similar to what it was previously. (Teacher 37, Medical and Health Sciences)*

*In higher education in general, the extent to which traditional courses ended up changing because of an external imposition I am not very sure. Another thing is that they are worse, for example, the three years of the Degree seem worse, very small, I have some doubts. (Teacher 38, Medical and Health Sciences)*

*We never stopped to reflect on what the Bologna Process meant. The Bologna Process did not mean having a 3-year degree, it was much more than that. (Teacher 30, Exact Sciences)*

*With Bologna, there was an update of the study plans that sacrificed their interdisciplinary components, if you had to cut something, cut in the other courses. Interdisciplinarity has been lost. Secondly, what was adapted were the study plans but not the syllabi of the courses, so I could see that people continued to give the same syllabi but in less time. (Teacher 17, Social Sciences)*

*Bologna meant to maintain the programmes and reduce the number of contact hours. (Teacher 14, Exact Sciences)*

*We had to condense professional training in two years and the internship that runs in parallel with other curricular units, which also brought less time. Of course, whoever works in this area with some care saw that there was a setback. Although the previous model was a model with problems, there was a setback there. (Teacher 1, Social Sciences)*

*Basically, two changes: one of them was the reduction of contact hours with students which was a formal thing; the second, clearly increasing our workload. This can be seen at all levels in all courses. I think it sums it up and from my point of view, this is what happened. (Teacher 8, Engineering and Technology Sciences)*

*We used to have six hours, now we have four. In some courses, the subject is the same and in a few, the subject is even broader. So, to do what we were saying a little while ago, to draw more attention, to do more exercises, to give things more calmly, we couldn't. (Teacher 16, Exact Sciences)*

This discouragement also includes the assessment of learning, which, in the opinion of one of the participants, turned into chaos. The devaluation of post-Bologna diplomas by society, with consequences also in terms of the students' exit profile and the skills the future professionals were also identified:

*From the assessment point of view, the assessment turned into chaos, the story of the total freedom of learning methods was understood as I am going to do an innovative experience on the best assessment method: in this course there are six tests, in this are three, in the other four, in the other five, more oral tests, works and tests. Therefore, the student must be able to reconcile all this, it is crazy! (Teacher 17, Social Sciences)*

*Another aspect, which is how the society looked at Bologna, as devaluation, "the others are 5 years old and they are 4 !?", these do not know as much as the others knew. The market looks at these students, and in my view unfairly, differently for the post-Bologna graduate as the weakest and the pre-Bologna graduate as very good! (Teacher 17, Social Sciences)*

*I think there is something else, at the master's level, what was a master's degree before and what is a master's degree now. The starting point is completely different. And this has to do with the question of maturity. It is different to be 19 or 25. In terms of autonomy growth, there is no growth, no maturity. This makes the difference in what people are willing to invest. Today most of the students that we have in the Masters are like those of Bachelor's degrees. (Teacher 28, Exact Sciences)*

*The idea that I have is that the students are very immature, this Bologna thing of autonomous work does not work with these students. They get rid of their parents, they no longer have limits and they have their world. In terms of behaviour in the classroom I have been having more problems than 10 years ago. (Teacher 29, Exact Sciences)*

Although there is no clear evidence on the changes promoted by the Bologna Process in terms of pedagogical practices, the contribution of the Bologna Process in the discussion about teaching and learning, pedagogical practices and pedagogy itself is recognised, i.e. through the training offer. Nevertheless, there is evidence of its effects on the restructuring of study plans, mobility and internationalisation, namely in legislation and international reports:

*One of the biggest advantages was to bring teaching to the discussion table because, before the Bologna Process, there was practically no talk about university pedagogy. It was a very little discussed theme, very little... it still is! That is why I always say, "despite Bologna ...", right? Because Bologna has also not solved other issues. But the Bologna dimension related to the restructuring of plans, study cycles, internationalisation, teacher and student mobility, all dimensions that appear in European reports. But when we go to the dimensions of teaching practices we find almost nothing in European reports. (Teacher 1, Social Sciences)*

*I felt it here at the Institute, I think people were more concerned on reviewing their syllabi and knowing that they became more public, this issue of transparency in training*

*because of ECTS, because of the question of ECTS, led teachers, more willingly or less willingly, to be more resistant or less resistant. They would think a little about what they were doing and start to see, maybe some assessment alternatives that they didn't see before. And the teachers started to attend training, although there aren't many, doing some pedagogical training. (Teacher 1, Social Sciences)*

Bologna may not have been for many teachers “a key point moment for their professional development” but it may have been for others, “who suddenly realised that there was more collective interest and started to talk more about the theme and looked for specific training ”(Teacher 1, Social Sciences). What seems evident is that Bologna appears to have had an important “catalyst” for the discussion and attention given to issues of teaching and learning, and especially assessment (Teacher 9, Engineering and Technology Sciences).

### **4.3. Summary**

This sub-study indicated that Portuguese university teachers seem to hold a positive and constructive view of assessment as a tool for improvement and have confidence in their evaluative practices. This is promising but further work is needed to establish robust measures in this context. The results revealed a reasonably low factor inter-correlation, suggesting university teachers held multiple, potentially contradictory conceptions simultaneously. However, the results also revealed that Improvement and Assessment Quality factors had a moderately strong inverse relationship to Reject Assessment Use which indicates that using assessment for those two purposes was not irrelevant, again a logically coherent relationship for university teachers who use assessments to improve and evaluate student learning. The findings from the focus corroborate data from the survey. On the one hand, assessment is used by some of the teachers to improve their teaching and their students' learning by solving real problems of the students' future professional contexts and articulating efforts to positively respond to the labour market demands. On the other hand, it is possible to identify hybrid assessment conceptions which oscillate between a student accountability perspective (Brown, 2002, 2006b, 2017) and the attempt to reconcile with the Bologna goals.

## **CHAPTER V**

### **SUB-STUDY 2: PERCEPTIONS OF PROGRAMME COORDINATORS/SUPERVISORS ABOUT ASSESSMENT IN HIGHER EDUCATION AFTER THE BOLOGNA PROCESS**

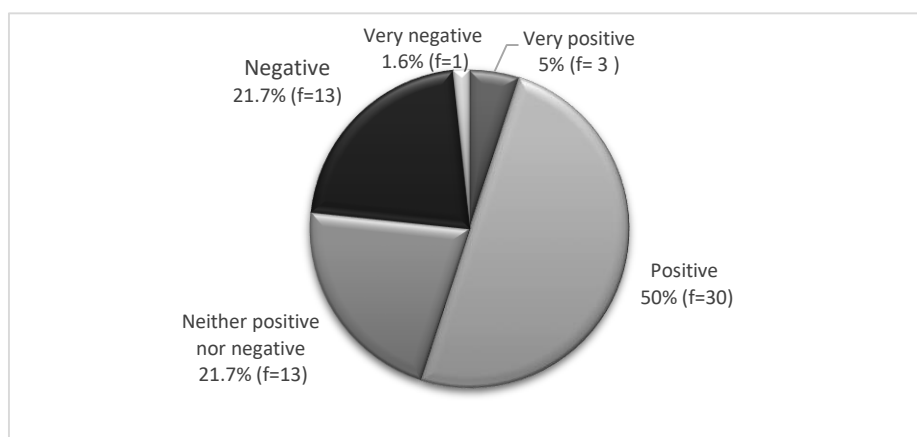
## Chapter V – Sub-study 2: Perceptions of programme coordinators/supervisors about assessment in higher education after the Bologna Process

In this chapter data resulting from the administration of a questionnaire to programme coordinators/supervisors are presented. The following themes will be explored: changes resulting from the Bologna Process, assessment practices, articulation between the learning outcomes and assessment practices, and the opportunities to discuss assessment in the context of the programme. Data were collected through a questionnaire administered to Portuguese programme directors/coordinators (n=60) from a public university. The participants come from the following scientific areas: Medical and Health Sciences, Exact Sciences, Engineering and Technology Sciences, Social Sciences and Humanities.

### 5.1. Changes as a result of the Bologna Process

Data indicate, on the one hand, that participants have a general positive view of the changes promoted by the Bologna Process and, on the other, that the Bologna Process has led to changes in higher education assessment practices.

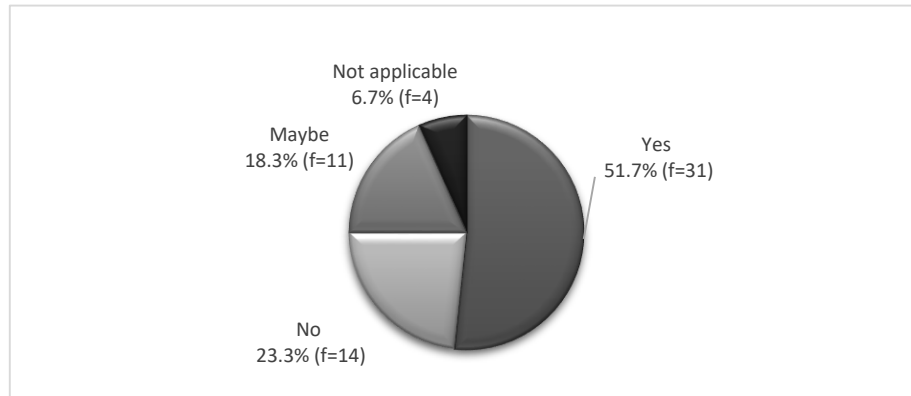
Graph 1 presents the descriptive statistics for the participants' view of the changes promoted by the Bologna Process. The majority of the participants (50%) considered the changes instigated by the Bologna Process as positive; 5% very positive; 21.7% neither positive nor negative; 21.7% negative; and, 1.6% very negative.



**Graph 1.** Participants' views of the changes as a result of the Bologna Process

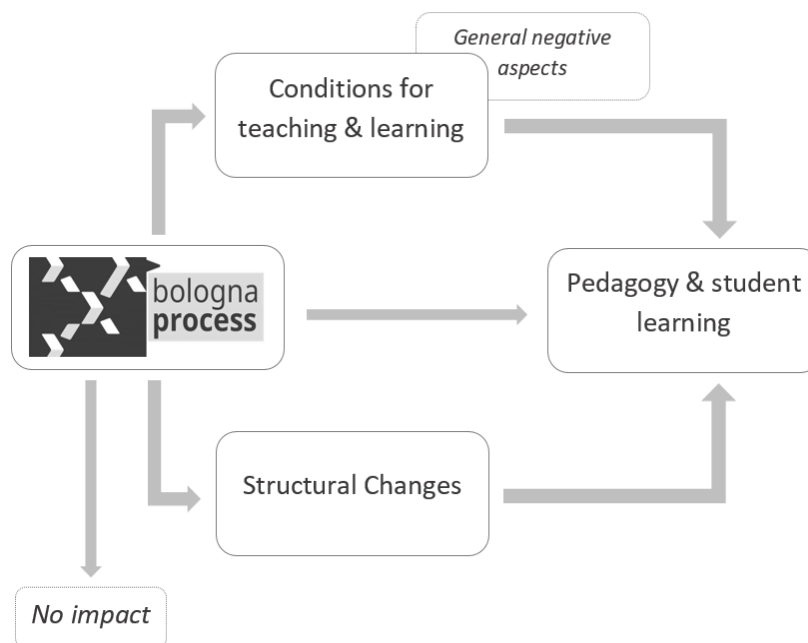


Graph 2 presents the descriptive statistics regarding the participants' view of changes in assessment as a result of the Bologna Process. The majority of the participants (51.7%) recognised that the Bologna Process has promoted changes in the assessment practices, 23.3% considered there were no changes and 18.3% answered maybe.



**Graph 2.** Participants' views of the changes in assessment as a result of the Bologna Process

The analysis of the qualitative data identified similar underlying dimensions to the overall changes promoted by the Bologna Process and to the changes in higher education assessment practices. The diagram of the changes promoted by the Bologna Process in the Portuguese higher education (cf. Figure 34) represents the influence of the Bologna Process on the conditions for teaching and learning, on the structural changes, and on pedagogy and student learning. The results also revealed the influence of both conditions for teaching and learning and structural changes on pedagogy and student learning.



**Figure 34.** Changes as a result of the Bologna Process

Most of the participants considered that the Bologna Process had both positive and negative impact (cf. Figure 35) in terms of conditions for teaching and learning, structural changes, and student learning and pedagogy. Others stated that there was no impact at all.

OVERALL CHANGES AS A RESULT OF THE BOLOGNA PROCESS	CHANGES IN ASSESSMENT AS A RESULT OF THE BOLOGNA PROCESS
<b>1. CONDITIONS FOR TEACHING &amp; LEARNING</b>	
<ul style="list-style-type: none"> <li>- Focus on pedagogy;</li> <li>- Educational offer's discussion</li> <li>- Reflection on the practice</li> </ul> <p><b>But...</b></p> <ul style="list-style-type: none"> <li>- Increasing number of students per class;</li> <li>- Lack of human and material resources</li> <li>- Reduction of the contact time</li> <li>- Condensation of the programmes</li> <li>- Student's profile (e.g. lack of autonomy)</li> <li>- University teachers' and students' resistance to change</li> </ul>	<p><b>But...</b></p> <ul style="list-style-type: none"> <li>- Demands on teachers' work</li> <li>- Reduction of the contact time</li> <li>- Utilitarian strategies</li> </ul>
<b>2. STRUCTURAL CHANGES</b>	
<ul style="list-style-type: none"> <li>- Design of programmes and courses;</li> <li>- Programmes' internationalisation;</li> <li>- Programmes' standardisation according to the European standard</li> <li>- European Credit Transfer and Accumulation System (ECTS)</li> </ul> <p><b>But...</b></p> <ul style="list-style-type: none"> <li>- Devaluation of the diplomas</li> <li>- Bureaucratisation</li> </ul>	<ul style="list-style-type: none"> <li>- Assessment's schedule</li> <li>- Curricular component of the PhD Programmes</li> <li>- European Credit Transfer and Accumulation System (ECTS).</li> </ul>
<b>3. PEDAGOGY &amp; STUDENT LEARNING</b>	
<ul style="list-style-type: none"> <li>- Variety of assessment methods</li> <li>- Learner-centred methods;</li> <li>- Discussion and transparency of the assessment process</li> <li>- Self-assessment</li> </ul> <p><b>But...</b></p> <ul style="list-style-type: none"> <li>- Less interactive practices</li> <li>- Programmes' superficiality</li> <li>- Maintenance of practices before Bologna (periodic assessment)</li> <li>- Decreasing of student's quality (low student's autonomy)</li> <li>- Negative impact on student's professional profile</li> </ul>	<ul style="list-style-type: none"> <li>- Variety of assessment methods</li> <li>- Learner-centred methods</li> <li>- Continuous assessment</li> <li>- Research</li> </ul> <p><b>But...</b></p> <ul style="list-style-type: none"> <li>- Traditional methods</li> <li>- Facilitation and dispersion of the assessment methods</li> <li>- Maintenance of old assessment practices</li> <li>- Dualism of assessment practices</li> </ul>
<b>4. GENERAL NEGATIVE EFFECTS</b>	
<ul style="list-style-type: none"> <li>- Overvaluation of the English language</li> <li>- Unrealistic internationalisation idea</li> </ul>	
<b>5. NO IMPACT</b>	
<ul style="list-style-type: none"> <li>- No experience before Bologna</li> <li>- Inexistence of Bologna's impact on the programme</li> </ul>	<ul style="list-style-type: none"> <li>- Superficial changes</li> </ul>

**Figure 35.** Changes as a result of the Bologna Process (dimensions, categories and subcategories)

### **5.1.1. Assessment practices**

The analysis of the qualitative data identified similar dimensions related to the overall changes as a result of the Bologna Process and to the changes in higher education assessment practices.

The diagram of higher education assessment practices (cf. Figure 36) identifies and establishes a relationship between the most used assessment methods, the positives and the issues to be improved.

#### ***Methods***

In terms of the most used assessment methods, the participants highlighted the most common assessment methods, the factors that influence the selection of the assessment methods, the moments in which assessment occurs, the purposes of assessment and the student participation (cf. figure 36). Participants refer to the use of a variety of assessment methods, including a mix of learner-centred and traditional methods:

*There is a multitude of assessment methods. The practical work in group and the individual practical work prevail (among others, the critical learning memos) (Q39)*

*The traditional question/answer method (tests) prevails with some minimised resource to practical work in group. The autonomous work, with some exceptions here or there, remains a mere desire. (Q9)*

There is a great emphasis on the use of alternative assessment methods. Both collective and individual assessment methods are strongly mentioned by the participants, with an emphasis on individual and collective practical work, essays, reports, or oral presentations:

*The practical work (individual and collective). (Q11)*

*The essay, individual or collective. (Q16)*

*The predominant assessment method is an individual written work with an oral presentation in the classroom. (Q21)*

*The presentation of practical work. (Q30)*

*Papers/ Literature Reviews (Q58)*

*The annual report produced by the PhD students which are reviewed by the supervisors, the Department, the Scientific Council and the Course Committees; the supervision report. (Q59)*

*The practical work in group. (Q60)*

Despite this, there are many references to the use of tests and exams:

*Conducting written tests. (Q53)*

*Assessment by written and oral tests. (Q33)*

*Global written test. (Q13)*

*Assessment through written test or final exam. (Q14)*

The portfolios and reflections are also used in the participant's programmes, although to a lesser extent:

*Essays, reflections, reports, presentations, debates (Q27)*

*Practical work in group with presentation and discussion in class; study visit reports; individual reflections that seek to articulate the theoretical corpus of the respective course with the internship experiences. (Q44)*

*Portfolios, practical work in a group, case discussion, written reflections (Q42)*

The participants' responses also indicated a combination of traditional assessment methods and learner-centred assessment methods, especially through the use of tests and practical work:

*Individual tests and practical work in group. (Q23)*

*Tests and papers. (Q43)*

*Tests and practical work of data analysis (Q32)*

*Assessment by written test and group/individual practical work (Q36)*

*Continuous assessment tests. Projects. Portfolios. Exams. Oral presentations. (Q6)*

*Nowadays, it is possible to identify a greater balance between traditional tests and practical work/reports. This dynamic enables students with practical and interactive work horizons. (Q57)*

In terms of the factors that may influence the selection of the assessment methods, participants identified the year of study, the type of course, the nature of the programmes, and the institutional regulations. Some participants used a different assessment method according to the curricular year or course:

*In the first year of the courses, the use of tests is still predominant. But in the second and third years, in addition to tests, there are more practical work or projects. (Q47)*

*Written tests/Exams, individual/group practical work and projects (in the fourth and fifth years). (Q45)*

*A test, an exam and one or two practical work. In the laboratory courses, we use a multidisciplinary project. In some cases, we have large groups with different roles. (Q55)*

The nature of the programmes and the institutional rules appear to influence the selection of the different assessment methods:

*I am responsible for a master's in teaching and the specialisation of an academic master's degree in teacher education. In these programmes, diversified assessment methods are used, such as research work, teaching projects, portfolio, among others. Yet the test is still used in some courses at the master's degree in teaching. The final exam is also used in the academic master's degree because it is an e-learning programme. There is an institutional recommendation for conducting exams in these cases. However, many of these exams inquire about the practical work developed in the course and they are never the only assessment method. The reflexive tasks performed during the programme are also encouraged. (Q7)*

Regarding the moments in which assessment occurs, in some cases, there is an articulation between continuous and periodic assessment. There are also several references to continuous assessment, which involves a diversity of assessment methods, practical work or projects:

*Continuous and periodic assessment. (Q10)*

*Based on programme documentation, the continuous assessment includes reflections about the learning process, cooperative group practical work, oral presentations, portfolio and tests. If the student is not approved, he/she can attend the exam. (Q52)*

*Continuous assessment and practical work. (Q26)*

*Continuous assessment and projects. (Q35, Q38)*

A participant underlined the articulation between summative and formative assessment practices. The summative assessment is associated with theoretic contents and continuous assessment with more practical contents:

*Practical and formative assessment in the courses of music and music didactics, and theoretical and summative in the courses of Educational Sciences. (Q20)*

Lastly, there are some references to students' participation in the assessment process, namely through face-to-face assessment, which is associated with traditional assessment methods, and peer assessment, which is associated with more learner-centred practices:

*Written tests and individual/group practical work (which includes a peer assessment component). (Q18)*

*Face-to-face individual assessment and exam. Oral presentations. (Q19)*

### **Positives of the assessment practices**

In terms of the positives of the assessment methods, the following categories emerged from the data: learner-centred approaches, nature of assessment methods, connection to professional practice and no positives (cf. Figure 36). The results also revealed the interaction between learner-centred approaches, the nature of assessment methods and the professional practice.

In general, the programme coordinators subscribed the positives of the assessment methods in terms of the apprehension of knowledge, versatility and testing knowledge:

*Greater apprehension of knowledge. (Q13)*

*They allow measuring technical and transversal skills. They are adjusted to different types of learning. (Q31)*

In terms of learner-centred approaches, the participants highlighted the practical work in group, the individual practical work, the collective work, and the project-based learning, complemented with feedback practices. These practices enhance the student's autonomy and self-regulation. Complementary, oral presentations, collective and in a group, allow the development of communication skills, structuring of ideas and greater student autonomy:

*The presentation of the course/programme topics of interest enhances independently, critically and assertively, search for information. (Q19)*

*Practical work in group work with oral presentation. (Q1)*

*The accomplishment of well-conducted practical works involves students in the search for knowledge (theoretical and/or empirical). When this work is developed in groups, it can enhance discussion and the development of collaborative skills. (Q11)*

*The oral presentations. Students learn how to communicate their knowledge. (Q34)*

*Practical work presentation allows students to develop research skills and to structure and articulate ideas. On the other hand, it promotes autonomous work. (Q30)*

*The students prefer assessment through practical work. It allows a better understanding of the relevance and usefulness of the contents. (Q47)*

*Project-based active learning in a set of project-based courses. (Q55)*

*Teamwork, collaborative and participative learning, knowledge building and not just memorisation, development of transversal skills such as research, innovation, creativity, negotiation, etc. (Q56)*

*PhD student autonomy, self-regulation, continuous and informative feedback in the supervision process. (Q59)*

These assessment practices enable students to develop research skills, essential for their academic future:

*Encouraging research. (Q29)*

*Students can develop research skills, do collaborative work, and develop practices congruent with pedagogical isomorphism. (Q44)*

*Research skills development. (Q58)*

*Students are expected to elaborate a Master dissertation project. So they must have the opportunity to test the accomplishment of small research works during the curricular component of the programme. (Q21)*

Another central theme is the diversity and articulation of different assessment methods. Participants highlighted the complementarity of the different assessment methods, strengths and specific contributions to learning:

*Continuous assessment of student learning and diverse assessment elements. (Q15)*

*Diversity of methodologies and application to real cases. (Q25)*

*The individual and knowledge assessment is always important. The group work appeals to other skills and has a more practical dimension. However, both (tests and practical work) can be performed without the best use as teaching and learning tools because they can be seen as an end itself and not as a mean. (Q24)*

*The resolution of the tests is individual and allows to assess student's knowledge. The practical work in group consolidates and deepens the students' knowledge. It also allows the development of other skills (namely the so-called soft skills), which are increasingly valued by companies/organisations. (Q8)*

*The written tests/exams and individual practical work allow individual differentiation in terms of the consolidation of competencies. The practical work in group and projects allow students to develop skills related to team activities. (Q45)*

*The project allows the practical application of knowledge. The group work develops skills for teamwork and conflict management. The individual test allows to assess students individually and to compare them with the group/class. Thus, the various systems report and allow to assess different aspects. (Q54)*

The assessment methods are, in this scenario, aligned with Bologna principles, reinforcing the students' autonomy and responsibility:

*The methodologies are in line with the Bologna's spirit. (Q52)*

*The strengths of the participatory, practical and interactive methodology mobilised by the Bologna Process reinforce the students' autonomy and responsibility. (Q57)*

Regarding the nature of assessment methods, the participants identified the following characteristics of the assessment methods: justice/fairness, adequacy, reflective, accuracy, transdisciplinary, practical, problem solving, utility and the validity of the assessment methods. The assessment practices are appropriate; they are aligned with the programme goals, with the learning process and with the outcomes:

*Greater diversity and deeper reflection on the assessment practices and its suitability to the programme, to the learning goals and learning outcomes. (Q5)*

*They predict the goals' achievement. (Q10)*

*They allow to measure technical and transversal skills and are adjusted to different types of learning. (Q31)*

Assessment methods enable a fair classification of the students:

*They enable to safely assessing the students' acquisition of knowledge and to assigning grades fairly. (Q33)*

*It's relatively fair. (Q51)*

*They also involve other courses, contents and projects: project-based learning involving transdisciplinary courses; professional projects, oriented to the demands and profiles of the market; oral presentations of practical works; ICT; and, tools and resources in the language industry field. (Q6)*

The practical dimension of the assessment and the orientation towards problem solving are also underlined by the participants, e.g. through simulations and real cases analysis. This practical work enhances peer collaborative work:

*It is about learn by doing. (Q35)*

*A closer approach to practice. (Q26)*

*Use of real data to apply the methodologies of each course reports. (Q32)*

*An understanding of the actual working circumstances and their applicability as well as the need for theoretical preparation. (Q41)*

*The perception of student learning to find solutions to concrete cases. (Q53)*



Besides that, the assessment methods are valid, accurate and helpful, especially when you deal with a great number of students:

*Assessment 's accuracy. (Q13)*

*Assessments are, generally, valid. Because they evaluate what we wanted to teach and what we taught. (Q17)*

*It allows the assessment of a high number of students (almost 100). (Q36)*

There are several references to continuous assessment, which facilitates student learning, feedback practices and the individualised monitoring of students. The discussion of assessment at beginning of the programme is also mentioned by the participants:

*The continuous assessment allows the individualised monitoring of students according to their needs. (Q2)*

*Continuous assessment makes it possible to assess students' skills along the learning process by providing timely feedback on their performance. (Q38)*

*Continuous assessment fosters progressive and more efficient learning. (Q42)*

*Establishment and clarification of assessment rules early in the semester in all courses. (Q14)*

The formative (and practical) dimension of assessment is underlined by the supervisors. As such self-assessment assumes an important role:

*The practical and formative component of assessment in the speciality courses, which is constant and varied. The use of audio and video recordings, in some assessment moments of the courses of music didactic promotes a critical, reflective and shared self-assessment. (Q20)*

Face-to-face assessment is highlighted by the participants articulated with the active involvement of both teachers and students:

*Some courses invest in students' self-assessment. (Q7)*

*The learners participate in the peer-review process, implying a high level of accountability that is beneficial to the learners. (Q18)*

*More active participation of teachers and students. (Q27)*

*They favour student participation in the teaching and learning process. (Q42)*

*Greater participation and interaction of students. (Q43)*

These aspects are closely linked with professional practice allowing the training of appropriate professionals to the demands of the labour market:

*Better preparation for post-university challenges. (Q13)*

*The main strength is to link assessment with vocational learning, ensuring that assessment tasks develop relevant professional skills (in this case linked to teaching). (Q7)*

Besides the general positive opinion about the assessment practices, some participants declared that there were no positives, reflecting on the necessity of varied and more autonomous practices:

*I can't distinguish anything particularly different from other engineering programmes. (Q37)*

*I cannot evaluate. If students are supposedly convinced that assessment is regulated by the autonomy of their work, and if this work is imposed by the teacher, who will assess the already expected outcome? I don't know if there is any strength in this methodology that replicates old teaching models. (Q9)*

*Nothing to say. (Q48)*

*I don't see any positives. (Q50)*

### ***Issues to be improved in the assessment practices***

In terms of the issues to be improved in the assessment methods, the following categories emerged from the data: pedagogy related improvements, improvements related to conditions for teaching and learning, structural changes related improvements, and no improvements (cf. figure 36). Data also revealed the influence of conditions for teaching and learning and structural changes on pedagogy and student learning.

Firstly, the participants recognise the existence of improvements related to pedagogy. However, the assessment practices are still dominated by traditional methods:

*The changes in the assessment practices were done. But, sometimes, there are difficulties in terms of its implementation. The valorisation of summative assessment both by university teachers and students and the low trust on the assessment practices contribute to the use of tests, even if complemented with other assessment practices. (Q11)*

Notwithstanding, “there is a need for assessment to be increasingly useful for the learning process, both for students and university teachers.” (Q27), for instance using different, more collaborative and more formative assessment methods:

*I would like them to be more varied and not repeated so much, always bearing in mind their importance not only for grading students (giving a grade) but also for their formative role. (Q36)*

*More courses should adopt more forms of assessment in order to prevent them from being limited to typical individual written tests. (Q18)*

*To increase number of assessment elements to improve the process of assessing individual creativity. (Q4)*

*It seems to me that it would be necessary to reinforce collaborative practices' tasks, eventually with the development of interdisciplinary projects. (Q44)*

Issue such as more practical activities, conciliation between theory and practice and learner-centred approaches to enhance students' active learning were also identified

*More practical and oral assessments, shared by students and teachers concerning performative moments (musical, pedagogical, or even theoretical discursive construction) in more courses. (Q20)*

*Practical component. Peer review. Group work and assessment of each member and various components. Teaching through projects. Professional skills, soft skills. More reliable metrics for quality assessment. Introduction of assessment parameters used in companies. Principles of empowerment, accountability. Articulation between theoretical and practical part. (Q6)*

*Among the various aspects to be improved, I would highlight the effective approach of students to a way of discussing/communicating their learning outcomes compatible with the usual colloquium/workshop/internship/roundtable format in the university environment of producing science. (Q57)*

*Greater appreciation of active student participation in the classroom context. (Q53)*

The following elements were also identified: “active participation of students” (Q53, Q24) enables greater responsibility from the part of students and university teachers in the assessment process, through greater adequacy of the assessment methodologies and of the university teachers' profile, continuous assessment and feedback:

*Ensuring that the way assessment methodology is adopted allows for an effective understanding of the acquired skills. Ensuring that all coordinating teachers have*

*adequate knowledge to define appropriate assessment practices and methods for their courses. (Q45)*

*More moments for continuous assessment in the courses with students' greater difficulties. (Q15)*

*A lower concentration of assessment tests (at the same time), the implementation of continuous and non-final assessment. (Q5)*

*More alternative assessment, able to provide student feedback throughout the semester and not at the end. I would also like to be able to favour a more articulated assessment among the courses. (Q42)*

Some participants would like to do a different kind of assessment (e.g. continuous assessment, alternative assessment methods). However, they are blocked by the conditions for teaching and learning, namely the lack of resources or the university teachers and students' attitudes:

*Continuous assessment, closer monitoring of students, with monitors, or assistants, who can see progress and not just translate a score from zero to 20. Completely utopian, I know. There are no resources, of course! We know all that. It isn't worth it ... In theory, we all know how to do it. In practice, there is a teacher to a very large audience in many cases... I believe this isn't what you expected to see written here... (Q55)*

*I would like to use other additional forms such as simulation. However, due to budget limitations that is not possible. (Q54)*

*The methodologies themselves don't need to be improved, the procedures need to be improved as well as some students and some teachers' attitudes. (Q56)*

The classes' size and the students' profile are, once again, mentioned as hindering factors of improving assessment practices:

*The higher number of practical component assessments based on concrete learning's application is not always possible due to the high number of students per class. (Q46)*

*I would like smaller classes. That would allow teachers to develop a real continuous assessment and would favour the gradual study of the subjects, rather than the concentration of study for the exams. (Q33)*

*I think that, given the basic level of preparation of most higher education students, the solution isn't improving the assessment methodologies but studying the methods and ways of studying. (Q10)*

In order to address these issues, the participants highlighted the necessity of a greater articulation between the courses, between the different elements and moments of assessment and between the courses and the respective assessment moments as well as more contact and training hours:

*Greater articulation of the teachers of courses. (Q59)*

*According to students, the assessment methodologies of the modular courses aren't always in articulation with the global assessment of the course. Each module seems to correspond to an independent course. (Q52)*

*Transversal assessment practices to different courses (Q31).*

*Homogeneity in the assessment criteria, especially in courses divided into modules taught by different teachers. (Q37)*

*Greater articulation of assessment moments and better matching of the number of assessment moments and ECTS of courses (there is some imbalance between the required workload and the established workload). (Q3)*

*I would like to see greater interconnection between the courses and their assessment methods. (Q8)*

*More compulsory application hours not linked to credits to reinforce the awareness that much more study and application hours are needed. (Q41)*

*Provide the exclusively theoretical courses with some practical contact time. (Q35)*

In terms of the improvements related to structural changes, the participants highlighted the assessment schedule, namely the overlap of the date of the exams, but also the will to reverse the changes in the assessment practices promoted by the Bologna Process:

*There should be a fixed period for the final exam at the university. The special examination should return to September. It makes no sense to separate the normal examination from the special just for two weeks. (Q51)*

*The assessment before Bologna should be maintained. (Q50)*

The challenges promoted by the internationalisation of the programmes, especially English language skills, were also underlined by participants. This challenge implied greater and closer supervision and articulation between university teachers and supervisors and is consistent with a pedagogical reflection culture:

*There are difficulties with distance students and those who do not speak Portuguese. We have individual monitoring in some cases. I think it would be possible to improve by meeting with all the teachers and supervisors. (Q60)*

*The answer only applies at the institutional level: should we improve? Should we introduce a culture of pedagogical reflection on teaching practices, including assessment practices? (Q16)*

The participants considered the assessment practices globally appropriated, but there is room for improvement through an integrated and interdisciplinary approach:

*There are some occasional problems, but my perception is that the assessment practices developed are globally appropriate in the curricular organisation that we have (with courses' centrality). In a more interdisciplinary approach, we could have less courses and less assessment work, fostering more integrated training. (Q7)*

Besides the general agreement on the necessity to improve the assessment practices, some participants declared that no improvements are needed, reflecting the satisfaction level of the participants with the assessment practices as well as the adequacy of the assessment practices:

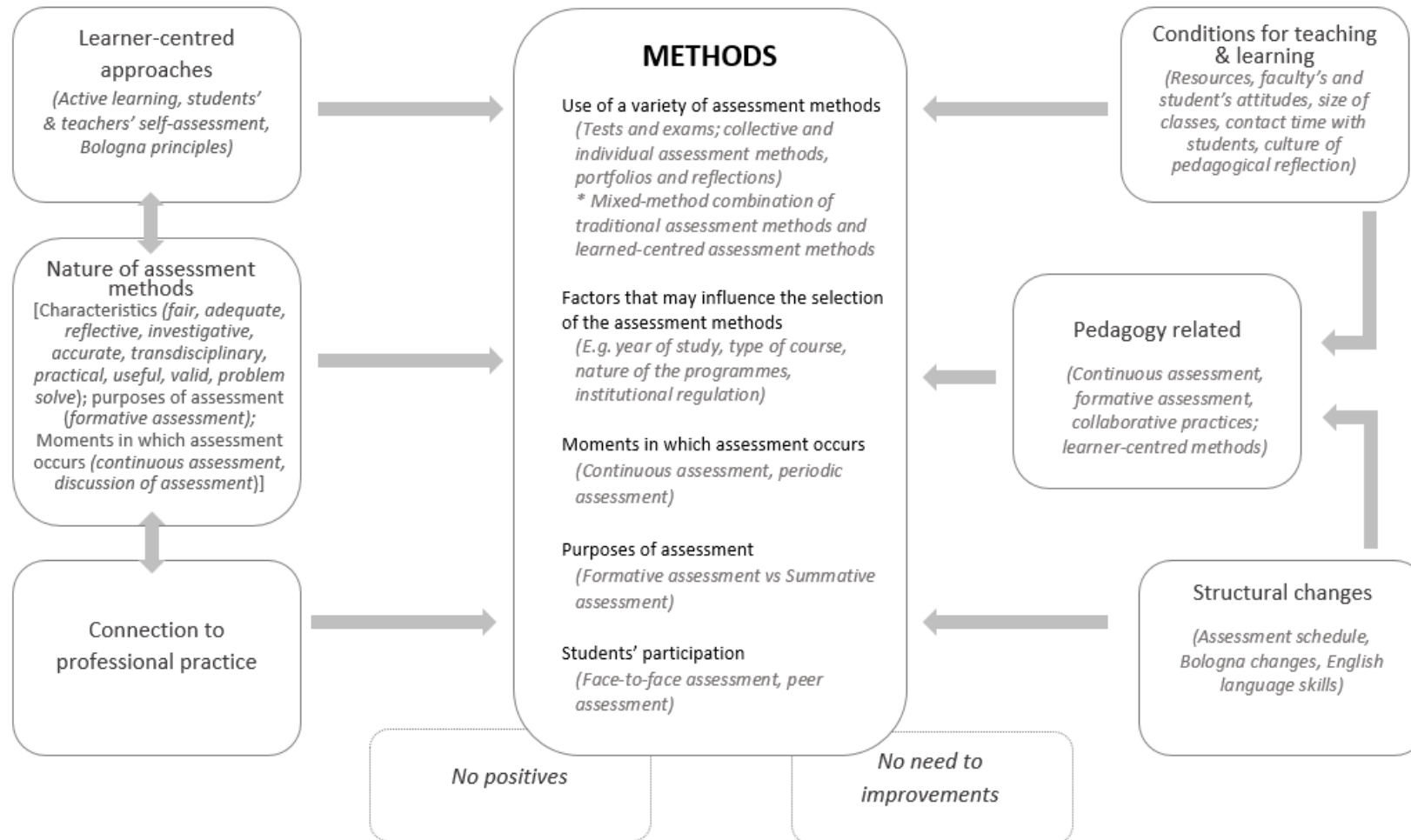
*The assessment methodologies are adequate, so I don't see any need to change them. (Q2)*

*The current model is satisfactory. (Q22)*

*Overall the methodologies seem to be balanced between tests, practical work and other elements of continuous assessment. Students also share this opinion. (Q47)*

**POSITIVES**

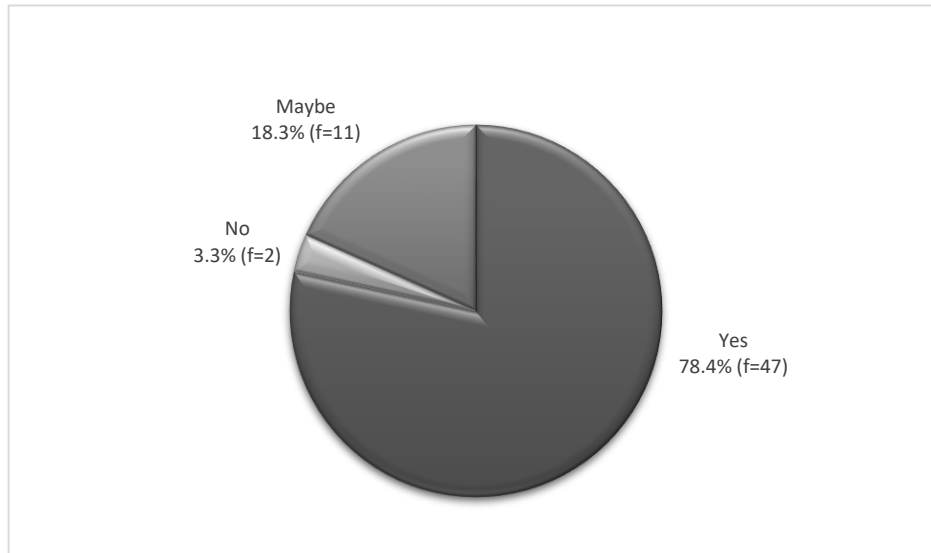
**ISSUES TO BE IMPROVED**



**Figure 36.** Higher education assessment practices

## 5.2. Learning outcomes and assessment practices

Graph 3 presents the responses of the participants about the articulation between the learning outcomes and the assessment practices. Most of the participants (78.4%) recognised that there is an articulation between the learning outcomes and the assessment practices; 18.3% answered maybe; and, 3.3% said no.



**Graph 3.** Participants' views of the articulation between the learning outcomes and the assessment practices

Most of the participants considered that the learning outcomes and the assessment practices are articulated (cf. Figure 37). This articulation occurs “in most of the courses, however it may not happen in all the courses (Q9). The main goal is that “the different assessment methods be able to assess the student’s results” (Q37).

This articulation is present in the learner-centred practices, in the achievement of the courses’ and programmes’ goals, and is explicit in the formal procedures of the programme (cf. Figure 37). The learner-centred practices are highlighted by the participants as enhancers of autonomy, reflectiveness and research skills:

*Yes. The aim is to train reflective professionals with a transformative vision and prepared to lifelong learning. (Q52)*

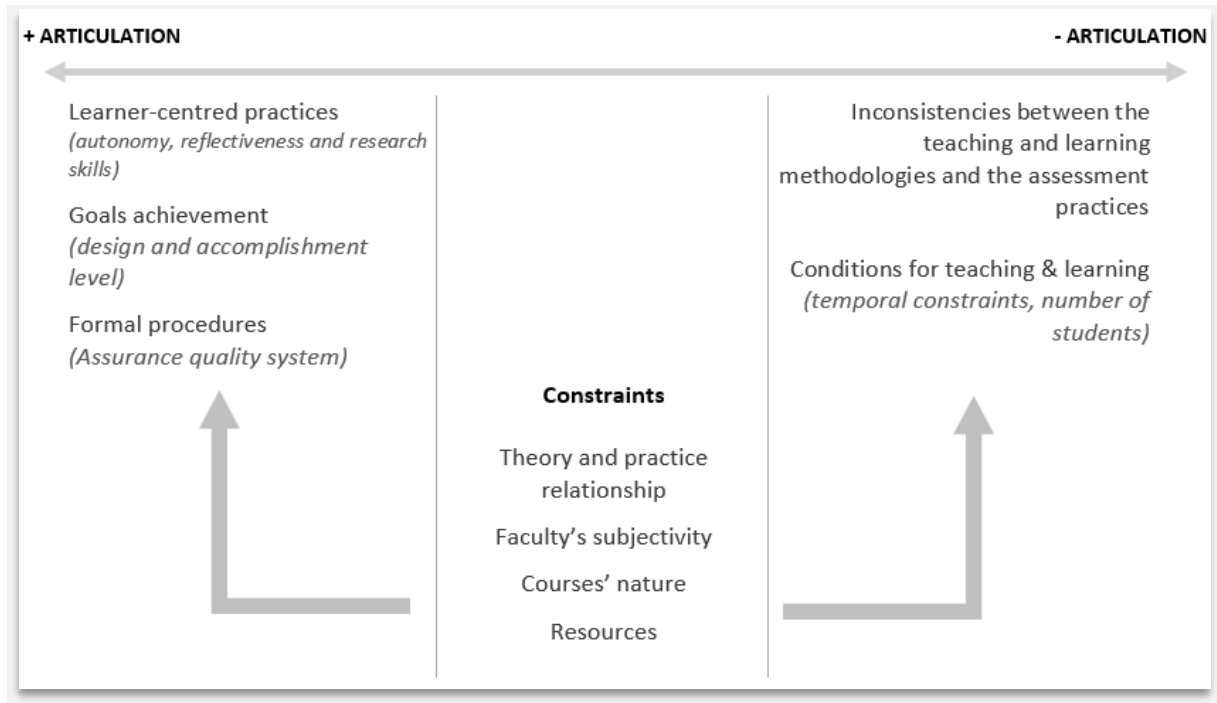
*The goals of the courses are the progressive autonomy of the students, so individualised monitoring is the most effective. (Q2)*

*The goals point to a participatory self-construction of knowledge and assessment methodologies. (Q56)*



*The goal is to develop research skills. (Q58)*

*Among the goals and methodologies of assessment, the greatest articulation comes from continuous assessment and from the spirit of learning in workshops. (Q35)*



**Figure 37.** Articulation between the learning outcomes and the assessment practices

The goals (their design and accomplishment level) are also highlighted by the participants as an integrating element between the learning outcomes and assessment practices. The importance of knowing the methodologies and goals of the courses at the beginning of the school year was also highlighted:

*The goals of the courses and their methodologies are presented to students in the first class of each semester as well as the learning outcomes. (Q22)*

*The goals are consistent with the strategies and the results are assessed by the processes provided for each course, as confirmed by the A3Es assessment report. (Q20).*

*The assessment is designed according to the goals. (Q31)*

*It has always been the aim of this course to maintain a close articulation between the goals listed in the courses' programmes and the assessment methodologies. (Q38)*

*It is a prerequisite of the course plan. (Q41)*

*Goals involve conceptual and technical issues (Q46)*

*It is because they enable students to safely assess the acquisition of knowledge, to achieve the goals established in the courses' programmes. (Q33)*

This articulation is also explicit in the formal procedures, leading to reflection and design of the integrative practices, including their monitoring and analysis:

*It is present in the teaching practices and the curricular documents of each course. (Q4)*

*In the design of the programmes for the approval of the courses by A3ES, it is requested to clarify the coherence between goals, contents and teaching and assessment methodologies, which somehow guarantees this aspect. (Q7)*

*There is always an effort by teaching teams to assess the learning goals. Pedagogical dossiers make it necessary to define all these things well and to think about their articulation. I believe the teams are aware that they are doing so. Whether or not it is effective is another matter that the internal quality assurance evaluation process may perhaps clarify. There are mechanisms for that. (Q55)*

*Reports tend to show a combination of efforts between doctoral students and supervisors. Nevertheless, small teams of learning and group support are created among PhD students. (Q59)*

Nevertheless, this articulation is often not fully achieved. The participants highlighted the relation between theory and practice, university teachers' subjectivity, nature of the courses and scarcity of resources as constraints to the articulation of the learning outcomes and the assessment practices.

In terms of the relationship between theory and practice, the participants considered that, although this articulation may exist in theory, the articulation between the scientific component and the practical component does not always exist. They also state that this articulation is not easy to measure and that there is gap between the programme's principles and its practices:

*This articulation is not always there. There is a discrepancy and imbalance between the scientific/theoretical component and the practical component, which is related to the specific skills of the professional profile. (Q6)*

*In theory yes. In reality, I would have to conduct a study (with observation) to have valid information. (Q16)*

*When submitting the course for approval at the A3ES, all this was considered. However, the reality can sometimes be surprising... (Q26)*

*The articulation between the programme goals and the assessment methodologies were considered in the development of the courses. This doesn't mean that there is a linear and sufficiently dynamic relationship among them. (Q57)*

This less successful articulation may be explained by the university teachers' subjectivity in the interpretation of the programme goals or by the selection of the assessment practices; the adjustment of the assessment practices determined by the nature of the courses; or, by the scarcity of human resources, in particularly the increasing number of students and reduced number of university teachers:

*Generally, it seems so. However, the programme may origin different interpretations depending on the teacher who implements it. (Q11)*

*The justification is complicated, and it is a responsibility of the teacher(s) of each course. (Q34)*

*According to the nature of the courses, the aim is to adjust the assessment methodologies. (Q14)*

*In principle, yes, but sometimes adjustments are necessary due to the high number of students and to the reduced number of teachers. (Q36)*

In a few cases, there is no articulation between the learning outcomes and the assessment practices due to the inconsistencies between the teaching-learning methodologies and the assessment practices. The assessment practices are learner-centred but the teaching-learning process still follows a classic model due the increasing number of students. Time constraints are also pointed out as obstacles to the implementation of learner-centred assessment practices:

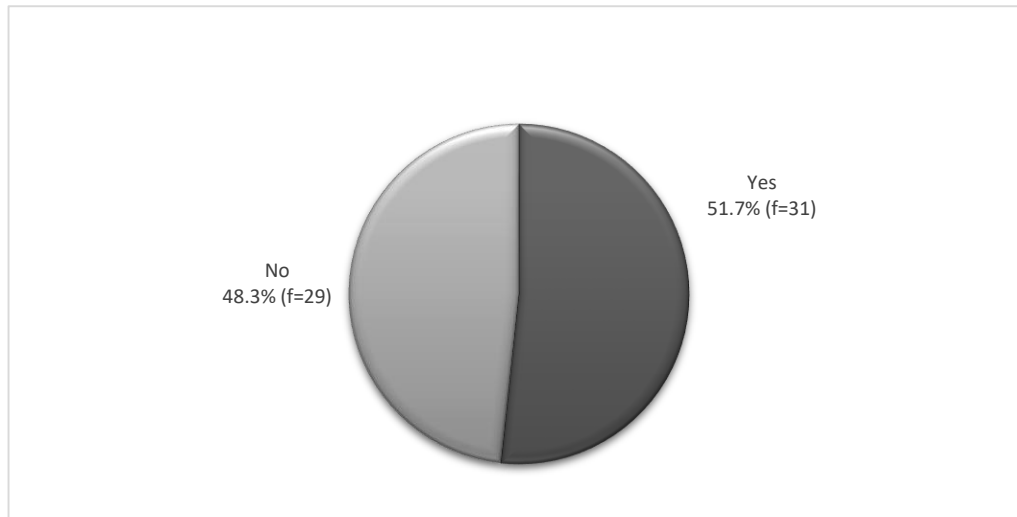
*The goals follow the classical terminology and the assessment methodologies are built based o, the so-called and non-existence in practice, autonomy of learning. Students aren't encouraged to be autonomous. If they decide to go that way, their boldness is not well accepted. The teacher commands and the student obey. It is this way since preschool and it is not the years spent in higher education that will change that. However, I want to make it clear that with the classical teaching process designed to large groups, the autonomy of learning cannot be realised. (Q9)*

*There isn't the required timeframe for a suitable student assessment. (Q50)*

### **5.3. Opportunities to discuss assessment in the context of the programme**

Graph 4 presents the participants' view of the opportunities to discuss assessment in the context of the programme. Most of the participants (51.7%) recognised that there are opportunities to discuss assessment in the context of the programme; 48.3% answered no.

Statistical data reveal some closeness between positive and negative responses. In terms of the opportunities to discuss assessment in the context of the programme, the following categories emerged from the data: informal discussion; moments in which discussion occurs; general strategies, and problem solution.



**Graph 4.** Participants' views of the opportunities to discuss assessment in the context of the programme

Generally, the discussion about assessment in the context of the programme may occur both in a formal or informal way. The informal discussions may address several dimensions beyond assessment and emerge as a viable option to overcome schedule difficulties, to articulate university teachers' work and to solve problems:

*This issue has been handled informally. (Q10)*

*These meetings are not necessarily from the Programme Coordination competencies and can be more informal. They focus on several aspects of the programme beyond assessment. I consider that teachers should have autonomy in the design of their assessment practices because they have a privileged vision and it corresponds normally to their research area. But, sometimes, it is necessary to discuss assessment, for example: to articulate different courses; to articulate teachers within the same course; or when specific problems occur. (Q7)*

*I is an informal meeting given the small number of teachers of the programme. (Q19)*

*We promote individualised phone, email, and personal feedback because it is difficult to arrange extra meetings for this purpose. (Q20)*

On the other hand, the formal discussion may occur in different moments, before, during or after the programme. The initial discussion aims to plan the programmes' functioning, involving, in some cases, the students and answering to previously reported problems:

*It is done before the beginning of the year. (Q17, Q25)*

*The terms of the assessment are defined at the beginning of the semester. Meetings are held with student representatives (twice a year). Any existing problems related to assessment are discussed in the Coordination Committee with the involved teacher. (Q21)*

The final discussion has a greater focus on the appreciation of results and accountability (through formal reports). Nevertheless, the discussion occurred during the programme relies on the perceptions of the students, specially the class delegates:

*Only at the end, due to an appreciation of the results, during the semester the perceptions are monitored as the requests of the students, specially the delegates. (Q24)*

*As part of the final course report (Q32)*

In other cases, the assessment discussion intends to address problems identified by students or through the accountability mechanisms:

*Cases are raised by students, or because it is integrated into the general evaluation of the school year. (Q4)*

*In the case of courses identified due to assessment problems, I meet with the teacher responsible for the course. (Q18)*

Formal discussions are also used to define general strategies such as practices' standardisation, the assessment schedule, methodologies, identified problems and possible solutions, or even, to fight university teachers' individualism. In some cases, the courses are taught by several teachers and extra effort is needed at the articulation level. This articulation also extends to the different courses of the programme, namely at the level of the programme functioning, the procedures to be adopted, the assessment moments or the quality of the work produced by the students:

*Since there are courses taught by more than one teacher, coordination is required both in terms of teaching and assessment. (Q2)*

*In the courses of interdisciplinary projects, which form the basis of the programme, the beginning of the semester a meeting is held between the year coordinator and the teachers of the courses to define the semester project and reflect on previous results. This discussion intends to continually improve the teaching/learning outcomes because we feel this is a dynamic process. (Q38)*

*It is necessary to standardise procedures and, at the same time, there is a need to articulate these issues with teachers from other units who collaborate in the programme. (Q6)*

*To coordinate content, to check about programme operation and hypotheses for future review of the study plans. (Q35)*

*The management team meets three or four times a year. The type of reports produced by the PhD students and the opinions issued by the supervisors, etc. are discussed. (Q59)*

*Strategies for articulating strategies and the assessment calendar (Q46)*

*To ensure a balanced distribution of assessment moments throughout the semester and to analyse any student achievement problems that may be corrected on time. (Q22)*

*To detect potential difficulties with the courses and to ensure compliance of the academic standards. (Q51)*

The discussion of assessment is particularly important to help to promote formative moments for teachers and students and to develop self-regulatory strategies that enhance students' learning or/and collaborative strategies and professional development for teachers:

*Assessment spends a lot of time, so it should have a formative dimension and help students to develop self-regulatory mechanisms which, given the number of students, is sometimes difficult to adjust and needs reflection from the part of the teachers. (Q36)*

*Because we understand that the training process of teachers requires consistent actions among the various elements of the teaching team. In any case, there is still a long way to go, especially at a time when there are many individualistic trends in teachers, each particularly concerned with his/her performance appraisal and not so much with the formative process itself. (Q44)*

Despite this positive position about the discussion of the assessment practices, some participants highlighted as the main reasons for not discussing assessment the following: it is not a core issue, there are no opportunities or conditions to discuss assessment, formal aspects and university teachers' pedagogical autonomy (cf. figure 37). Some of the participants argued that the discussion is not useful because teachers are resistant to change and outdated:

*Because it is useless. In higher education, teachers don't like to confront their methodologies, they think they are always right and that others are wrong. They are resistant to change. They continue to see the world and the profession as they were educated. Since they have autonomy, and well, they do what they want, even if they are outdated. At the academy, it is not yet realised that we have 19th-century schools, 20th-century teachers and 21st-century students. (Q9)*

Other participants question the usefulness of the discussion since all teachers "apply similar methods" (Q43), assessment is not a problem, or the discussion makes no sense in this study cycle:

*Because the master's degree has been working well in this area, no anomaly has been detected so far. (Q54)*

*I used to do that in the first cycle. It does not seem necessary in the third cycle. (Q58)*

*Meetings with teachers are not limited to the theme of assessment, which is generally not problematic. (Q12)*

For these reasons, the discussion could become inconsequential unless it is an institutional imperative:

*Because I'm afraid to upset colleagues for a meeting that would be inconsequential. This kind of meeting, in my view, can only have any chance of success if it is institutional and transversal to the institution's courses and structures. (Q16)*

The lack of opportunities or conditions to discuss assessment was also highlighted by the participants, especially the lack of space or habit to discuss this theme:

*There is no space for that: space for reflection and no university teachers' availability for discussing assessment. (Q5)*

*A general meeting with all the programmes university teachers is not usual. I used to hold meetings with the new university teachers from specific areas to present the programme and the students. At that moment we use to discuss assessment. There are also usually meetings between all teachers who guide the pedagogical practice (supervisors) to standardise criteria. (Q11)*

In addition to these reasons, the participants also highlighted some formal arguments, for example, the fact of being recently appointed to the position, their competencies or the institutional assessment of the programme:

*I'm in this position for less than one year, and at the beginning of my sabbatical, so there is still no availability to do so. (Q37)*

*Not yet because I'm less than a year in the position. It is planned to do so early next year. (Q39)*

*Most courses are independent of the programme, they do not "belong" to the programme but are only offered in it. (Q48)*

*The assessment of the courses is the responsibility of the respective coordinator. There is only particular attention to the assessment methodology proposed in the curriculum forms when they are prepared and submitted to the A3ES agency. (Q15)*

*The course management acts with the day-to-day management functions of pedagogical subjects. Each course has a teacher responsible for the programme, including assessment. (Q26)*

*The assessment methodology is defined in the course unit form and is the responsibility of each teacher who should be aware of the Bologna guidelines. (Q30)*

*This issue is the responsibility of the Pedagogical Council. (Q33)*

*The number or type of assessment elements is never addressed. Nevertheless, the programme supervisor doesn't have the competence to question the decisions of the teaching teams. The coordinator of courses is sovereign. The role of the programme supervisor is reduced, or even non-existent, in the pedagogical aspects. At most, it is an intermediary to take the problems to the level above - The Pedagogical Council - and bring information to properly clarify the university teachers and students. Just that. It has no anticipated mechanism of active intervention. And the teachers only report to the department directors. They have more to do than discussing the pedagogical questions of programme X or programme Y. (Q55)*

Finally, the participants emphasise respect for teachers' autonomy and the difficulty to change the ways in which teachers teach and perform assessment. They coordinate the different courses but only intervene in the most problematic cases:

*In general, I think every teacher should be free to determine the assessment of their courses. I'm aware of isolated cases when there were many complaints from students about the teachers' very high demands. In that case, I spoke to the colleague to warn him about the students' complaints, but there were no changes at all. I think that the programme supervisors have no tools to force teachers to change the way they teach or assess. (Q34)*

*At the level of course coordination, there is only the concern to coordinate the schedule, so that there are no periods of excessive peak assessment times. The meetings only exist to analyse identified "problems" or remedy inappropriate situations. Only in extreme cases of "problems" identified by students or university teachers. (Q45)*

*I have not already done so because we intend to have some stability in the assessment methodologies. However, I meet with the students and when they raise questions about the assessment methodologies, I try to talk to the university teachers involved. (Q47)*

*If anything new emerges, I discuss it directly with the correspondent teacher. (Q53)*

*The university teachers are stable, we meet with the directive committee, we listen to the students and we consider the course's culture. (Q60)*

*I seek to foster it but it is not easy. In general, each teacher is very jealous of his/her assessment. (Q42)*



## **5.4. Summary**

This sub-study suggests that the programme coordinators seem to be taking a positive and constructive view of assessment. However, they were very critical of their programmes, particularly in regard to the effects of the implementation of the Bologna Process. Findings also indicate that the changes resulting from the Bologna Process have been globally positive and with impact on assessment, namely on the conditions for teaching and learning, on the structural changes, and on the pedagogy and student learning. The programme coordinators identified the use of a variety of assessment methods, through a mix of learner-centred and traditional methods. In general, the learning outcomes were articulated with the assessment practices, fostering learner-centred practices and goals' achievement.

## **CHAPTER VI**

### **SUB-STUDY 3: INTERVENTION AND TRAINING PROJECT**

## **Chapter VI - Sub-study 3: Intervention and Training Project**

In this chapter findings from the intervention and training project are presented, namely the expectations about assessment both by teachers and students, assessment practices, feedback, and the evaluation of the assessment process. Data were collected through a diversity of methods within the framework of the intervention and training project developed in two courses in two master's degree in Teacher Education in one Portuguese public university.

### **6.1. Teacher and students perspectives about assessment: an integrated approach to assessment**

This project is based on two fundamental assumptions: the first is that the “classroom assessment can fundamentally transform the way teacher teaches” (Popham, 2008, p. vii) especially if the transformative power of the formative assessment is recognised (Popham, 2008). On the other hand, the important link between assessment and learning is recognised (Black, 2018). Thus, through a formative and participatory approach, it was intended to work with the two teachers who volunteer to participate within a perspective of professional development, by analysing interaction strategies, potential and limitations of the assessment methods and their implications for teaching, learning and academic outcomes.

The development of the two courses was monitored over a semester to discuss the appropriation of knowledge by students and the development of transversal skills, the transdisciplinarity of knowledge, pedagogical innovation and the student-centred teaching (Esteves, 2008). This project also drew on the Assessment for Learning principles, including the issue of formal and informal feedback, opportunities to experiment and put into practice knowledge, relevant assessment tasks, an “appropriate balance between formative and summative assessment” and autonomy of students (McDowell, et al., 2011, p. 750).

Elements related to the initial perceptions of the teachers and students involved in the project in the initial evaluation, in the monitoring of the assessment activities, and in the final evaluation of each course are reported in the next sections. The synthesis of the data collected through the questionnaires with the students was shared with the participants of each group, aiming to originate a critical analysis of the teachers' practices. Throughout the project, monitoring instruments were developed, discussed and co-constructed with the teacher of each course. Data were systematised and returned to the participants, feeding back the reflective and analytical process.

The findings of each project will be treated individually in an integrated approach, i.e. mobilising data from diverse data collection methods. Each intervention and training project aimed to promote the reflection and critical analysis on the teachers' assessment practices. Therefore, it was not intended to establish comparisons between the two cases. Furthermore, aware that there are no prescriptions or rules on the best way to assess learning in higher education students (Light & Cox, 2003), it was not intended to impose visions or perspectives, but, through the of the assessment process, to contribute to teachers' critical review of their practices.

## **Case 1: Using assessment to develop competences**

### ***Background***

The first group involved in the intervention and training project consisted of an experienced teacher in various teaching cycles, with pedagogical training, and nine students, mostly female, with a diversity of ages and backgrounds:

*This group I don't know yet, I'll meet them tomorrow, but I believe they will be heterogeneous at another level (...). Most are working students, some are older, they are very different and this diversity may also be a challenge. (Initial interview with Teacher A).*

This group belonged to a teacher education programme (1<sup>st</sup>-year students, 2<sup>nd</sup> semester), with specific knowledge about the perspectives, functions, moments, and methodologies of assessment, essential for a more critical approach and more active participation in the intervention and training project. It is a small group of students with very distinct backgrounds in terms of initial training, nationalities, and initial training institution.

Teacher A is a female assistant professor with a PhD degree. She is 54 years old and has 30 years of teaching experience. Moreover, she has pedagogical training, teaching experience in various study cycles, and experience in coordinating programmes.

The approach to assessment suggests an assessment for learning perspective and the development of formative assessment activities through continuous assessment tasks and feedback. At the same time, the importance of assessment of learning was also highlighted in the teacher discourse, when she identifies the need to compare and select students. Nonetheless, this is not her main concern:

*I think that the most important thing in terms of assessment is learning. Assessment is a means for learning. It is also important to have a way of grading and selecting students, however, I do not like to think about these aspects so much. I give more importance to learning. (...) There is the anguish of students associated with summative assessment. I tend to value learning issues more. I try to build, within my time limits, some moments that can serve as moments for learning, either in the elaboration of work, in its discussion, or feedback. (Initial interview with Teacher A).*

The assessment methodology is based on the combination of both formative and summative elements, through group work, individual work and a written test. Despite being a traditionally summative element, the test assumes formative characteristics demystifying some issues usually associated with summative assessment (Harlen, 2007), as described in the teacher initial interview:

*I usually have group work. This one is especially connected with the course. Students will plan classes taking into account a set of important aspects as future teachers. (...) Another work which I wanted to put into practice, is related to the exploration of a book-related task to the training theme. (...) The written test at the end reflects everything that has been done. It depends on my inspiration. If there was any discussion in the classes that I think was rich, I included it in the test. (Initial interview with Teacher A)*

Student participation was mentioned several times in the teacher initial interview, also assuming a key element in the assessment process, although with less relevance:

*Another thing is the participation/discussion in classes. I still have doubts about this because participation has to exist and it will reflect on everything else. I attribute this percentage to participation in classes because, otherwise, I don't think they (students) care. It is the part that I have the most difficulties in assessing because it is the part that I have the least elements. (...) I try to make them as involved in the classes as possible, to communicate, to participate, to discuss, to share their opinions. I try to make it happen and, in a way, these ways of thinking about their own opinions, the discussion, I like that! (Initial interview with Teacher A).*

The teacher's speech highlights her experience as a teacher, the working with peers and also her initial training in the area of teaching, in a process of experimentation and fine-tuning of methodologies that she seeks to differentiate:

*None of this was created by me. There were things that I heard and tried to, some with more success, others with less, some I abandoned others and I keep reformulating. The practice helped to sharpen some edges, some things*

*because they were going less well, others because the students were not involved, or it was no motivating to them. (Initial interview with Teacher A)*

The concern with the discussion of the elements of assessment with students was also identified, although, in the opinion of the teacher, students do not always participate actively:

*In the assessment discussion, they don't say much but we put the elements, we discuss the percentages, if you add an element or if you remove it, but unfortunately, they don't say a lot... They almost always say "Amen", but sometimes there is one that asks "but why do we do that? What is the goal?"; and there we discuss it. Some are more enthusiastic, I like them like that, when they are very still, I want to stir things up... (Final interview with Teacher A)*

Overall, the commitment and motivation for teaching are evident throughout the teacher's speech, revealing a teaching constructivist-based matrix, facilitating knowledge construction (Roldão, 2009):

*I like being a teacher! This is the first thing. I think that students generally like me too, and that gives me great satisfaction, of course. I like students very much, even when they are boring, I like them (...). They think I am "out of the box", maybe I am. I also tell them that I am old enough to be "out of the box". Students used the term, I never used it. But I usually say that I am old enough to ask crazy things, so they have to put up with me. (Initial interview with Teacher A)*

### ***Expectations about assessment***

The diversity of assessment methods, the balance of assessment elements (in terms of percentages), the characteristics of the assessment (e.g. fairness, quality and efficiency) are the main perceptions of students regarding the presentation and discussion of the assessment elements in the course. In addition to these aspects, students also refer to the good functioning of the course, the preparation for summative assessment, and the fact that this is a different kind of assessment compared to other courses from the programme:

*The assessment methodology is widely distributed, based on a set of work-oriented throughout the semester. (Initial questionnaire, Group A, Student 1)*

*I think there is a well-distributed percentage, using several formative assessment moments, so we will be prepared for summative assessments. (Initial questionnaire, Group A, Student 2)*

*The assessment methodology of this course is slightly different from the other courses. The weighting given to each component is also balanced. I got a good*

*impression of how this course will be, the assessment methods and the teaching methods. (Initial questionnaire, Group A, Student 3)*

*The assessment of this course seems to be quite balanced. Diversified methods will be used, and the assessment will be continuous. The existence of both group and individual tasks makes the assessment easier and the classification fairer. Participation has a very low weight due to the difficulty of quantifying it, but still, it is encouraged. (Initial questionnaire, Group A, Student 6)*

*The classes will be practical, with a lot of group tasks (assessment work) what may help in the communication between students and teacher. The discussions that may arise will help to share ideas. On the other hand, individual work may help to develop presentation skills. (Initial questionnaire, Group A, Student 4)*

*The assessment methods proved to be different at first impression. All development in the course will be taken into account, and this presents itself as an efficient methodology. (Initial questionnaire, Group A, Student 7)*

Nevertheless, some students highlight the workload of the assessment process:

*I found the assessment elements interesting because they are available in a very different way (group work, individual work, written test). I believe that this diversity contributes significantly, in qualitative terms, to better assess the performance in the course. (Initial questionnaire, Group A, Student 8)*

*Two assignments: one developed in group, which will be done during classes. An individual, which will be done outside of classes. My first impressions are positive, although I fear that many pages may be requested. (Initial questionnaire, Group A, Student 9)*

In general, students' expectations regarding the course are positive, highlighting the practical nature of the course, the articulation with professional practice, its didactic component, or the nature of the course:

*It is a more practical component in the Master with a clear utility. A more objective and constructive course. (Initial questionnaire, Group A, Student 1)*

*This course is essential for our master's degree, as it is more practical and didactic, preparing us for teaching. (Initial questionnaire, Group A, Student 2)*

*I hope this course will bring better results compared to previous courses. As it will be more practical, I hope it will help us in our work as future teachers. (Initial questionnaire, Group A, Student 3)*

*This course is important in our training. I have great expectations that it will be a dynamic, more practical course, and that it will allow us to have greater contact with the professional reality. (Initial questionnaire, Group A, Student 6)*

*Improving teaching methods, studying, preventing and adjust students' common mistakes... (Initial questionnaire, Group A, Student 9)*

The main challenges identified by the students are related to the group assignments, the development of the teaching work, the nature of the assignments, or time management:

*The group work can be challenging because it is something different from what we are used to. The idea is to achieve all the goals initially proposed. (Initial questionnaire, Group A, Student 4)*

*One of the assessment elements is group work, that undergoes personal management that can be a challenge (Initial questionnaire, Group A, Student 1)*

*Since I have no experience as a teacher, I will probably experience difficulties in coming up with new ideas, and in knowing which school year a didactic theme is in, but I hope to overcome the difficulties with the support of the teacher. (Initial questionnaire, Group A, Student 2)*

*The biggest challenge will be mainly time management. However, I have already made some changes to my schedule that I hope will help to overcome this difficulty. (Initial questionnaire, Group A, Student 6)*

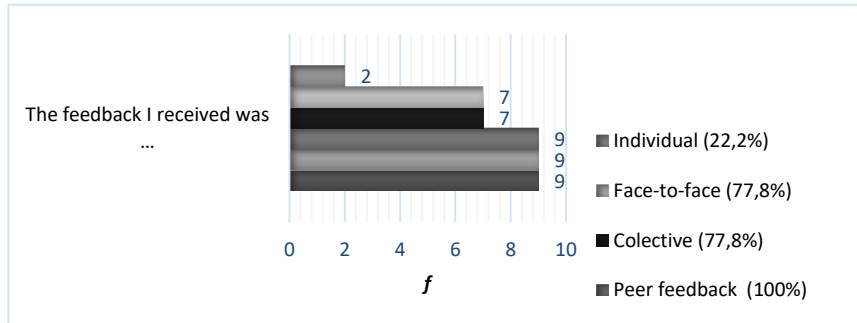
The support of the teacher, the collective work or the debate of ideas also emerged from some of the responses of the participants as ways to overcome the challenges.

### ***Strategies and practices***

Students respond to feedback in various forms within specific courses, curricula and contexts, concerning their previous experiences and their personal characteristics (Carless & Boud, 2018). The literature about assessment highlights the role of feedback in students' learning achievements improvement (Bloxham & Boyd, 2007; Sambell, 2011; Pedrosa-de-Jesus et al., 2019), especially through its formative dimension (Fernandes, 2004; Black & Wiliam, 2019). Under its formative character, in this course feedback assumed a predominant role in the assessment practices. The feedback received by the students was

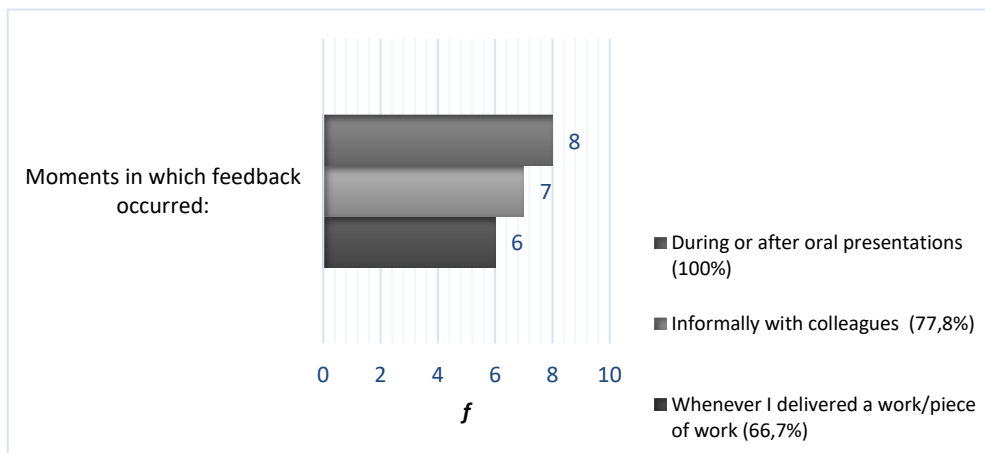


mainly given by colleagues (100%) and by the teacher (100%), in person (77,8%), collectively (77, 8%) and sometimes individually (22,2%) (cf. Graph 5).



**Graph 5.** Type of feedback received (Group A)

The feedback occurred during or after the oral presentations of the individual work (100%) but also informally with colleagues (77,8%) or whenever students delivered a task or a final work (cf. Graph 6).



**Graph 6.** Moments in which feedback occurred (Group A)

Most students considered the feedback received useful (77.8%) (cf. Graph7) and recognised the potential of the feedback received in improving their work but also in identifying weaknesses and strengths and in reflecting on their practices:

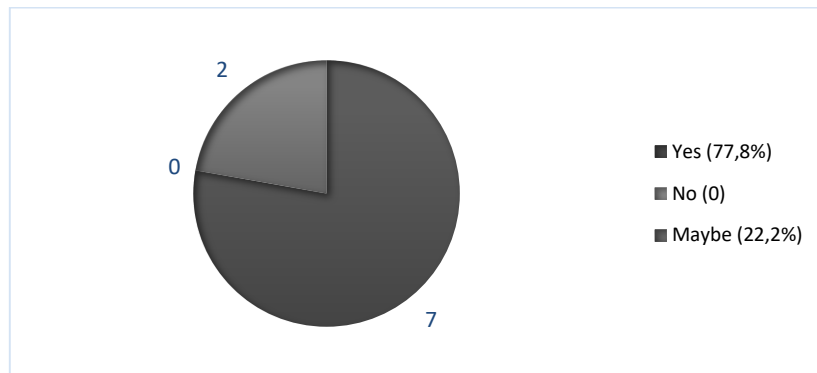
*To improve my work, to identify the weaknesses and strengths of my work. (Monitoring activities, Group A, Student 4)*

*The feedback I received was important to improve my work. It was very useful, it allowed me to add new ideas and to improve my initial work. (Monitoring activities, Group A, Student 9)*

*The questions made by my colleagues alerted me to my future written assessment. (Monitoring activities, Group A, Student 2)*

*The feedback I received caused me to question my work and how I can improve it. (Monitoring activities, Group A, Student 3)*

*Another person's eyes at the structure of the work allow me to perceive flaws that sometimes I do not notice. In that sense, it becomes very useful. (Monitoring activities, Group A, Student 9)*



**Graph 7.** The usefulness of the feedback received (Group A)

Despite its potential, students recognise the need for greater guidance and also specific feedback:

*In addition to the criticism, I needed some clearer suggestions as to which way to go. The feedback I received was constructive, but a little vague. (Monitoring activities, Group A, Student 1)*

The students identified some suggestions for improvement namely aspects related to the characteristics of the feedback (e.g. clarity, organisation, utility):

*Feedback could be more useful if questions were sometimes clearer. (Monitoring activities, Group A, Student 2)*

*More organised feedback. (Monitoring activities, Group A, Student 9)*

Changes to the timing of feedback were also identified by students in order to make feedback more useful:

*Feedback could be more useful if it always occurred throughout the work and not just at the end (as always happens). (Monitoring activities, Group A, Student 3)*

*Feedback could be more useful if the work in the final stretch, ready to be delivered. (Monitoring activities, Group A, Student 5)*

*Feedback could be more useful if it occurred after the oral presentation (and not during). (Monitoring activities, Group A, Student 9)*

Moreover, the importance of feedback is also recognised by the course teacher, who highlights this interaction in the students' training process:

*I would have liked to have given more feedback but I already knew I wouldn't be able to... it was a goal for me, to provide more moments of interaction with students and feedback, it was the goal but I already knew it was going to be difficult. (Final interview with Teacher A)*

The willingness to improve some aspects of feedback is also shared by students who indicate changes in the type of feedback received, suggesting written, individualised and more concrete feedback:

*Since it was in a large group, for me it was unclear about what was intended in each situation. (Monitoring activities, Group A, Student 1)*

*Feedback could be more useful, possibly, if it was written. (Monitoring activities, Group A, Student 9)*

*Feedback could be more useful if concrete examples of good practices were provided. (Monitoring activities, Group A, Student 6)*

*Feedback should be as clear as possible so that, for example, there is no ambiguity. (Monitoring activities, Group A, Student 8)*

Nevertheless, students perceive assessment in a positive manner. The reflective and analytical process, the development of new skills, the development of creativity and also the development of work strategies were highlighted by the students as positive aspects of collective and individual assessment activities:

*To analyse and reflect on the reading of my book and explore how I would approach this work, which encouraged creativity and reflection. (Monitoring activities, Group A, Student 3)*

*To develop new skills. (Monitoring activities, Group A, Student 5)*

*To develop my creativity. (Monitoring activities, Group A, Student 4)*

*To focus on the proposed work, to think, to analyse and to create strategies for the elaboration of the proposed task. (Monitoring activities, Group A, Student 1)*

In the activities developed collectively (cf. Table 26), students recognised the need to work outside the classroom to carry out the work. They also revealed autonomous work and autonomy in clarifying doubts, in defining goals and intervention strategies, and in using sources (e.g. books and articles) to support their work. However, the answers of the students exposed some dispersion about the role of the teacher in clarifying doubts and about the consultation of printed sources.

**Table 26.** Development of the collective assessment assignments

	<b>f</b>					<b>Total</b>
	<i>Never</i>	<i>Seldom</i>	<i>Not applicable</i>	<i>Sometimes</i>	<i>Always</i>	
We performed bibliographic research in printed sources	0	1 (16.7%)	1 (16.7%)	3 (50%)	1 (16.7%)	
We performed bibliographic research in electronic sources	0	1 (16.7%)	0	4 (66,7%)	1 (16.7%)	
We used supporting books to carry out the work	0	1 (16.7%)	0	3 (50%)	2 (33.3%)	
Whenever we have doubts, we look up for the teacher's help	2 (33.3%)	1 (16.7%)	0	2 (33.3%)	1 (16.7%)	
We tried to clarify our doubts autonomously	0	1 (16.7%)	0	2 (33.3%)	3 (50%)	
We search for alternative sources of information (e.g. internet)	0	1 (16.7%)	0	4 (66,7%)	1 (16.7%)	6 (100%)
We worked beyond the class schedule	0	0	0	0	6 (100%)	
We used external sources (books, articles, etc.) to support the work developed	0	0	0	3 (50%)	3 (50%)	
We defined goals regarding the lesson planning	0	0	0	2 (33.3%)	4 (66,7%)	
We produce elements capable of structuring classes	0	0	0	3 (50%)	3 (50%)	
We produce elements capable of anticipating students' strategies and difficulties	0	0	0	4 (66,7%)	2 (33.3%)	
We based our choices on the existing literature	0	1 (16.7%)	1 (16.7%)	2 (33.3%)	2 (33.3%)	

Teamwork, time management, good relationships among peers, the ability to adapt and organise, and the research work are some of the strengths identified by the students, enabling them to improve their work and to articulate distinct perspectives and views:

*Time management, good relationship and positive teamwork, throughout the organisation, as well as mutual help. (...) The ability to understand the diverse opinions and reflections of my colleagues and to share my ideas. (Monitoring activities, Group A, Student 3)*

*Companionship, commitment. (Monitoring activities, Group A, Student 5)*

*Flexibility and adaptability to work, schedule and to the type of sources used. (...) To improve the ability to work collectively and to develop lesson's plans. (Monitoring activities, Group A, Student 9)*

*Teamwork. (Monitoring activities, Group A, Student 1)*

However, some challenges were also identified, namely in terms of goals' achievement, planning capacity, coordinating schedules, and fulfilling tasks:

*To achieving new goals. (Monitoring activities, Group A, Student 5)*

*The ability to make lesson plans a little 'out of the box'. (Monitoring activities, Group A, Student 9)*

*The schedules' articulation. (Monitoring activities, Group A, Student 6)*

*Planning classes collectively. (Monitoring activities, Group A, Student 4)*

*Difficulties in teamwork, the lack of responsibility of some of the elements of the group. (Monitoring activities, Group A, Student 1)*

The importance and usefulness of the assessment activities developed within the scope of this course are recognised by the students, who suggest the future use of the learning mobilised in the development of the assessment tasks:

*This course is important for our future life. There are several aspects of teaching that we had never thought of before. Furthermore, issues such as communication are fundamental to teaching. (Monitoring activities, Group A, Student 3)*

*The learning developed is a valuable asset to the teaching profession. (Monitoring activities, Group A, Student 9)*

*This is one of the most relevant courses for pedagogical practice. The learning developed in this course will be necessary to communicate with students, to give them feedback, to planning the classes, and to solving problems (which are all topics studied in the course). (Monitoring activities, Group A, Student 6)*

*It was a rich experience. (Monitoring activities, Group A, Student 4)*

*The material selection and analysis process will be always necessary for my future practice. (Monitoring activities, Group A, Student 1)*

The development of assessment activities also had challenges, namely in terms of organising information, articulating group tasks, planning activities and writing up. These difficulties were overcome with research activities, individual work, and also through the feedback received:

*The synthesis' capacity. (Monitoring activities, Group A, Student 5)*

*I felt a lot of difficulties in the work proposal based on the book. (Monitoring activities, Group A, Student 9)*

*Articulation of the collective tasks. (...) Suggestions for improvement, working hours, I also looked for feedback. (Monitoring activities, Group A, Student 6)*

*In the writing of the project itself, it becomes difficult to put it in paper. I was not used to doing this kind of work. (...) I carried out research work with people in the area. (Monitoring activities, Group A, Student 1)*

*The feedback helped in part, besides, it was my conviction. (Monitoring activities, Group A, Student 3)*

The balance of the course and of the assessment methodology are globally positive. Students recognised the importance of the different tasks performed and their importance for their professional practice and training. They also recognise the fairness and suitability of the assessment methodology, which allowed them to identify strengths and weaknesses in their work, as well as to create instruments and tools for the development of their professional practice. The support of colleagues is another aspect highlighted in the participants' responses. However, the data collected points to some dispersion of the participants' responses regarding the relevance of the written test and the complexity of the assessment tasks, and also in terms of the support of the teacher in the development of the assessment tasks (cf. Table 27).

**Table 27.** Students' evaluation of the assessment process

	<b>f (%)</b>					<b>Total</b>
	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Neither agree nor disagree</i>	<i>Agree</i>	<i>Strongly agree</i>	
The assessment methodology in this course was fair.	0	0	1 (16.7%)	3 (50%)	2 (33.3%)	
The assessment methodology in this course was adequate.	0	0	1 (16.7%)	3 (50%)	2 (33.3%)	
The assessment methodology in this course allowed me to understand my strengths and weaknesses.	0	1 (16.7%)	1 (16.7%)	3 (50%)	1 (16.7%)	
The assessment methodology in this course was important for my training in terms of teaching methodology.	0	1 (16.7%)	0	4 (66.7%)	1 (16.7%)	
The assessment methodology in this course enabled the articulation between theory and practice.	0	1 (16.7%)	2 (33.3%)	1 (16.7%)	2 (33.3%)	
The assessment methodology of this course allowed the creation of instruments and tools for the development of my professional practice.	0	0	0	4 (66.7%)	2 (33.3%)	
The group work carried out was a positive experience.	0	0	1 (16.7%)	5 (83.3%)	0	
The group work carried out was an asset to my training process.	0	0	1 (16.7%)	3 (50%)	2 (33.3%)	6 (100%)
The individual work was a positive experience.	0	0	0	6 (100%)	0	
The individual work was an asset to my training process.	0	0	2 (33.3%)	2 (33.3%)	2 (33.3%)	
The test or exam was a positive experience.	0	2 (33.3%)	2 (33.3%)	1 (16.7%)	1 (16.7%)	
The test or exam was an asset to my training process.	0	1 (16.7%)	4 (66.7%)	0	1 (16.7%)	
The number of assessment elements was adequate.	0	0	1 (16.7%)	2 (33.3%)	3 (50%)	
The assessment tasks performed were complex.	1 (16.7%)	0	2 (33.3%)	3 (50%)	0	
The teacher's support was important to carry out the assessment tasks.	0	0	3 (50%)	2	1 (16.7%)	
The support of my colleagues was important for carrying out the assessment tasks.	0	0	0	5 (83.3%)	1 (16.7%)	
Overall, I do a positive balance of the course assessment	0	0	0	5 (83.3%)	1 (16.7%)	

This view is shared by the teacher of the course who highlights the moments of learning provided throughout the course:

*So, we covered many themes. We could have travelled and approached a few more, but we have to take options because the time does not stretch, right? And we either approach the students with some involvement and let them work and put their points of view or we do everything. It is impossible to go through everything. (Final interview with Teacher A)*

Concerning assessment, the teacher regrets the deletion of one of the assessment moments (due to time management issues) and justifies some changes in the methodological options throughout her career:

*I think it was a pity that there was no longer a moment for the presentation of that work because it was the only thing that was changed in this way. That I regretted... I usually don't, but this time I regretted it, I thought I shouldn't have done it! Even the test, I did a test for them. Until a few years ago I did not take a test in the methodologies courses, I thought it didn't make sense, it was my perspective. And then I started to feel the need, I don't know if it was because of my age, I start not knowing how to differentiate students well, shuffling and mixing memories, trusting less in my memory and I started having doubts concerning students. After having some surprises with students who didn't correspond to my expectations, I started to take a test, but a test... I think it is a test that is not a traditional one. It is not a question and answer test, it is not about assessing specific knowledge on the subject a, b or c. It is not in this style, it is more of an individual moment to reflect on some aspects that were analysed in the course. (Final interview with Teacher A)*

The absence of the final presentation of the individual assessment task was also mentioned by the students:

*Initially, we would do the work and then and, at the end of the task, we have to present our work. But, as we did a pre-presentation and it ended up extending longer than it was supposed, the teacher omitted the other part and we were left only with delivery of work. (Focus group, Group A, Student 6)*

Students' self-assessment is consistent with the teacher's positive view of the students' work: "I had to listen to the students, here I am saying what I think, but I think my perspective is that the course was productive, that students worked well, there were a lot of learning moments... I think that went well!" (Final interview with Teacher A). The students who answered the final questionnaire about the functioning of the course, considered their performance in the course good (83.3%) or sufficient (16.7%), indicating as main challenges the organisation imposed by the diversity of assessment methods, the articulation between theory and practice, and the development of the group tasks:

*The assessment of learning had several components, which meant that we had to organise ourselves in a better way. (Final questionnaire, Group A, Student 3)*

*The articulation of theory with practice. (Final questionnaire, Group A, Student 6)*

*Development of group work, the adaptation of concepts and goals in the classroom. (Final questionnaire, Group A, Student 5).*

*Perhaps at the level of group work, since we had never developed a lesson plan before. (Final questionnaire, Group A, Student 9)*

*To plan what you would do, as a group and individually, and set dates to get everything ready on time. (Final questionnaire, Group A, Student 3)*

The diversity of assessment methods is also one of the strengths highlighted by students:

*The assessment methodology included three components: group work, individual work and test. This made us work differently, and for the test, the most important thing was to participate and pay attention to the classes. The works were also well-chosen; they approach completely different aspects. Differentiated assessment instruments, with a balanced weighting. (Final questionnaire, Group A, Student 3)*

Nevertheless, the assessment tasks allowed to identify weaknesses (Student 4) and to develop professionally (Student 6). The challenges identified by the teacher are slightly different. Concerns about the quality of the discussion and reflection on the work proposals and with the effectiveness of the feedback were the main challenges identified:

*For me, the main challenge is how to have a good discussion with them related to the work assignments, look at work and make proposals, suggestions for improvement and reflection on it. And to know if it was suitable. Also, being able to give good and accurate feedback. (...) And then on the assignments, I always have a hard time assessing the assignments because... and I think that was also one of the reasons for me to introduce the tests. (Final interview with Teacher A)*

Peer feedback was identified by the teacher as the privileged strategy to respond to these challenges. Similarly, students also refer to the importance of peer feedback but also of teacher feedback in the development of assessment tasks:

*Asking them to discuss each other's work also allows me to assess, they were very honest in this class, you don't always feel that way. But in this class I felt that they openly asked their colleagues questions. I always look for them to do that but I can't always do it: to comment on the work of colleagues; to make suggestions for improvement; identifying positive or negative aspects; to discuss this openly to improve learning. I felt that, in this class, they were very critical. It helped a lot to look at the work and see that it was not just me. It helped to complement my look at the work and also gave me more confidence. (Final interview with Teacher A)*



*The feedback from the teacher and peers was important. (...) The teacher sent us written feedback, in my case, I agreed and answered her back, I had the opportunity to comment. I think it makes sense and I agree with the criticisms. It was useful. (Focus group, Group A, Student 6)*

*I speak for myself, it even helped me to look at things differently, to investigate further and to try to do things differently. But there it is, I had already thought about what I was going to do, I already had a work structure and with the feedback from colleagues and the teacher, I realised that I had to change some things. But for those who were still at an early stage, I believe that it was not the moment that helped a lot. (...) Because of this feedback, I realised that there were things that were not consistent in my work and I was able to improve. Without this feedback, I would not have been able to do anything about it. I think that feedback is very important. (Focus group, Group A, Student 9)*

The distribution of the course's workload and the fulfilment of planned assessment tasks are aspects identified both by the teacher and the students to improve in the course's functioning:

*Being a little more disciplined in planning and meeting the goals. I always tell students that class planning is a guideline and that we do not need to comply with it 100%, but it is useful if we do it at least 90%. And I sometimes delayed things to create opportunities for discussion, I took the opportunity. I felt that I would have had to break something and change the subject. (Final interview with Teacher A)*

*One of the negative things about this course was the fact that it was 5 hours straight. I go to the 5 hours thinking it would be just one class, I think of 3 hours but it's not! That trampled upon the assessment elements. (Final interview with Teacher A)*

*5 hours in a single morning, even the teacher recognised that it was not very good. Many moments during the unit were "blank moments", waiting... I didn't know very well what I would have to do. (Focus Group, Group A, Student 9).*

*It was a very heavy workload, 5 hours in a row to articulate things. It is a lot of information to convey. To manage the amount of information was not an easy task. (Focus Group, Group A, Student 6)*

Also, the students identify concrete aspects related to each assessment task, namely the extension of the test and the need for greater intervention by the teacher in terms of monitoring the individual and group assignments:

*In the individual and group assignments, the teacher should give more instructions and help on how we should carry them out. (Final questionnaire, Group A, Student 3)*

*This is my opinion, not only in this course, but in general, we are in a master's degree and we have to develop autonomous work, but when the assignments are attributed, we do not know very well for which side we should turn. We did not know very well, the work we did reveals that. While in our group we went a little further and did more research,*

*others just did the planning. I ended up not seeing the works extensively, but we were always a little lost about what we have to do. In other words, the definition of criteria was not as explicit as it should be. (Final questionnaire, Group A, Student 6)*

*In the test, I needed another half-hour to solve it. In the last question, I knew that I was making mistakes, but I was looking at the time and I didn't have time to scratch and do it again. If I had another half-hour I could still look at it differently, but there was not much that I could do. (Focus group, Group A, Student 9)*

*The test I think had to be rethought because it had a considerable weight in the final grade and that ended up having a negative impact on almost everyone. And it should be paid more attention to time management. I know we have to do that too, but teachers also have to realise that when a student is taking a test he is under scrutiny, he is not doing things as if he were at home quietly thinking for himself. Besides that, I think that the assessment was fair. The existence of several assessment tools I think was useful. It is a matter of criteria. What are we going to assess here? The teacher did this in the individual work, gave us some criteria, some topics that we should pay attention to and we structured our work differently. This did not happen in group work. (Focus group, Group A, Student 6)*

### ***The functions of assessment***

In analysing this case, it can be argued that assessment has two main functions: a predominant formative function based on regulating, monitoring, guiding, improving and supporting students' learning; articulated with a summative function based on the certification, comparison, selection, and seriation of students (Flores & Pereira, 2019). The findings point to the predominance of a learner-centred approach based on feedback activities that promote collaboration and interaction between teachers and students (Webber, 2012) articulated with the use of more traditional methods through standardised tasks, performed by all students at the same time (Brown, 1997). Thus, by reconciling an assessment for learning perspective, where assessment is an integral part of the teaching and learning process and aims to adjust and improve it (Black & Wiliam, 1998), with a few aspects of assessment of learning perspective, in order to fulfil the achievement of the learning goals (Earl & Katz, 2006), it is intended to develop a set of fundamental skills for the exercise of the teaching profession from the part of the students.

Assessment may be an excellent way of getting students to work about a theme or to develop a task. However, some assessment mechanisms (e.g. tests and exams) may distribute the time ineffectively, "concentrating it immediately before the assessment rather than evenly across the course" (Gibbs, 1999, p. 45). Participants in this study are aware of the characteristics of the tests and exams,

both positive and negative. However, teachers and students reveal different perspectives. The teacher highlights the objectivity of the tests and one of the students the pressure exerted by the tests:

*Because, despite everything, tests seem more objective, they are all done at the same time, simultaneously, they do not write too much, they write what they think at the moment, they do not put themselves around too much and it turns out to be easier to have a more objective perception. (Final interview with teacher A)*

*Whether we like it or not, we are under stress, no matter how much we prepare before a test time, it is always a test time and it turns out to be difficult in that time to do it, it turns out not to be easy to manage ... (Focus group, Group A, Student 6)*

In general, students and teachers evaluate differently the distinct moments of assessment, particularly in terms of the development of the written test, indicating different levels of student motivation, effort and achievement. Yet, the balance is globally positive as illustrated in the quotations below:

*I know that some students felt comfortable. I like the work they did and they expressed it. Even in the test, I did not have bad reactions. They think it was a time to discuss, to think. (...) In the individual activity, there were students that I felt were very upset, reading a book, produced something about the book and came to tell some stories from the book, they didn't grab that, they didn't assume that the goal was to take that and think about it in school terms. What could be done with that material, it did not seem that they had understood its aim well. (Final interview with Teacher A)*

*The course allows you to see many aspects of teaching, the assessment allows you to evaluate several dimensions of the individual, written, oral and group, but the distribution of hours was problematic. (...) The texts and books that the teacher recommended and published on the blackboard helped a lot, to motivate us to read. I think that was what allowed me to succeed in the course. (Focus group, Group A, Student 9)*

*This course is very important. I think that if we had managed to manage time differently, we would have been able to enjoy it more. We did some planning work, but we couldn't figure out how we are going to explore it in practice. This would have been more advantageous, but it was a very important course for our training. (Focus group, Group A, Student 6)*

Findings from this context evidence an improvement of the teacher conception about assessment, associated with a self-regulatory function of assessment and with the improvement of the quality of teaching, congruent with the simultaneous use of different assessment instruments, designed for different purposes and capable of identifying strengths and weaknesses of the architecture of the student learning (Brown, 2002).

The assessment practices are, predominantly, formative (Black & Wiliam, 2019, Fernandes, 2004) associated with some summative aspects of assessment, namely by the need to compare students, through a written test. The involvement of students in assessment activities is another aspect that is evident in this group, namely at the level of feedback activities, contributing to students' feedback literacy both by recognising the value of feedback and by understanding their active role in its process (Carless and Boud, 2018). The time management and the class hourly distribution, the clarification of the assignment's goals and some aspects related to the limitations of specific assessment methods (e.g. written tests) (Brown et al., 1997; Perrenoud, 1999; Biggs, 1999, 2003; Light & Cox, 2003; Fernandes, 2004) emerge as aspects to be improved in this course.

The findings from this Intervention and Training Project highlighted the existence of an inclusive training strategy, which employs a diverse set of methods and strategies (group work, individual work, oral presentations, written test which includes some reflective activities) capable of providing to all students “equivalent opportunities to demonstrate their abilities and maximise their potential” (Brown, 2005, p. 83).

## **Case 2: Using assessment to transform the way students learn**

### **Background**

The second group involved in the intervention and training project consisted of an experienced teacher in various teaching cycles, with pedagogical training, and 25 students, mostly female, with a diversity of ages and backgrounds. Like the previous cohort, this group were enrolled in a teacher education programme (1<sup>st</sup>-year students, 2<sup>nd</sup> semester), with specific knowledge about the perspectives, functions, moments, and methodologies of assessment, essential for a more critical approach and more active participation in the intervention and training project. This group is considerably larger than the first one and has more similar backgrounds in terms of initial training, nationalities, and initial training institution. However, some working students and age differences stand out from the group.

Teacher B is also a female assistant professor with a PhD degree. She is 46 years old and has 22 years of teaching experience. Moreover, she has pedagogical training, teaching experience in various study cycles, and experience in coordinating programmes.

Data collected with the teacher at the beginning of the project indicate an assessment for learning approach and the development of formative assessment activities, through continuous assessment assignments, learner-centred methods, reflective activities and continuous feedback, in line with Bologna principles and also with the institutional regulations:

*To answer to the University regulation, I always try to have more than one formal element of assessment. In this course we have group work and individual reflection, which allow me to reach two very important dimensions of learning: the collaborative work (in which I want students to build things collaboratively, to build professional competence, and to learn from others); and, another fundamental dimension for these professionals, the individual reflection (by getting the experience of learning from others I may distance myself from what is happening to me and I can identify my learning). When I designed this assessment strategy I gave a lot of value to these dimensions: collaborative and individual. This individual dimension is very important, that is the reason why students have an initial reflection, weekly reflections, and a final reflection. (...) Thinking about 'Bolognese', one of the main challenges is not only in terms of the connection with the learning process that will later be captured by the assessment, but it is also the development of the student's autonomy. Autonomy in terms of the profile for which the student is learning and for which, desirably, will be increasingly autonomous. I think this aspect is a very difficult aspect to assess. The extent to which the 'Bolognese' manages to do what is proposed to develop in the learner, the autonomous professional, the*

*capability of learning throughout life and managing information to learn. This is all very complicated, isn't it? (Initial interview with Teacher B).*

At the same time, the importance of assessment as learning is also present, through the support to student metacognition, the interdependence between learning and assessment, self-assessment, and student active and critical thinking (Earl, 2003; Flores & Pereira, 2019):

*The main dimension of the assessment process is learning. You can only assess what you teach. What I define as content and learning are the guidelines of what I will assess. (...) Assessment is a complicated thing. It is inseparable from the rest, divorcing assessment from learning is a lie!*

*This individual reflection is to help students to develop this competence of learning to learn: "how am I managing my learning?", "I learned from others but I am conscious, through reflection, thinking about what I am learning". It involves metacognition as a way to consolidate learning. (Initial interview with Teacher B).*

Another aspect that stands out in the approach of the teacher (and explicit in the previous quotation) is the focus on learning to learn, considered one of the pillars of 21st-century education (Morin, 2003), by being the most basic knowledge of all (Goleman, 1999):

*I have no illusions, but I do have some clear intentions: that they reinforce their learning, that they see what the theory is for (they should use it to better understand the curricular guidelines, they will not be teachers here, this is for the year). Above all, that students get used to monitoring their learning because this is how they are going to learn throughout their lives, things don't happen intuitively, they have to get used to thinking about the effect that learning has on themselves. (Initial interview with Teacher B)*

The assessment methodology is learner-centred (Webber, 2012), covering various aspects and sources of the learning process such as negotiation and student involvement. The assessment instruments are formative (Black & Wiliam, 1998), based on the development of a group work whose final product is a collective portfolio, and a reflection, built throughout the semester and revisited and reformulated at the end of the course.

*There is a group work that I present, prepare and follow. Each week I sit with students at each seminar to help them develop this group work. In group work, students develop activities and present them in a portfolio produced throughout the semester. In addition to the group's work, I also have another instrument that they will build throughout the semester, the individual reflection. It has three parts: an initial reflection in which I confront them with a situation to lead them to answer, an answer that they would give now based on what they know. I collected this individual reflection and it stays with me until the end of the semester and at the end of the semester, I return this same reflection that they are going to use as a meta-reflection. "Let me see... what it was that I thought when all this started". This process allows students to have a better reflection about*

*themselves and about what they have learned. It is a very interesting exercise. (Initial interview with Teacher B).*

The concern with the development of the teaching-learning process, articulated and not dissociable from the assessment process, are aspects that stand out from the findings, clearly related to the philosophy of the teacher in terms of training and learning. Also, the assessment results from the confrontation and articulation of formal and informal procedures to adjust and improve students' learning: (Black & Wiliam, 1998):

*Because I have pedagogical training and because I am very interested in the learning process of these students I ended up reading some things about the role of assessment and learning. Because I know that assessment is an integral part of the students' learning process. Assessment is a daily and continuous assessment. It's made up of the conversations with students that allow me to create a perception of those students. I always end up confronting those that are my perceptions with the results of the formal assessment instruments, which often leads me to increase or round the grades that I have in the instruments. Because if I create the perception that a given student is responsive and hard working, but, for some reason, he was unable to materialise these things that I realised and that was important in what he wrote, I end up taking this into account. My style of assessment is a style that seeks to be fair to students in this way, valuing formal aspects, but not failing to consider all that continuous assessment, my perceptions also count. (Initial interview with Teacher B)*

The teacher's commitment to students' learning is evident throughout the initial interview: "Students see me as committed to their learning. I think this is enough, they realise that I am committed". Despite some constraints and limitations to the development of her work (e.g. negative performance evaluation or the low performance and lack of interest of some students) the teacher's self-image is positive, standing out the motivation for teaching, to work with students, fueled by the constant positive feedback from students, as expressed in the quotation below:

*So when you ask me "How do you see yourself as a teacher?", I see myself as a teacher who works mainly for the pleasure of doing it. (...) I work because I really like what I do. I realise that students learn from me. I remember in particular a girl who at the end of the master's degree organised a dinner and invited me, I couldn't go, but occasionally I met one of the people who was organising dinner and she asked me if I wasn't going and I said I could not. And she said: "Teacher, you can't imagine how important you were to me. And it was not just because of you as a person, sometimes you put me in order!". This is very important. (...)*

*But the performance evaluation sucks, now it has improved. But it was chaotic because the institution is what it is. I had already a negative performance evaluation after having worked a lot, in a national project (...). That negative evaluation marked me. That injustice is marked in my emotional amygdala for life. It is there, I think I have already*

*overcome it. Today I can live better with it and I can work more for God, despite men.  
(Initial interview with Teacher B)*

The teacher testimonies revealed a teaching critical-based matrix, through the active and autonomous construction of learning (Roldão, 2009), in other words, a communication paradigm in which knowledge is built through the interaction of teachers and students and mediated by the experiences of the interlocutors and the context (Trindade & Cosme, 2010).

### ***Expectations about assessment***

The characteristics of the assessment (e.g. importance, justice, suitability, quality and efficiency), the reflective component, the nature of the classes and assignments (based on the articulation between theory and practice and the use/exploration of tools for professional practice), the balance of assessment elements (in terms of percentages) are the main perceptions of students regarding the presentation and discussion of the assessment elements:

*During this first class, I realised that this curricular unit will have a strong reflective component, which will make us create an opinion about what we have learned and how it is related to content previously covered. I also believe that building a group portfolio will be of great help to our professional practice. (Initial Questionnaire, Group B, Student 9)*

*The ideas that I take from this first class are positive. I have the perception that I will have a great deal of learning throughout this course. Something very relevant will be the fact that we will relate theory to practice. (Initial Questionnaire, Group B, Student 5)*

*Regarding how the assessment will be carried out in this course, I consider it to be correct and appropriate, since we devote some percentage to group work, another percentage to individual work, and, finally, a smaller percentage related to the observation activity. (Initial Questionnaire, Group B, Student 16)*

*The assessment seems fair to me, with an equivalent appreciation of both group and individual work. ((Initial Questionnaire, Group B, Student 18)*

In addition to these aspects, students also refer to the differentiating character of this course, the articulation between individual and collective work, the collaborative work, the development of the portfolios, the assessment throughout the process, the positive characteristics of the teacher, and feedback:

*I believe that the assessment of this course will proceed efficiently. It consists of several elements, some of an individual nature and others of a group nature. This differentiation*



*is essential as it allows to highlight the individual work of each student. (Initial Questionnaire, Group B, Student 20)*

*The construction of the Portfolio is an interesting idea. (Initial Questionnaire, Group B, Student 8)*

*I believe that the assessment will focus on essential issues and that it is quite complete, with an individual work and a group work, allowing us to show the best of ourselves. I also believe that the availability of the teacher to provide feedback is an asset for us. (Initial Questionnaire, Group B, Student 15)*

On the other hand, the imbalance in the distribution of the assessment elements (elements and percentages) is identified by one of the participants:

*It will be a complex assessment with several aspects to take into account. The several assessments have the same weight, group work and individual work. That is a less positive aspect because they have different levels of difficulty. (Initial Questionnaire, Group B, Student 8)*

Additionally, students identified the complexity and workload required by the assessment process. Yet, they also recognise the formative and positive character of the learning process:

*The assessment will be a laborious process. However, it will be important for our training to connect the theory with a more practical dimension. It will be always necessary to mobilise the contents learned in the previous years. (Initial Questionnaire, Group B, Student 18)*

The difficult nature of the course and the benefits of the learning process is also shared by the teacher:

*First, I will get tired, I will have a lot of work, it will be a time-consuming process. Because I always reach the end of the year physically tired, but if I didn't believe that it was worth it, I wouldn't do it. Despite knowing that I will have a lot of work, I also expect that the students will learn. I hope that they will grow, both as future teachers and as persons. I hope that this experience may serve as a true experience of collaborative work in which students listen and respect each other. (Initial interview with Teacher B)*

In general, students' expectations regarding the course are very positive. The preparation to the professional practice, the articulation between theory and practice, the love for the course's subject, the expectation of deepening learning, the practical nature of the course, and the development of critical knowledge are highlighted in the students' accounts:

*In the end, I intend to be able to perform the role of educator/teacher, in the best way. For that, I think that the support in class and above all the guidance that the teacher will give us will be necessary. (Initial Questionnaire, Group B, Student 1)*

*I think it will be a very useful course for my professional future, as the teacher has already mentioned that we will see how we can move from theory to practice, this is something we need to learn. (Initial Questionnaire, Group B, Student 6)*

*My expectations for the course are related to the work, that is more practical than theoretical. Throughout the semester, I would like to address the appropriate contents and learning for the different age groups and what are the criteria for appropriate activities. (Initial Questionnaire, Group B, Student 16)*

*My expectations are very high because this course has a very practical component which will be very precious for our activities both in the internship and in our future as teachers. (Initial Questionnaire, Group B, Student 24)*

*Due to the experience in the Licenciatura degree with this teacher, I have high expectations for this course. Also, I like the subject area and I am sure that we will learn a lot and it will be central to our future profession. (Initial Questionnaire, Group B, Student 10)*

*I think this course will be important because it helps us to create a critical opinion about what we are learning. (Initial Questionnaire, Group B, Student 9)*

The strong reflective component and the mobilisation of theoretical concepts in the simulation of practice are the two main challenges identified by the students. In addition to these challenges, the degree of achievement of the course's goals, the construction of the assessment products (e.g. portfolio), time management, working in groups, the workload and the ability to create and imagine new things are also challenges identified by the students:

*I think the biggest challenge will be to relate the theory that I have acquired over the years to practice. To overcome it I will have to constantly create connections that allow me to learn more and more and become a professional. (Initial Questionnaire, Group B, Student 1)*

*This course makes as mobilise the previously learned contents. To overcome it I will remember the materials that I kept. (Initial Questionnaire, Group B, Student 15)*

*The challenges that I will possibly encounter are related perhaps to the reflection that I will have to carry out during the classes. I think that reflecting on this subject is always a little complicated. However, I will mobilise my knowledge effectively to be able to answer all the questions that are asked. (Initial Questionnaire, Group B, Student 3)*

*My biggest challenge will be the individual reflections because I have some difficulties in writing down my ideas and in developing them. (Initial Questionnaire, Group B, Student 6).*

*Creativity to create more and more moments that can provide possible and better learning for children. (Initial Questionnaire, Group B, Student 17)*

*Regarding the challenges, I think it is the workload because it looks like demanding assignments, but it will be overcome with the organisation of time, essentially. (Initial Questionnaire, Group B, Student 18)*

*The biggest challenge I think will be in the portfolio, in the construction of the didactic situations. I will overcome it through my efforts and certainly with the support of the teacher. (Initial Questionnaire, Group B, Student 25)*

The mobilisation of theoretical knowledge for the simulation of practice, the teacher's support, the collective and also the autonomous work, effective time management, and students' self-commitment arise in some of the participants' accounts as ways to overcome these challenges.

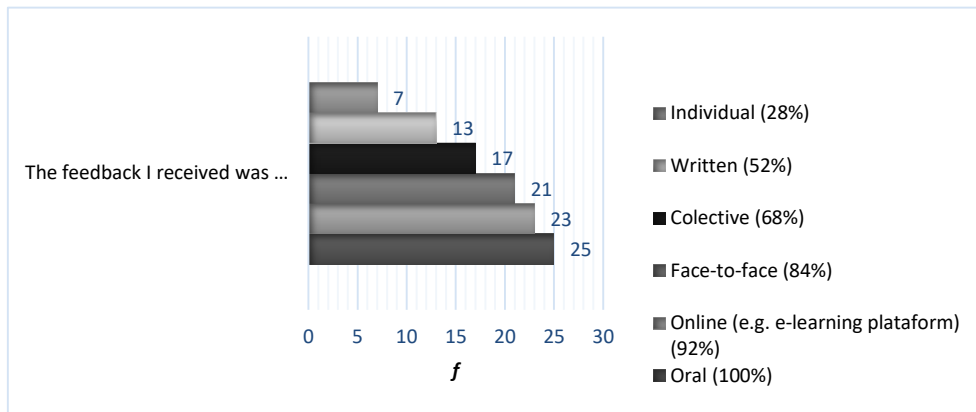
### **Strategies and practices**

Feedback is much more than a comment which teachers give to students (Sambell, 2011). It should be a dialogic process which expects students to use it to expand their learning and work (Price, Handley & Millar, 2011). In this course, feedback assumed a predominant role in the assessment practices, not being limited to written comments, having been incorporated into the work developed by the students and reflected in their learning:

*The group work had three moments. At the end of each of these three moments, they had to upload a part of the work. Then I read and commented on all the 6 assignments. They reacted to my comments and incorporated them, more or less (...) in the final version of the work revealed this feedback.*

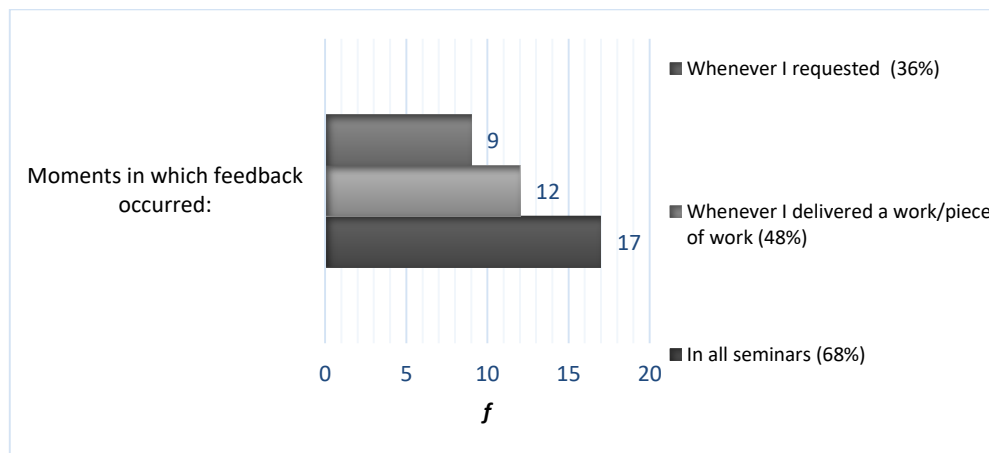
*This was a very tough part, more than I would expect. (...) In practice, they were unable to think about the practice and I had to be there with them thinking about new ideas. Sometimes they incorporated these ideas, other times they went further. The groups were very different, some groups worked very well and brought up some good ideas, but with others, I had to give a lot of feedback for improvement. They understood with me the limitations of what they had done and were always able to incorporate all the feedback. It was a very readily incorporated feedback. (Final interview with teacher B)*

The feedback received by the students was given by the teacher, orally (100%), online (92%) and also in person (84%). There was also written feedback (52%), and most of the times collective feedback (68%) and sometimes individually (28%) (cf. Graph 8).



**Graph 8.** Type of feedback received (Group B)

The feedback occurred along the several seminars of the course (68%) but also whenever students delivered a task or a final work (48%) or whenever students requested (cf. Graph 9).



**Graph 9.** Moments in which feedback occurred (Group B)

Most students considered the feedback received useful (92%) (cf. Graph 10) and recognised its potential to improve their work, to consolidate content and new learning, to guide the work, to reflect about the work accomplished, and also to enhance personal development:

*The feedback was very useful to understand what aspects should be improved in the individual reflections and the group work. (Monitoring activities, Group B, Student 3)*

*All the feedback was useful. Its main goal was to help me to develop new learning and to make my work more complete and consistent. (Monitoring activities, Group B, Student 11)*

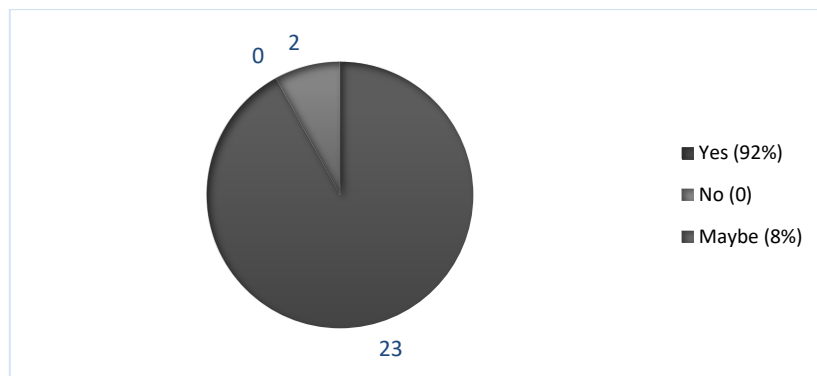
*It was useful, it gave me a corrective check of what I did and of my learning. So I managed to better organise my constructions and correct my work. (Monitoring activities, Group B, Student 17)*

*Feedback is very important because we can see if we are on the right track. We realise what we did well and what we should correct to improve and thus consolidate our learning. (Monitoring activities, Group B, Student 21)*

*Because it served to reflect a little more on what I wrote and also served to clarify some concepts/themes. (Monitoring activities, Group B, Student 13)*

*It was great for personal and collective development. (Monitoring activities, Group B, Student 22)*

*The teacher has been very important because she has helped me to improve and build meaningful learning. (Monitoring activities, Group B, Student 19)*



**Graph 10.** The usefulness of the feedback received (Group B)

Despite its potential, a few students recognised some scarcity and inconsistencies in interpreting the feedback received:

*Many contradictory aspects regarding the indications that had been given by the teacher previously. (Monitoring activities, Group B, Student 8)*

*Regarding the portfolio, the feedback provided allowed the group to reflect and reformulate certain aspects. However, some questions raised by the teacher were against some aspects previously mentioned by her in the seminar, so the feedback was sometimes contradictory. (...) It was useful in some ways. Regarding reflections, it was not very specific. (Monitoring activities, Group B, Student 15)*

As mentioned throughout this work, the success of the feedback also depends on the moment in which it is provided: it should be timely and equitable (Fernandes, 2004), preferably immediately, identifying the way students can go forward (Earl & Katz, 2006). The effort to provide timely and immediate feedback was one of the aspects highlighted by the course teacher:

*To have time to give quality feedback to all students, to all individual and group elements. Because, for example, when they uploaded the group work I had to make a great effort to not leave it without feedback before the next seminar. (...) Also, giving feedback to the weekly reflections. I found myself, from Wednesday to Tuesday always checking the platform to see if there were any new reflections for me to give feedback. (Final interview with Teacher A)*

Students perceived feedback positively, highlighting its importance. However, there was less positive feedback in the development and improvement of the work:

*Once, the teacher sent us the feedback and wrote a huge paragraph written in red. And we thought: "oh my God, everything is wrong, how is it possible?". But it was important to us, so we can go ahead and understand what we were supposed to do. If there was no feedback from the teacher, we would not achieve that. (Focus Group, Group B, Student 1)*

The feedback received at the end of the course in the form of a grade can give students information about their degree of achievement in that course and how they stand concerning their colleagues, but it may be not very useful to the student about how they can improve their performance (Earl & Katz, 2006), as the students' voices illustrate:

*In most courses we do the work, we deliver it, and some teachers send it back, but most teachers do not. They give us the grade but we do not know what we did well, what we did badly, or how to improve our work. If the feedback is provided during the development of the work, we can improve it! (Focus Group, Group B, Student 2)*

*We also have a better grade. You got a 15 out of 20 in this work, but why? What about the other 5 values? Where did I go wrong? We never know that. It is not common for someone to send us feedback, that is seldom. (Focus Group, Group B, Student 3)*

In general, students perceive assessment positively. The articulation between the theory and the practice, the development of competences, the development of collective work and the characteristics of the assignment were highlighted by the students as positive aspects of the collective and individual assessment activities:

*It allowed me to think further and understand what I can do with students so that they develop different skills. (Monitoring activities, Group B, Student 13)*

*The collective work proved to be a key element for my profession and a complement to the internship/observation. (Monitoring activities, Group B, Student 17)*

*It also allowed me to learn to imagine new activities, as well as to realise the immense potential of a story. (Monitoring activities, Group B, Student 15)*

*Develop team spirit and think collectively, exchanging different opinions. (Monitoring activities, Group B, Student 20)*

Students recognise the usefulness of learning in their professional future: 24 students out of 25 students answered affirmatively to the question of whether they would use the learning developed during the course. The articulation between theory and practice and the characteristics of the activities developed are the main aspects highlighted by the participants. One of the participants' expresses disagreement with the sequence and possible application of the work developed in a practical context:

*I will use the learning because it can be used in the internship, and the long term in the exercise of the teaching profession. (Monitoring activities, Group B, Student 20)*

*It is possible to promote meaningful learning through interesting and also fun activities. (Monitoring activities, Group B, Student 21)*

*These learning activities specially marked me because they are built and developed by us. (Monitoring activities, Group B, Student 16)*

*In my opinion, it becomes a little confusing to carry out activities during the moment of reading. I preferred to do activities before reading, after reading the story in full and only after doing activities again. (Monitoring activities, Group B, Student 4)*

Yet, in the development of the assignments, the students identified some difficulties related to the adaptation of the activities to the contents and the public, to creativity, to the degree of complexity of the activities, to the articulation between the different elements of the group and to time management, as the excerpts below illustrate:

*To create activities for different domains. (Monitoring activities, Group B, Student 22)*

*Difficulties in adapting activities to the distinct age groups. (Monitoring activities, Group B, Student 6)*

*To have the creativity and good activity ideas (Monitoring activities, Group B, Student 24)*

*To reach a consensus within the group. (Monitoring activities, Group B, Student 20)*

*The work is quite extensive and includes several elements. Sometimes it is complicated to organise ideas and to make all the work make sense as a whole. (Monitoring activities, Group B, Student 8)*

*In the beginning, I was not understanding what was asked to do in this group work. (Monitoring activities, Group B, Student 21)*

*To reconcile the amount of work of this course with the other courses... this was a very detailed work which involved a lot of time to be done and to organise. (Monitoring activities, Group B, Student 12)*

The support of colleagues in the group, the support of the teacher, the research work and the review of the work done are identified by the students as the main ways to overcome the difficulties identified:

*I think that without the help of the group it would be impossible, or almost impossible, to carry out a work of this dimension. (Monitoring activities, Group B, Student 12)*

*I took into account the teacher's opinion and advice. (Monitoring activities, Group B, Student 4)*

*We work with a lot of mediation from the teacher. (Monitoring activities, Group B, Student 23)*

*To search for information in the internet and books, but above all in the documents used by teachers during the course. (Monitoring activities, Group B, Student 16)*

*To overcome the difficulties, I tried to learn from mistakes (Monitoring activities, Group B, Student 2)*

In the activities developed collectively (cf. Table 28), students revealed autonomous work and autonomy in defining goals and intervention strategies, in clarifying doubts, and in performing bibliographic research. They also looked for the teacher's help to clarify doubts. Interestingly, the answers exposed some dispersion in the use of supporting books and articles to carry out the work. Unlike the previous group, and taking into account the dynamics of the course, these questions were asked to each of the working groups and not individually in a total of six working groups.

Teamwork and team spirit, collaboration, critical thinking, organisation, rigour, and creativity are the strengths identified by the students, which translate into "good group dynamics" and the "high level of demand" of the work in group. On the other hand, the schedule and time management, the design of the activities, and the interdisciplinarity are identified by the students as challenges in the group's dynamic. One of the working groups also highlights their good dynamic as a result of years of working together: "We have not found any challenges because we have been working together for 4 years and we have been improving the group dynamics over time".



**Table 28.** Development of the collective assessment assignments

	<i>f</i> (%)					<i>Total</i>
	<i>Never</i>	<i>Seldom</i>	<i>Not applicable</i>	<i>Some-times</i>	<i>Always</i>	
We performed bibliographic research in printed sources	0	0	0	6 (100%)	0	
We performed bibliographic research in electronic sources	0	0	0	3 (50%)	3 (50%)	
We used supporting books to carry out the work	2 (33.3%)	1 (16.7%)	1 (16.7%)	2 (33.3%)	0	
Whenever we have doubts, we look up for the teacher's help	0	0	0	1 (16.7%)	5 (83.3%)	
We tried to clarify our doubts autonomously	0	0	0	6 (100%)	0	
We search for alternative sources of information (e.g. internet)	0	0	0	4 (66.7%)	2 (33.3%)	
We worked beyond the class schedule	0	0	0	1 (16.7%)	5 (83.3%)	6 <sup>is</sup> (100%)
We used external sources (books, articles, etc.) to support the work developed	0	1	1	2 (33.3%)	2 (33.3%)	
We defined goals regarding the lesson planning	0	0	0	0	6 (100%)	
We produce elements capable of structuring classes	0	0	0	1 (16.7%)	5 (83.3%)	
We consulted and mobilised information contained in the curricular guidelines	0	0	2 (33.3%)	2 (33.3%)	2 (33.3%)	
We produce elements capable of anticipating students' strategies and difficulties	0	0	0	6 (100%)	0	
We based our choices on the existing literature	0	0	0	3 (50%)	3 (50%)	

The students recognised the importance of the training strategy (cf. Table 29), particularly the construction of the portfolio (seen by 76% of the participants as very important); teacher's feedback in the construction of the portfolio (seen by 18% of the participants as very important), and of the teacher's feedback in the classroom (considered by 16% of students to be very important). Yet, findings also revealed some dispersion in the teacher's feedback responses to weekly reflections.

**Table 29.** Importance attached to the formative strategy

	<i>f</i> (%)					<i>Total</i>
	<i>Very little important</i>	<i>Little important</i>	<i>No opinion</i>	<i>Important</i>	<i>Very important</i>	
Formative strategy: global design	0	0	1 (4%)	17 (68%)	7 (28%)	
Portfolio construction	0	0	0	6 (24%)	19 (76%)	
Reflection	0	0	2 (8%)	8 (32%)	15 (60%)	
Teacher's feedback: in the classroom	0	0	0	9 (36%)	16 (64%)	
Teacher's feedback: portfolio drafts	0	0	0	7 (28%)	18 (72%)	25 (100%)
Individual weekly reflection writing	0	0	4 (16%)	12 (48%)	9 (36%)	
Teacher's feedback: seminars' reflections	0	1 (4%)	2 (8%)	10 (40%)	12 (48%)	
Collaborative portfolio construction	0	0	2 (8%)	10 (40%)	13 (52%)	
Final critical revisiting the initial reflection	0	0	0	10 (40%)	15 (60%)	

<sup>is</sup> n=6 work groups (25 students)

The main challenges identified by the students at the assessment level are mainly related to the development of the reflection, namely the workload and time necessary for its conclusion and the difficulties in the process of introspection and reflection, especially in the absence of lectures. They also identified group work namely in the articulation with the tasks of the other courses:

*One of the challenges of the assessment was the time. Another challenge has to do with the "degree of demand" intended for each school year. (Final questionnaire, Group B, Student 1)*

*The main challenge had to do with the weekly the reflections because in some classes it was just group work. (Final questionnaire, Group B, Student 4)*

*The main challenges correspond to aspects related to the introspection performed at the end of each seminar (Final questionnaire, Group B, Student 5)*

*Reflecting on seminars because there was no theory presented by the teacher. (Final questionnaire, Group B, Student 8)*

*The weekly reflections were, in some cases, challenging and unnecessary. (Final questionnaire, Group B, Student 21)*

*We had those weekly reflections, after each class, each seminar. We had to do an individual reflection on what was done. In some weeks, that was easier to do, when there was content delivery, but when it didn't exist it was more difficult to reflect. (Focus group, Group B, Student 1)*

The support of the teacher, the group colleagues and the individual work and commitment of the students are identified as the main means to overcome these challenges:

*The help of the teacher, the seminars taught by the teacher and the constant support of the group. (Final questionnaire, Group B, Student 1)*

*I searched for information and documentation autonomously and with workgroup conversations. (Final questionnaire, Group B, Student 6)*

*Research on my initiative. The support from the teacher. Assistance and support from colleagues (Final questionnaire, Group B, Student 9)*

*I worked autonomously and individually outside the classroom, using the materials that the teacher made available on the platform. (Final questionnaire, Group B, Student 19)*

Students recognise the potential of this assessment design in terms of collaborative knowledge construction, which makes it possible to articulate theory and practice, to imagine the practice at the level of reflection and meta-cognition in relation to the learning during the assessment process:

*The assessment helps us to reflect on our practices and to improve all activities. (Final questionnaire, Group B, Student 2)*

*It is extremely important because it allows me to develop skills and learning, articulate theory and practice and prepare for future practice (Final questionnaire, Group B, Student 9)*

*It helps us to review and reflect on the contents, which, in a way, is a method of study and consolidation of learning. It helped me to structure a line of reasoning about the contents, strategies and introduction to the practice. (Final questionnaire, Group B, Student 13)*

*It allows a constant reassessment of the work developed, mobilising knowledge constantly. (Final questionnaire, Group B, Student 14)*

*But on the other hand or weeks that it was painful to do it... it's true! But we reached at the end and it was useful. And then we went to read to make that final reflection, in our last assessment moment, it was useful to take all those reflections that we had over the weeks and see what we were learning. The way we write the first reflection was very different from the way we write the last one, and I think it was important for our learning, I think it was important. At first, I thought that weekly reflection was not so important. (Focus Group, Group B, Student 1)*

The importance and usefulness of the assessment activities developed within the scope of the course are recognised by the students, who highlight the dialectic approach to the seminars:

*I think that it is a very positive balance because it worked quite well as it made us constantly be in contact with the contents of this course. While other courses spent the whole semester with what we heard in class and that's it and then we just use it in the test. "oh my god I will have to study everything, so much material! We didn't feel it here weekly, every week we had to think about what we were learning, we had to do the reflection, that is, at home, we had to do it again (...). And that was good because we were learning... (Focus Group, Group B, Student 1)*

The balance of the course and the assessment methodology are globally positive:

*I think it was relevant, it made sense, it was not out of context. We had that reflection, the last one that had more weight and also group work. I think group work reflects a lot of what we learn and what we are supposed to learn. (...) Now it's easier. It was something that took a lot of work and that required a lot from us, I didn't expect it would take so much work. (Focus Group, Group B, Student 1)*

Students recognised the importance of both the collective work and individual reflections. They also recognised the fairness of the assessment methodology, which allowed them to identify strengths and weaknesses in their work, as well as to create instruments and tools for the development of their professional practice. The support both of the teacher and colleagues, and the autonomous work are also aspects highlighted in the participants' responses. However, the data collected points to some dispersion of the participants' responses regarding the assessment's suitability, the complexity of the assessment tasks and the number of assessment elements (cf. Table 30).

**Table 30.** Students' evaluation of the assessment process

	<b>f (%)</b>						<b>Total</b>
	<i>Strongly disagree</i>	<i>Disagree</i>	<i>Neither agree nor disagree</i>	<i>Agree</i>	<i>Strongly agree</i>	<i>Missing</i>	
The assessment methodology in this course was fair.	0	2 (8%)	0	19 (76%)	4 (16%)	0	
The assessment methodology in this course was adequate.	0	4 (16%)	2 (8%)	15 (60%)	4 (16%)	0	
The assessment methodology in this course allowed me to understand my strengths and weaknesses.	0	0	3 (12%)	16 (64%)	6 (24%)	0	
The assessment methodology in this course was important for my training in terms of teaching methodology.	0	0	2 (8%)	13 (52%)	10 (40%)	0	
The assessment methodology in this course enabled the articulation between theory and practice.	0	0	3 (12.5%)	11 (45.8%)	10 (41.7%)	1	25 (100%)
The assessment methodology of this course allowed the creation of instruments and tools for the development of my professional practice.	0	0	3 (12%)	12 (48%)	10 (40%)	0	
The number of assessment elements was adequate.	0	4 (16%)	3 (12%)	10 (40%)	8 (32%)	0	
The assessment tasks performed were complex.	0	6 (24%)	6 (24%)	8 (32%)	5 (20%)	0	
The teacher's support was important to carry out the assessment tasks.	0	0	0	9 (36%)	16 (64%)	0	
The support of my colleagues was important for carrying out the assessment tasks.	0	1 (4%)	2 (8%)	13 (52%)	9 (36%)	0	
Overall, I do a positive balance of the course assessment.	0	0	1 (4.2%)	13 (54.2%)	10 (41.7%)	1	

This view is shared by the teacher of the course who highlights the moments of learning provided along the course, but also the workload of the assessment's assignments:

*It is very hard! They understand the logic (...) but in class they were tired. In the assessment, the same. I think that assessment... A student said: "I appreciate this type of assessment because it is not testing". Assessment occurs throughout the learning process, there was not a specific time for assessment. The assessment did not stand out, it was done throughout the semester, it was completely secondary, although essential. It had no dominance, there was no test today! There were no moments of*

*assessment, the assessment was part of the process. I think it came out very well. (Final interview with Teacher B)*

Students' self-assessment is consistent with the teacher's positive view of the students' work: *I had to listen to the students, here I am saying what I think, but I think my perspective is that the course was productive, that students worked well, there were a lot of learning moments... I think that went well! (Final interview with Teacher A)*. The students who responded to the final questionnaire about the functioning of the course considered their performance in the course good (28%), very good (68%) and excellent (4%).

Teachers and students have a positive perspective about the assessment process, which, despite being tiring, reveals the potential for student involvement and the development of transversal skills capable of preparing them for the proper development of their profession:

*I make a positive evaluation, although very tiring. I chose to take care of all this during the whole semester because I don't only have this unit and of course I have other things to do. But I do a positive evaluation not only because it contributed to their learning but also because it gave me signals, very concrete information, about how I can improve even more for the year. (Final interview with Teacher B)*

Critical self-reflection of the teacher's practices is another aspect that emerges from the findings of this project, intentionally structured and in line with her professional development and growth:

*I also plan to use three other instruments, but for my monitoring, I want to collect data on how this is going to develop and its effect. They are the logbook, a questionnaire at the end of the semester and an interview at the end of the internship with a student to try to understand if, in any way, what I did this year was of any use. (Initial interview with Teacher A)*

This effort is recognised by students throughout the project of intervention and training. They identified in the teacher's practice fundamental and differentiating characteristics for teaching:

*The teacher is competent... she is a competent person who always has something important to tell us and we know that we will learn. I don't know if it can be done with another teacher, it will be different, it won't be the same thing! (Focus Group, Group B, Student 1)*

### **The functions of assessment**

By analysing this case, it can be argued that assessment has a formative function based on regulating, monitoring, guiding, improving and supporting students' learning (Flores & Pereira, 2019; Fernandes, 2004):

*For me, continuous formative assessment, what Domingos Fernandes talks about alternative formative assessment, giving feedback at the moment for me it is a very important way to assess, I inevitably build my perception about students, about the way they are learning. (Final interview with Teacher A)*

The findings point to the predominance of a learner-centred approach based on feedback activities that promote collaboration and interaction between teachers and students (Webber, 2012):

*In this course the immediate feedback that I give is fundamental, for me, it is fundamental for the construction of students' learning. I know they need me to be with them, to listen to them, and to give feedback at the moment. Through these dialogues, I create an image and a perception of the students and in this particular work that they will do this monitoring, group by group, week by week, it is essential for them to learn. The assessment in this sense is an integral part of the training process. (Final interview with Teacher A)*

High level and complex learning “is best developed when feedback is viewed as a relational process that takes place over time, is dialogic, and is integral to the whole process of learning and teaching itself” (Sambell, 2011, p. 5). Thus, in an assessment for learning perspective, assessment is an integral part of the teaching and learning process and aims to adjust and improve it (Black & Wiliam, 1998). Moreover, it is also possible to identify aspects in line with an assessment as learning perspective (Earl, 2013).

Findings from this context show an improvement in teacher conception about assessment, associated with a self-regulatory function of assessment. It also shows the improvement of the quality of teaching, congruent with the simultaneous use of different assessment instruments, designed for different purposes and capable of identifying strengths and weaknesses of the architecture of the student learning (Brown, 2002). This approach also reinforces the interdependence of assessment and learning and the process of appropriation of knowledge developed by students (Earl, 2013).

The findings from this Intervention and Training Project highlighted the existence of an inclusive training strategy, which employs a diverse set of methods and strategies (group work, individual work, portfolio, and reflection activities) capable of providing to all students the possibility to demonstrate their potential (Brown, 2005), as the following quotation illustrate:

*It was one of the courses that made the most sense, where we learned more. In my opinion, we had some very important courses with little useful content for us. This is my opinion. I think that we learned things that we came to the end of the course and we thought 'what is this for now?!' With this specific course, I thought it didn't exist. I thought it was important because we learned a lot of useful things and the work was useful. That is what we want in the courses, that work may be useful, something that I miss and that one day later I can use. And I felt this with this course, in others courses I didn't feel the same. (Focus Group, Group B, Student 1)*

## **CONCLUSIONS AND IMPLICATIONS**



## **Conclusions and Implications**

In this section, the main conclusions and implications of this research will be presented. Through the reflection and the discussion of the findings, and considering the theoretical framework, this research intends to respond to the research questions and goals.

This research set out to explore the assessment practices in higher education after the Bologna Process, namely with regard to possible changes, and the meaning of these changes, taking into account the context of university teaching. The research has also sought to contribute to improving the quality of teaching, learning and assessment processes in higher education.

This research project addressed the conceptions and practices of assessment of university teachers from five public universities. In addition, it was also intended to deepen these issues through focus groups with teachers and questionnaires with programme coordinators from one of the universities participating in the survey. Lastly, to contribute to the improvement of the quality of teaching, learning and assessment processes in higher education, an intervention and training project was also developed.

### **7.1. Sub-study 1 - Perceptions of university teachers about assessment in Higher education after the Bologna Process**

#### **7.1.1. Teachers' conceptions of assessment**

Teachers' conceptions of assessment play a central role in understanding and potentially transforming teaching practices (Postareff et al., 2012). Nevertheless, assessment practices are strongly linked to university teachers' development (Aleamoni, 1997), assuming an important role on university teachers professional development. The analysis of university teachers' conceptions of assessment provides an opportunity to understand higher education assessment practices and the way university teachers apprehend social, political, and institutional changes (Pastore & Pentassuglia, 2016).

The inventory used in sub-study 1 intended to get to know university teachers' conceptions of assessment and to identify the influence of demographic and professional variables on university teachers' conceptions of assessment.

This small-scale study indicated that Portuguese university teachers seem to be taking a positive and constructive view of assessment as a tool for improving outcomes and have confidence in their assessment practices. This is promising but further work is needed to establish robust measures in this context.

Results of confirmatory factor analysis indicate that the original model did not fit. An alternative four-factor model (improvement, assessment quality, institutional quality, and reject assessment use) revised model was delineated. Factor inter-correlations revealed low relationships among factors. However, improvement and assessment quality had a moderately strong inverse relationship to reject assessment use, which indicates that using assessment for those two purposes was not irrelevant.

How university teachers conceive of the purposes and nature of assessment matters because they are actively involved in designing, administering, and interpreting student assessments for the courses and programmes they teach. Assessment integrates all the other "dimensions of the training system" (Parent, Hoop, Le Jeune & De Ketele, 2011, p. 118), so it is extremely important to understand how the different actors look at assessment. In sub-study 1 it has been found that the original statistical model for the Teacher Conceptions of Assessment inventory did not fit participant responses. A revised 15 items model that was ecologically in line with Portuguese's low-stakes public assessment system showed that four different purposes for assessment could be identified (i.e., assessment is for improvement, the reliable quality of assessment, assessment indicates the quality of institution, and teachers rejected use of assessment). These conceptions are consistent with a somewhat positive perception of assessment that guides formative practice (Fernandes, 2011) and takes a guiding and mentoring perspective (Hadji 1994). This appears to be in line with a reflective and critical teacher perspective as suggested by Perrenoud (2002).

However, data from the focus groups findings indicate the coexistence and oscillation between two logics: a logic of improvement of learning, based on reflexivity about teaching, and another logic, more focused on student accountability. These conceptions seemed to influence the teaching practices, through the coexistence of more learner-centred practices, with focus on feedback practices, and more traditional assessment logics. Previous studies in the Portuguese context point to the coexistence of a

multitude of modes of pedagogical work, of learning strategies and modes of assessment in Portuguese higher education with some use of "student-centred methods" along with a continuity of summative assessment and some formative procedures (Pereira & Flores 2012, 2013; Pereira et al. 2016).

This sub-study replicates many previous studies which have found that the New Zealand primary school teacher TCoA model could not be recovered. Nonetheless, a small number of items for improvement, irrelevance, and school quality in Brown's TCoA were found to group together in this result. The significant differences between the Portuguese model and the original model of TCoA are consistent with the assumption that beliefs are influenced by cultural and social context. The work by Brown and Remesal in the Catalan context, which has cultural and social similarities with Portugal, underlines the role of contextual variables in the analysis of cross-sample information (Brown & Remesal, 2012). The divergence in these results seems consistent with Portuguese cultural and socio-economic conditions and with education system policies and practices differences.

The results revealed a reasonably low factor inter-correlation, suggesting university teachers held multiple, potentially contradictory conceptions simultaneously. However, the results also revealed that Improvement and Assessment Quality factors had a moderately strong inverse relationship to Reject Assessment Use which indicates that using assessment for those two purposes was not irrelevant, again a logically coherent relationship for university teachers who use assessments to improve and evaluate student learning. The inter-correlation between improvement and assessment quality and a better articulation between assessment and teaching (Fernandes, 2011) may contribute to an effective improvement of student learning. It is necessary to recognise the role of university teachers' assessment in the classroom, especially formative assessment, beyond the hegemony of the transmission's paradigm (Estrela & Nóvoa, 1993) and the primacy of classification and certification of students' learning. In understanding assessment of students as an issue "eminently pedagogical and didactic" (Fernandes, 2011, p. 140), university teachers still have a clear opportunity to change and improve their practices contributing to the integration of learning, assessment and teaching dimensions (Fernandes, 2011).

The MANOVA results suggest that some aspects of the inventory do not cross population, culture and universities specificities. However, the small sample size meant it was not possible to effectively determine whether those differences exceed chance. Future survey research will need to use larger samples. Furthermore, the retention of just 15 items from the TCoA in reasonably different structures suggests that items need to be developed in order to fit Portuguese university education better. The results

revealed the necessity to deepen this theme qualitatively to ensure that any future survey research captures the nuances and subtleties of university contexts in Portugal.

### **7.1.2. Assessment methods**

The study of the assessment methods used in the university context assumes special relevance in the framework of the Bologna Process, particularly in the search for innovative learning environments (Black & William, 1998), and in the development of innovative ways of structuring teaching and assessment (Fernandes, 2015a). The literature highlights the existence of traditional and alternative methods of assessment (Duncan & Buskirk-Cohen, 2011), of practices more centred on the student or more centred on the teacher (Fernandes, 2015a; Myers & Myers, 2015; Burkšaitienė & Teresevičienė, 2008). Though, the different perspectives comprise also challenges, particularly in terms of the context of their application, emphasising the need to continue to investigate the theme, i.e. from the perspective of the agents involved.

The sub-study also aimed to identify the most used and valued assessment methods from the perspective of university teachers; to identify the influence of demographic and professional variables on the valorisation and use of assessment methods; and to identify a possible relation between the most valued and the most used methods of assessment by expanding the previous work by Pereira (2011, 2016) and Gonçalves (2016).

For this purpose, a measurement of valuation and another of the frequency of assessment methods were used. The results of this study suggest that both measures present adequate psychometric properties and, therefore, might be useful tools to measure the most valued methods of assessment and the frequency of use of assessment methods in higher education in the perspective of university teachers. The results of the factor analysis suggested the same three-factor structure for both scales: (1) collective methods, (2) individual methods and (3) portfolios and reflections. The items of each factor revealed an adequate internal consistency, supporting the reliability of the obtained scores. The valuation and frequency of use of written tests/exams were analysed separately given the absence of saturation in the factors previously identified. The emergence of a factor related to the use of portfolios and reflections, apart from the collective and individual methods, is consistent with the reflective nature of the portfolio through the development of critical thinking and deep approaches to learning (Segers & Dochy, 2001).

Findings from this study indicate that there is no influence of demographic variables (age and sex) on the level of valuation and frequency of the use of the assessment methods under analysis. However, the MANOVA results point to the existence statistically significant differences in regard to study cycles and field of knowledge in the valorisation and use of collective, individual methods, and portfolios and reflections; and the area of knowledge in the valorisation and use of collective methods, and portfolios and reflections. These results are congruent with previous studies carried out with Portuguese Higher Education (Pereira, 2016) which have also identified an influence of the programme in the use of different assessment methods.

The results indicate that teachers from integrated master degree programmes, on average, value portfolios and reflections less than teachers who teach in other cycles. Also, the teachers who teach in the master's degree programmes value collective, individual methods, and portfolios and reflections more than those who do not teach in this studies cycle. The results also show that teachers who teach in integrated master programmes use, on average, more often the collective methods and less frequently the portfolios and reflections. The teachers who teach in the master's and PhD programmes use more frequently collective methods, individual methods, and portfolio and reflections than teachers who do not teach in these study cycles.

Regarding the field of knowledge, the results indicate that teachers who teach in the areas of Engineering and Technology Sciences value collective methods more than teachers from Exact Sciences and Medical and Health Sciences. Social Sciences teachers value collective methods more than Exact Sciences teachers and that Social Sciences teachers value portfolios and reflections more than Exact Sciences and Engineering and Technology Sciences teachers. Also, the teachers from Engineering and Technology Sciences use collective methods more than teachers from the Exact Sciences and Humanities. The social Sciences teachers use collective methods more than the Exact Sciences teachers, and portfolios and reflections are more used by Social Sciences teachers when compared to Exact Sciences, Medical and Health Sciences and Engineering and Technology Sciences teachers.

Findings from the non-parametric tests indicate an influence of the pedagogical training and the scientific area on the valorisation and the frequency of using written tests and exams. The responses of the participants indicate, on the one hand, a greater appreciation of written tests and exams by the teachers without pedagogical training and, on the other hand, a greater appreciation of the tests and exams written by teachers of Exact Sciences and Humanities than their Social Sciences counterparts. There was also a higher frequency of use of written tests and exams by Exact Sciences teachers when

compared with the Engineering and Technology Sciences, and Medical and Health Sciences teachers and Social Sciences; and by Engineering and Technology Sciences teachers compared to Social Sciences teachers. This differences may be explained by the nature and purpose of each field of knowledge. Previous studies indicate a higher use of learner-centred assessment in soft disciplines (art and humanities) than in hard disciplines (sciences) (Yanowitz & Hahs-Vaughn, 2007; Webber 2012); and the prevalence of short answers and multiple-choice tests in Sciences, and oral tests in Medical and Health Sciences students (Goubeaud & Yan, 2004).

Another important finding from this sub-study relates to the role of pedagogical training in the selection of assessment methods. These results confirm the importance of understanding the ways in which) teachers develop their practice and, more broadly, how teachers develop themselves professionally (Flores, 2003). Despite its importance among teachers, the pedagogical training of Portuguese higher education teachers is still scarce (Rosado-Pinto, 2016). Higher education teachers value the pedagogical training based on credible theoretical references and articulated with their practice (Rosado-Pinto, 2016). The necessity of developing higher education teachers' pedagogical training opportunities in the use of innovative assessment practices is also recognised in the European documents:

“The need for professional training as a teacher at primary and secondary school level is generally taken for granted but remarkably, when it comes to higher education, there seems to be an all too common assumption that such professional teacher training is not necessary, as if it is somehow an idea unworthy of the professional academic.”  
(European Commission, 2013, p.18)

Findings also indicate an influence of the change in assessment practices in terms of the valorisation of tests and written exams, suggesting a greater valorisation of tests and exams by teachers who claim that they did not change their assessment practices throughout their career.

In the analysis of the correlations between the valorisation and the frequency of using assessment methods, findings indicate a strong positive correlation between the valorisation and the use of the assessment methods. However, this correlation is moderate in terms of the valorisation and use of written tests and exams. Findings from this sub-study indicate a valorisation and use of a diversity of assessment methods by the participants. However, the results of descriptive statistics point to a greater appreciation and frequency of use of written tests and exams and a lower appreciation and frequency of use of

portfolios and reflections. These results corroborate other studies carried out in the Portuguese context (Barreira et al., 2015; Pereira, 2016) that highlight the summative nature of the assessment and the prevalence of the use of written tests and exams combined with the use of other assessment methods.

In addition, previous studies in the Portuguese context highlighted the existence of contradictions between the assessment practices used and the teachers' assessment conceptions (Gonçalves, 2016; Pereira & Flores, 2016) due to the workload, scarcity of resources and the imposition of summative assessment at the institutional level, which perpetuates traditional assessment practices (Pereira & Flores, 2016). The results of this sub-study indicate some consistency between the valorisation of the different assessment methods and the frequency of their use, but with less expressiveness in the valorisation and frequency of the use of written tests and exams, which may be a result of the imposition and prevalence of summative assessment practices (Pereira & Flores, 2016).

These results highlight the complexity of university training scenarios (Zabalza, 2004) and assessment (Brown & Knight, 1994). They also emphasise a teaching profession perspective as a process of creating and developing knowledge in its different dimensions, namely, teacher professional development, with particular emphasis on innovative assessment practices (Fernandes, 2015a).

### **7.1.3. Assessment practices**

The sub-study 1 also aimed to get to know university teachers' practices of assessment; to identify the influence of demographic and professional variables on university teachers' assessment practices; to understand the main challenges on the higher education assessment; to get to know the possible changes in the assessment practices in the post-Bologna period; and to analyse the implications of the implementing of the Bologna Process in the assessment practices.

For this purpose, a measurement of the university teachers' practices of assessment was used. Findings suggest that the measure presented adequate psychometric properties and, therefore, might be a useful tool to measure the teachers' practices of assessment in higher education. The results of the factor analysis suggested the same three-factor structure for both scales: (1) Engagement and participation of students in the assessment, (2) Use of assessment by the teacher on the teaching and learning process, and (3) Assessment as a process determined by external factors. The items of each factor revealed an adequate internal consistency, supporting the reliability of the obtained scores.

Findings indicate the existence of a diversity of assessment practices by the participants, with a prevalence of assessment practices associated with the use of assessment by the teacher, and lower incidence of assessment practices associated with assessment determined by external factors. They also identify the influence of study cycles and the area of knowledge in terms of the use of different assessment practices by the participating teachers.

Statistically significant differences were identified in the masters' degree programmes, indicating that the teachers from this study cycle value more the practices associated with the involvement and participation of students in the assessment, as well as the practices associated with the use of assessment by the teachers. Also, they considered the assessment practices determined by external factors less important. Findings also point to statistically significant differences depending on the field of knowledge in terms of student involvement and participation in the assessment and the assessment determined by external factors. The results of the univariate tests and the respective pairwise comparisons identified a greater use of practices associated with the involvement and participation of students in the assessment by the teachers from the Social Sciences than teachers from Exact Sciences and Sciences of Engineering and Technology. It was also identified a greater use of assessment practices determined by external factors in teachers who teach in the areas of Exact Sciences, and Engineering and Technology Sciences concerning Social Sciences teachers.

There were no statistically significant differences in terms of the other professional variables. Likewise, there was no influence of demographic variables (age and sex) or of variables related to changing assessment practices and the influence of the Bologna process in terms of student involvement and participation in the assessment process, use of assessment by the teacher in the teaching-learning process and the assessment determined by external factors.

The further exploration of these issues through focus groups identified the coexistence of more learner-centred practices, based on feedback practices, with more traditional assessment logics. This ambivalent practices of assessment also extend to the role of the Bologna Process in the participants' assessment practices.

The teachers were questioned about the existence of changes in their assessment practices and the possible contribution of the Bologna Process to the change them. Most of the teachers stated that they have changed the way they assess students throughout their careers, and less than half of the participants recognise the importance of the role of the Bologna process in changing assessment



practices. The factors of a structural and organisational nature (for example, number of students per class, material conditions, semestrialisation), factors linked to changes introduced by the legal and institutional framework (namely legal and institutional documents, curricular plans, among others), and factors related to the context of practice (conceptions and use of evaluation) explain differences between the most optimistic and the most sceptical teachers concerning the contribution of the Bologna process in changing assessment practices.

The data from the focus groups corroborate that Bologna may not have been for many teachers a key point moment in terms of their professional development. However, the Bologna Process's contribution to the discussion and attention given to issues of teaching and learning, and especially assessment seems undeniable. These results highlighted the complexity of university training scenarios (Zabalza, 2004) and assessment (Brown & Knight, 1994) and the complexity of adapting academic practices to the Bologna principles.

#### **7.1.4. Being a university teacher**

Teaching is a core mission but also a core responsibility (European Commission, 2013). This complex and multifaceted activity is influenced by several factors (Korthagen, 2004) and has implications for the way teachers see themselves as professionals (Kelchtermans, 1995; 2009). Findings from the focus group identified an ambivalence of perspectives regarding the motivation of teachers for teaching, divided between the love to teach, to be in the classroom, and to interact with students; and the conditions in which they develop their work, the quality of students, the ageing of the teaching staff, the pressure to do research and to publish, the lack of time to reflect/innovate, and the absence of collaborative work. This motivation is related to the challenges and opportunities identified by the participants and has implications for the teachers' perceptions about their future.

On the one hand, teachers identified difficulties and challenges related to the pedagogical interaction and the assessment practices, intensified by their working conditions (e.g. number of students per class, heterogeneity and quality of students, resources), contractual issues, career development, teacher evaluation, and the non-existent balance between teaching, research and management. In this perspective, teachers' workload and discouragement in terms of their contractual conditions is aggravated by public divestment and pressures for accountability (Ramsden, 2002). This is reflected in the lack of time to reflect, innovate and work collaboratively.

On the other hand, innovative projects (under the Bologna framework), the recognition and affirmation of Pedagogy, the proliferation of research and literature on teaching, learning and assessment, the changing paradigm from a teacher-centred to a learner-centred model, the role of universities in innovation and knowledge production and, mostly, the work with the students are identified as factors that enhance teachers' work. The success of the universities depends on academics' capacity to respond to change (Ramsden, 2002). Overall, teachers are optimistic about their future, looking forward to the involvement in improvement projects and decision-making processes and the improving of the assessment methodologies. The professional stability and satisfaction emerge as key aspects that contribute to this optimism, as well as the potential for teachers' work. However, the participants in this sub-study warn to the need to renew the ageing of the teaching workforce.

## **7.2. Sub-study 2: Perceptions of programme coordinators/supervisors about assessment in Higher education after the Bologna Process**

Classroom assessment is "quite diversified and not well documented" (Gilles, Detroz & Blais, 2011, p.721). It reflects teachers' values, perceptions and experiences which are influenced by the environmental variables, with an emphasis in the institutional context, tradition and assessment culture (Gilles, Detroz & Blais, 2011). Nevertheless, the programme coordinators are teachers actively involved in designing, administering and interpreting the courses and programmes they supervise, being privileged informants about their functioning. The analysis of the programme coordinators' perceptions about assessment provides an opportunity to understand higher education assessment practices as well as an important perspective on pedagogical leadership in university higher education.

This sub-study intended to analyse the programme coordinators' views about the conceptions and practices of assessment, to identify possible implications of the Bologna Process for assessment practices, and to understand the main challenges in higher education assessment practices from the perspective of the programme coordinators.

Findings indicated that the programme coordinators seem to be taking a positive and constructive view of assessment. However, they were very critical of their programmes, particularly in regard to the effects of the implementation of the Bologna Process. Previous studies focusing on higher education

leadership in the Portuguese context identified the importance of the transformation of the teaching approaches to enhance the learner-centred requirements of the Bologna Process (Veiga & Amaral, 2008).

Findings from sub-study 2 also indicate that the changes resulting from the Bologna Process have been globally positive with impact on assessment, namely on the conditions for teaching and learning, on structural changes, and on pedagogy and student learning. The Bologna Process influenced both positively and negatively the conditions for teaching and learning, the formal aspects within higher education institutions, and the pedagogy and student learning. In turn, the conditions for teaching and learning, and the structural changes have an impact on pedagogy and student learning. The greater focus in pedagogy, the discussion about the educational offer and the reflection about the practice was highlighted by the participants. In the reverse side of the coin, Bologna also appears as the reason for the increasing number of students per class, the scarcity of resources, the reduction of the contact time with students, the condensation of the programmes, negative changes in the student's profile (e.g. lack of autonomy) and the educational agents' resistance to change. Additionally, Bologna generated additional demands concerning teacher's work, i.e. the facilitation and dispersion of the assessment methods, the reduction of the contact time and the development of utilitarian strategies. This is a topic of special importance in teachers' work. The European guidelines (ENQA, 2015) highlighted the importance of ensuring adequate conditions for teachers to work. Thus, international studies identified challenges in terms of working conditions (Kálmán, Tynjälä, & Skaniakos, 2019), namely in regard to resources available, pressures from the labour market, and the articulation with other tasks (e.g. research) (Smith & Brown, 1995).

The programme coordinators identified the use of a variety of assessment methods, through a mix of learner-centred and traditional methods. Even though the variation in assessment practices was recognised, like other studies in the context of higher education (Postareff, et al., 2012), the coordinators recognised the use of traditional forms of assessment. These results are congruent with the quantitative results of sub-study 1 (Fernandes et al., accepted for publication; Flores, Pereira, Fernandes & Coutinho, 2019) and with other studies carried out in the Portuguese context (e.g. Barreira et al., 2015; Pereira, 2016; Torres, 2012). Several authors argue for the multiplicity of assessment methods in response to the current challenges in the teaching and learning process, i.e. through a "mixed diet of assessment" (Brown, 1999), knowing that assessment methods alone do not determine learning and that there is hardly a method that meets the objectives of education (Ramsden, 2004). The year of study, the type of

course, the nature of the programmes, and the institutional regulations are identified by coordinating teachers as factors that may influence the selection of the assessment methods.

In general, the learning outcomes were articulated with the assessment practices, fostering learner-centred practices and goals' achievement. This articulation was also explicit in the formal procedures, forcing the reflection and the design of integrative practices, ensuring their monitoring and effectiveness. However, participants also identify inconsistencies in terms of the theory and development of this articulation.

Findings also indicate the existence of moments/spaces to discuss assessment within the programmes, which assume different degrees of formality, involvement and importance. Informal discussions appear to take on a special role in the discussion of assessment practices, namely by allowing them to overcome schedule difficulties, to articulate the university teachers' work and to solve problems. However, the participants emphasise respect for the teachers' autonomy and the difficulty to change how teachers teach and perform assessment. Moreover, some of the participants argued about the teachers' resistance to change.

Two decades after the Bologna Process, the participants in this sub-study identified several positive aspects, but also several limitations in the assessment practices, especially in terms of the conditions for teaching and learning. Despite the advances, changes are still needed, namely the promotion of more active learning practices, formative and continuous assessment practices, self-assessment, and a greater connection to the professional practice.

### **7.3. Sub-study 3 - Intervention and Training Project**

This sub-study was based on the results of previous sub-studies and intended to look at teachers' conceptions and practices of assessment throughout a semester by promoting, at the same time, a formative and participatory approach through collaboration with teachers in the study of their practices within a professional development logic.

The analysis of interaction strategies and potential and limitations of various assessment methods and their implications for teaching, learning and academic results allowed to identify distinct and hybrid teaching approaches.

In case 1, assessment is mostly designed to develop competences in the students, to develop a set of fundamental skills for the exercise of the teaching profession. Data from this context indicated a predominance of a learner-centred approach based on feedback activities that promote collaboration and interaction between teachers and students (Webber, 2012) articulated with the use of more traditional methods through standardised tasks, performed by all students at the same time (Brown, 1997). The assessment practices are, predominantly, formative (Black & Wiliam, 2019; Fernandes, 2004) and articulated with some summative aspects of assessment.

In case 2, assessment is used to transform the way students learn. It has a formative function based on regulating, monitoring, guiding, improving and supporting students' learning (Flores & Pereira, 2019; Fernandes, 2004). The feedback activities that promote collaboration and interaction between teachers and students (Webber, 2012) were promoted in a learner-centred approach highlighting the existence of an inclusive training strategy, which employs a diverse set of methods and strategies.

In both cases, feedback practices and student involvement in assessment practices emerge. These practices make it possible to organise teaching in such a way as to place the student at the centre of the learning process "and implement models focused on understanding and developing skills", which is an underlying condition of the Bologna principles (Borralho, Fialho & Cid, 2012).

#### **7.4. Implications**

Assessment matters. It is an integrant part of the teaching and learning process (Boud, 1989; Brown, 2000; Rust, 2007) and should not be treated as an addendum at the end of the training process. In the academic context, assessment is often designed as a separate part of the teaching and learning process but assessment is far more important. The way learners "interpret assessment requirements can have a very powerful influence on what they do and what they construe. Different forms of assessment can influence different learning outcomes and can lead to either superficial or meaningful learning." (Boud, 1989, p.31)

Assessment is a strategical asset for higher education organisations. Teachers' right choices on the assessment strategies are a crucial contribution to the success of students. A good assessment can be motivating and productive for students, helping them to know "how well they are doing and what else they need to do" (Brown, 2000, p. 4). On the other hand, poor assessment may lead to "tedious,

meaningless, gruelling and counterproductive” (Brown, 2000, p. 4). Within a perspective of improvement and not of measurement (Bonniol & Vial, 1997), the participative construction of the assessment criteria contributes to the understanding of what is expected of students and they contribute to the development of self-regulation of students (Bonniol & Vial, 1997).

Data from the three sub-studies show the existence of a diversity of assessment conceptions and practices and the recognition of the need to update and innovate assessment practices. The voices of the participants reflect the different international perspectives in the field of learning assessment, sometimes approaching a summative and verification logic (Perrenoud, 1999) and, other times, a student-centred assessment logic (Webber, 2012), recognising the influence and interrelationship of assessment conceptions and practices in the students learning (Gibbs, 1999; Light & Cox, 2003). Data obtained allow, in the light of the national and international literature, to recognise that the assessment is as an “area of enormous technical and scientific complexity” (Estrela & Nóvoa, 1993, p. 11), resulting from the broadening of the concept itself and of the conception of curriculum (Alves & De Ketele, 2011).

The university, the place of knowledge production *per* excellence, today faces the growing pressure from society and its increasingly demanding challenges at a pace often higher than what it is capable of responding to (Santos, 2011). The Bologna process represented an opportunity for the modernisation and improvement of higher education. However, there are two visions that confront each other: “the opinion that Bologna was an evolution towards creating better learning conditions, with curricula more adapted to reality” and the argument that Bologna represented “a simple reduction in the time of courses degree and master's degree that, in no way, changed teaching programmes or methodologies” (Justino, Machado & Oliveira, 2017, p. 1). This research project identified some tensions regarding the impact of Bologna on assessment practices at various levels: structural and organisational factors, factors related to the changes introduced by the legal and institutional framework, and factors related to the practice context. Bologna may be seen as an opportunity to introduce some necessary changes to respond to these pressures and tensions, but the literature and the results from this research project show the necessity for a more systematic evaluation and a deeper reflection on the changes that have occurred and on curricular practices, pedagogy and assessment. The success of the Bologna process in terms of the way assessment is experienced by teachers is not evident in the five universities. Nevertheless, the ambition of the Bologna process is positive and further efforts by universities are needed to mitigate a purely summative assessment approach.

Findings also indicate that Bologna seems to have entered in Portugal at four movements. In some cases, it was a movement of change, challenge and innovation, in other cases, a movement of drawback and “forced” adaptation. In other situations, it entailed a movement of little impact, and, in other cases, an oscillating movement between the imposed change and the possibility of developing more student-centred practices and teacher continuing professional development. Bologna originated, in the case of Portugal, a complex and paradoxically symphony, innovative but, at the same time, classic; hard to interpret; in some cases, successful, but, in other cases, unfinished and far from the advocated European canons.

This research provides evidence of the role of the working conditions and the workload of teachers in their assessment practices, with an emphasis on the difficulty in reconciling research with pedagogical activities. About a year ago, the leaders of Portuguese higher education institutions and scientists defended, in the Higher Education Convention held in early 2019, a review of the way research and teaching relate, arguing for a greater proximity between scientists and the classroom (Jornal Público, 15.03.2019). At the launch of this convention, the Council of Rectors of Portuguese Universities (CRUP) had already identified the need to revise the statutes of the teaching and research careers to allow higher education teachers to have more hours of service to devote to research. Counterclockwise, researchers should also spend more time in classrooms.

To achieve excellence in higher education (Nóvoa, 2014), the development of teaching work needs to be properly recognised in the career progression and pedagogical training needs to be fostered (Mesquita, Flores, Lima & Fernandes, 2016; Rosado-Pinto, 2016). Empirical data from this research underlined the relevance of this variable in the selection of the assessment methods, indicating a greater appreciation of more traditional assessment methods by the teachers without pedagogical training.

The articulation between research and teaching (Rosado-Pinto, 2016) also seems an opportunity to challenge teaching and learning methods and assessment and to overcome an academic culture based on “professional isolation, undervaluation of pedagogy and the divorce between research and teaching” (Vieira, 2005, p. 23). At the aforementioned meeting, the researcher João Rocha (quoted by Jornal Público, 15.03.2019) mentioned the scientific push that occurred in the last two decades in Portuguese higher education and challenged the Academy to moving forward through pedagogy and teaching. It seems evident that this movement will only be possible through the synchronous transformation of the assessment practices in order to achieve the goals of the centrality of the student and the quality of teaching and learning outlined by Bologna.

This research contributed to the understanding of conceptions and practices of assessment in the higher education context under the Bologna framework, yet, the results should be carefully interpreted. On the one hand, there was a small number of participants in the questionnaire collected in five public universities. On the other hand, the remaining data were collected in the same context. Future research should aim to collect data from a larger number of participants from different universities to provide additional information about the conceptions and practices of assessment in Portuguese higher education context. More extensive involvement of students is also recommended.

Although the indicators and key ideas obtained in this research have answered the research questions initially formulated, they should continue to be deepened, expanding the possibility of obtaining new answers and a more complete understanding of the complex and multifaceted nature of assessment in higher education in Portugal. This could be achieved through the deepening of the possible relationships between the Bologna Process and the development of innovative assessment practices in different courses and areas of knowledge; the analysis of the relationship between the professional development of teachers and the use of innovative assessment practices; and, the identification of the characteristics of assessment practices that promote self-regulatory conceptions of the assessment processes.

Despite this, the results of the research contribute to the debate about university teaching quality and how it can be improved. To embrace the Bologna Process, its philosophy and its implications may, possibly, have been one of the biggest challenges faced by the Portuguese university teachers in the last 25 years, with greater or lesser implications for their practices, namely assessment practices. The implementation of the Bologna Process occurred, at various times, in counter-cycle with public investment, dilapidated by the serious global financial crisis, which had serious implications for teachers' working conditions and their expectations towards the future.

However, after more than four years of work, as long as I am writing the closing of this research, society faces a tremendous challenge by trying to stop the effects of a pandemic that in just a few weeks already closed schools, stopped the economy and collapsed several health systems. An unexpected and tragic situation that is challenging education to reinvent itself, in a quick and remote response, which is, to a great extent, facilitated by information and communication technologies. The changes and implications for higher education are such that even though this is not the focus of this research, we could not fail to make a brief note about its implications for teaching and learning practices and in terms of assessment.



One of the most important characteristics of the Bologna Declaration was the introduction of a different teaching and learning methodology, hoping that teachers would be able to design scenarios capable of challenging students to learn, producing a new academic culture able of crossing the university walls for society (Neves, 2005). Findings from this research identified some advances in this direction but also identified the existence of more traditional conceptions and practices, revealing the necessity to building a road to improve assessment practices and to mobilise the University for the 21<sup>st</sup> Century (Neves, 2005), namely through investment in the training of university teachers and in a pedagogical research culture that helps teachers to critically explore their practices (Rosado-Pinto, 2016), as a central element of their professional development. If, on the one hand, distance learning can enhance greater student autonomy, its forced generalisation can bring new challenges and exacerbate some of the problems identified in this research, namely in terms of the use of differentiated and more learner-centred assessment strategies. More than ever, higher education can never be understood in a reductionist (Almeida & Castro, 2017) or technical way, making more sense than ever to recover the “academic freedom” (Nóvoa, 2014), a freedom based on a “frank and disinterested public service” where the past can be transformed into the future and capable of freeing university teachers from an endless set of bureaucracies and controls that are hindering their academic freedom (Nóvoa, 2014).

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## **APPENDICES**

# Appendix I. Recommendation of the Subcommittee on Ethics for Social and Human Sciences (University of Minho)



Universidade do Minho

SECSH

## Subcomissão de Ética para as Ciências Sociais e Humanas

Identificação do documento: SECSH 036/2016

Título do projeto: *Conceções e práticas de avaliação no Ensino Superior após a implementação do processo de Bolonha: Um estudo com professores universitários*

Investigador(a) responsável: Eva Maria Lopes Fernandes, Instituto de Educação, Universidade do Minho

Outros investigadores: Professora Doutora Maria Assunção Flores Fernandes, Centro de Investigação em Estudos da Criança, Instituto de Educação, Universidade do Minho

Subunidade orgânica: Instituto de Educação, Universidade do Minho

### PARECER


A Subcomissão de Ética para as Ciências Sociais e Humanas (SECSH) analisou o processo relativo ao projeto intitulado *“Conceções e práticas de avaliação no Ensino Superior após a implementação do processo de Bolonha: Um estudo com professores universitários”*.

Os documentos apresentados revelam que o projeto obedece aos requisitos exigidos para as boas práticas na investigação com humanos, em conformidade com as normas nacionais e internacionais que regulam a investigação em Ciências Sociais e Humanas.

Face ao exposto, a SECSH nada tem a opor à realização do projeto.

Braga, 24 de outubro de 2016.

O Presidente

  
Digitally signed by PAULO  
MANUEL PINTO PEREIRA  
ALMEIDA MACHADO  
Date: 2016.10.24 22:40:31  
+01'00'

Paulo Manuel Pinto Pereira Almeida Machado

## Appendix II. Example of a research protocol and informed consent

### PROTOCOLO DE INVESTIGAÇÃO GRUPOS FOCAIS

#### **Conceções e práticas de avaliação no Ensino Superior após a implementação do processo de**

**Bolonha:** Um estudo com professores universitários

O projeto de investigação em curso pretende estudar e compreender as conceções e práticas de avaliação no Ensino Superior após a implementação do Processo de Bolonha, numa universidade pública portuguesa. Trata-se de um projeto de investigação no âmbito do Doutoramento em Ciências da Educação, especialidade em Desenvolvimento Curricular, financiado pela Fundação para a Ciência e a Tecnologia (FCT) (SFRH/BD/103291/2014), para o período compreendido entre 2015 e 2019, e sob orientação da Professora Doutora Maria Assunção Flores. São participantes neste estudo docentes de uma instituição de Ensino Superior pública, com mais de 15 anos de experiência no Ensino Superior, de todas as categorias profissionais e ciclos de ensino, das seguintes áreas científicas: Ciências Exatas, Ciências da Engenharia e da Tecnologia, Ciências Médicas e da Saúde, Humanidades e Ciências Sociais. Mais especificamente, o projeto de investigação tem como objetivos:

- Conhecer as conceções dos docentes acerca da avaliação das aprendizagens no Ensino Superior;
- Identificar os métodos de avaliação das aprendizagens mais utilizados no Ensino Superior a partir das perspetivas dos docentes de várias áreas do conhecimento;
- Analisar as implicações da implementação do processo de Bolonha nas práticas de avaliação dos docentes universitários de várias áreas do conhecimento;
- Desenvolver um projeto de intervenção/formação com docentes do Ensino Superior no sentido de analisar e implementar métodos alternativos de avaliação;
- Avaliar os efeitos do projeto de intervenção/formação em termos de formação pedagógica de docentes, numa perspetiva de desenvolvimento profissional e de co-formação em articulação com a prática pedagógica, nomeadamente as práticas de avaliação.

Trata-se de um estudo que está a ser realizado no âmbito do Centro de Investigação em Estudos da Criança da Universidade do Minho (CIEC). Os dados serão recolhidos ao longo de três fases de investigação, através da aplicação de inquéritos por questionário, através da realização de grupos focais com recurso a guiões de entrevista semidiretiva e, por fim, através da realização de um projeto de intervenção/formação pedagógica com vista ao desenvolvimento de estratégias de interação e análise das potencialidades e limitações de vários métodos de avaliação e suas implicações ao nível dos processos de ensino e de aprendizagem. Os dados obtidos com os inquéritos por questionário serão analisados com recurso ao SPSS (*Statistical Package for Social Sciences*) e os dados obtidos com os grupos focais com recurso à análise de conteúdo.

Quanto às questões éticas de investigação, será garantido o anonimato dos participantes e das instituições envolvidas, bem como a confidencialidade dos dados obtidos, sendo os mesmos utilizados apenas para efeitos de

investigação. No caso da sua publicação, na íntegra ou de apenas alguns excertos, recorrer-se-á ao uso de nomes fictícios ou códigos para representar os participantes e as instituições públicas de Ensino Superior que integrarão o estudo. Respeitar-se-ão questões como a autorização prévia e o consentimento informado, com especial ênfase na comunicação da natureza, dos objetivos do estudo, do processo investigativo e do papel do investigador. Respeitar-se-ão, ainda, questões como a adesão voluntária ao projeto, o respeito pelos direitos dos participantes, clarificando riscos e benefícios da participação no estudo, podendo os participantes abandonar o estudo a qualquer momento, se assim o desejarem. Aquando da realização dos grupos focais não será esquecida a questão da autorização da gravação e da explicitação das regras de transcrição dos dados.

Os participantes terão a garantia de acesso aos resultados da investigação.

**Neste sentido, convidamo-lo(a) a participar num grupo focal, com recurso a guião de entrevista semiestruturada (fase I do estudo), que explora questões sobre as conceções e práticas de avaliação no Ensino Superior após a implementação do processo de Bolonha. Caso manifeste interesse em participar, solicitamos autorização para a gravação áudio do grupo focal, que será guardada por um período de cinco anos após a conclusão do projeto, com a garantia de que serão respeitadas as regras de transcrição de dados.**

Agradecemos a sua colaboração no estudo, estando disponíveis para esclarecimentos adicionais.

A investigadora

Eva Fernandes  
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Tlm: 960272817

**FORMULÁRIO DE CONSENTIMENTO INFORMADO**  
**GRUPOS FOCAIS**

**Conceções e práticas de avaliação no Ensino Superior após a implementação do processo de**

**Bolonha:** Um estudo com professores universitários

Após ler as indicações acima referidas, declaro que aceito participar de livre vontade no estudo financiado pela Fundação para a Ciência e a Tecnologia (FCT) (SFRH/BD/103291/2014), da autoria de Eva Fernandes (Doutoranda do Instituto de Educação da Universidade do Minho), orientada pela Professora Doutora Maria Assunção Flores (Professora Associada com Agregação do Instituto de Educação da Universidade do Minho), no âmbito do projeto de doutoramento em Ciências da Educação, especialidade em Desenvolvimento Curricular, intitulado “Conceções e práticas de avaliação no Ensino Superior após a implementação do processo de Bolonha: Um estudo com professores universitários”.

Foram-me explicados e compreendi os objetivos principais deste estudo e as questões éticas de investigação. **Neste sentido, entendi e aceito participar na fase I do projeto, nomeadamente num grupo focal, com recurso a guião de entrevista semiestruturada, que explora questões sobre as conceções e práticas de avaliação no Ensino Superior após a implementação do processo de Bolonha.**

Compreendo que a minha participação neste estudo é voluntária, podendo desistir a qualquer momento, sem que essa decisão se reflita em qualquer prejuízo para mim. Tendo compreendido as regras de transcrição de dados, autorizo que o grupo focal em que participo seja gravado em áudio e que essa gravação seja guardada por um período de cinco anos após a conclusão do projeto.

Entendo, ainda, que toda a informação obtida neste estudo será estritamente confidencial e que a minha identidade nunca será revelada em qualquer relatório ou publicação, ou a qualquer pessoa não relacionada diretamente com este estudo.

O/A participante

A investigadora

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Eva Fernandes  
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Braga, setembro de 2017

## E-mail sent to programme coordinators/supervisors (example)

**Assunto:** Pedido de Colaboração - Questionário sobre conceções e práticas de avaliação no Ensino Superior após o Processo de Bolonha - a visão dos diretores de Curso

Exmo/a Sr./<sup>a</sup> Diretor/a de Curso,

Chamo-me Eva Fernandes e sou aluna do Doutoramento em Ciências da Educação, Especialidade em Desenvolvimento Curricular, do Instituto de Educação da Universidade do Minho, no âmbito do qual estou a desenvolver o projeto: "**Conceções e práticas de avaliação no Ensino Superior após a implementação do Processo de Bolonha: Um estudo com professores universitários**" (financiado pela FCT com a referência SFRH/BD/103291/2014) e orientado pela Professora Maria Assunção Flores.

Este estudo insere-se num projeto de investigação mais amplo intitulado ***Assessment in Higher Education: the Potential of Alternative Methods*** (financiado pela FCT com a referência PTDC/MHCCED/2703/2014) tendo como objetivo principal compreender as metodologias de avaliação no Ensino Superior após a implementação do Processo de Bolonha.

Numa fase inicial do projeto foram realizados grupos focais e um inquérito por questionário junto de docentes universitários. Nesta fase de investigação, pretendemos auscultar os diretores de curso, através de **um breve questionário sobre metodologias de avaliação mais frequentes.**

**Assim, gostaria de convidá-lo/a a participar nesta fase de investigação respondendo a um questionário que terá como destinatários diretores/responsáveis dos cursos de Licenciatura, Mestrado Integrado, Mestrado, Doutoramento e Programas Doutorais das seguintes áreas científicas: Ciências Exatas, Ciências da Engenharia e da Tecnologia, Ciências Médicas e da Saúde, Ciências Sociais e Humanidades.**

O questionário é de preenchimento rápido (cerca de 10 minutos). Estão garantidos os princípios éticos inerentes à investigação na área das Ciências Sociais e Humanas (ver parecer da Subcomissão de Ética para as Ciências Sociais e Humanas n.º SECSH 036/2016 em anexo).

**A data limite para preenchimento do questionário é dia \_\_\_\_\_ . Por favor clique no link abaixo:**

[https://docs.google.com/forms/d/1o0J2nkXFNzmXwabSdw1cSf9iFpRZRKJ2-6\\_sX8fCH-U/prefill](https://docs.google.com/forms/d/1o0J2nkXFNzmXwabSdw1cSf9iFpRZRKJ2-6_sX8fCH-U/prefill)

Estou disponível para esclarecer qualquer dúvida que possa surgir através dos contactos que junto a este *email* ou pessoalmente.

Grata pela colaboração.

Com os melhores cumprimentos,

\_\_\_\_\_  
Eva Fernandes

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## Appendix III. Questionnaire – University teachers (Sub-Study 1)



### QUESTIONÁRIO SOBRE CONCEÇÕES DE AVALIAÇÃO

O presente questionário insere-se no âmbito do projeto "Assessment in Higher Education: the potential of alternative methods" (financiado pela Fundação para a Ciência e Tecnologia – com a referência PTDC/MHCCED/2703/2014), que tem como finalidade conhecer conceções e práticas de avaliação utilizados no Ensino Superior. Trata-se de um inventário de conceções de avaliação no Ensino Superior Português, adaptado do original "Teachers' Conceptions of Assessment (TCoA III)" (Brown, 2006), da Universidade de Auckland, Nova Zelândia, e validado no contexto português (Gonçalves, 2012). Este questionário integra ainda uma parte com base no "Questionário sobre Avaliação das Aprendizagens no Ensino Superior" da autoria da Doutora Diana Pereira (2011).

A sua participação é voluntária, o anonimato e a confidencialidade são salvaguardados, cabendo-lhe a decisão de participar ou desistir a qualquer momento, sem necessidade de qualquer explicação e sem qualquer consequência.

A sua colaboração é extremamente importante, pois só com ela se poderá dar continuidade ao estudo.

Agradecemos a sua colaboração.

[Este trabalho é financiado por Fundos Nacionais através da FCT (Fundação para a Ciência e a Tecnologia) e cofinanciado pelo Fundo Europeu de Desenvolvimento Regional (FEDER) através do COMPETE 2020 – Programa Operacional Competitividade e Internacionalização (POCI) no âmbito do CIEC (Centro de Investigação em Estudos da Criança da Universidade do Minho) com a referência POCI-01-0145-FEDER-007562 e no âmbito do projeto "Assessment in Higher Education: the potential of alternative methods", com a referência PTDC/MHCCED/2703/2014]



### I. DADOS BIOGRÁFICOS

1. **Sexo** Masculino  Feminino

2. **Selecione a opção correspondente à sua idade**

- |               |                          |
|---------------|--------------------------|
| [Menos de 30] | <input type="checkbox"/> |
| [30 - 35]     | <input type="checkbox"/> |
| [36 - 40]     | <input type="checkbox"/> |
| [41 - 45]     | <input type="checkbox"/> |
| [46 - 50]     | <input type="checkbox"/> |
| [51 - 60]     | <input type="checkbox"/> |
| [mais de 60]  | <input type="checkbox"/> |

3. **Categoria profissional**

- |                                   |                          |
|-----------------------------------|--------------------------|
| Professor Catedrático             | <input type="checkbox"/> |
| Professor Associado com Agregação | <input type="checkbox"/> |
| Professor Associado               | <input type="checkbox"/> |
| Professor Auxiliar com Agregação  | <input type="checkbox"/> |
| Professor Auxiliar                | <input type="checkbox"/> |
| Professor Assistente              | <input type="checkbox"/> |
| Professor Assistente Estagiário   | <input type="checkbox"/> |
| Outro Qual?                       | <input type="checkbox"/> |

4. Grau académico		
Agregação	Qual?	<input type="checkbox"/>
Doutoramento		<input type="checkbox"/>
Mestrado		<input type="checkbox"/>
Licenciatura		<input type="checkbox"/>
Bacharelato		<input type="checkbox"/>
Outro		<input type="checkbox"/>
Qual?		<input type="checkbox"/>

5. Anos de experiência como professor/a universitário/a		
Entre 1 e 5 anos		<input type="checkbox"/>
Entre 6 e 14 anos		<input type="checkbox"/>
Entre 15 e 25 anos		<input type="checkbox"/>
Mais de 25 anos		<input type="checkbox"/>

6. Ciclo(s) em que leciona		
1º Ciclo (Licenciatura)		<input type="checkbox"/>
2º Ciclo (Mestrado)		<input type="checkbox"/>
Mestrado Integrado		<input type="checkbox"/>
3º Ciclo (Doutoramento)		<input type="checkbox"/>
Outro		<input type="checkbox"/>
Qual?		<input type="checkbox"/>

7. Possui formação pedagógica?		
Não possuo formação pedagógica		<input type="checkbox"/>
Algumas horas em ações de curta duração		<input type="checkbox"/>
Se selecionou esta questão, por favor, indique a temática		
1 a 2 dias de formação em Workshops ou Seminários		<input type="checkbox"/>
Se selecionou esta questão, por favor, indique a temática		
Curso de Pós-graduação		<input type="checkbox"/>
Se selecionou esta questão, por favor, indique a temática		
Outro		<input type="checkbox"/>
Qual?		<input type="checkbox"/>



**II. CONCEÇÕES SOBRE AVALIAÇÃO**
**INVENTÁRIO DE CONCEÇÕES DE AVALIAÇÃO**

Por favor, responda às questões com base na sua opinião e experiência de avaliação das aprendizagens no Ensino Superior, indicando o grau de concordância ou discordância em relação a cada uma das afirmações que se seguem, assinalando uma das opções da seguinte escala:

1 - *Discordo completamente*; 2 - *Discordo*; 3 - *Nem concordo nem discordo*; 4 - *Concordo*; 5 - *Concordo completamente*.

	1 <i>Discordo completamente</i>	2 <i>Discordo</i>	3 <i>Nem concordo nem discordo</i>	4 <i>Concordo</i>	5 <i>Concordo completamente</i>
1. A avaliação das aprendizagens que realizo proporciona informação sobre o funcionamento da instituição em que trabalho.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Avaliar os estudantes implica inseri-los em categorias pré-definidas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. A avaliação das aprendizagens que realizo é uma forma de determinar o que os estudantes aprenderam do que foi ensinado.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. A avaliação das aprendizagens que realizo fornece <i>feedback</i> aos estudantes sobre o seu desempenho.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. A avaliação das aprendizagens que realizo está articulada com o ensino.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Considero fidedignos os resultados que obtenho da avaliação das aprendizagens que realizo.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. A avaliação das aprendizagens que realizo é congruente com as minhas crenças pedagógicas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Realizo as avaliações das aprendizagens e faço uso dos resultados no processo de planificação.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Os resultados da avaliação das aprendizagens devem ser tratados com cautela por causa das imprecisões metodológicas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. A avaliação das aprendizagens que realizo é um indicador da qualidade da instituição em que trabalho.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Avaliar é atribuir um determinado nível ao desempenho dos estudantes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. A avaliação das aprendizagens permite-me tirar conclusões sobre a expressão das prováveis aprendizagens dos estudantes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. A avaliação das aprendizagens que realizo fornece <i>feedback</i> aos estudantes sobre as suas necessidades de aprendizagem.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Os resultados da avaliação das aprendizagens que realizo permitem introduzir ajustamentos nas minhas práticas pedagógicas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Os resultados da avaliação das aprendizagens que realizo são consistentes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. A avaliação das aprendizagens que realizo é justa para os estudantes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Os resultados da avaliação das aprendizagens que realizo são inconsequentes pedagogicamente.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Devo ter em conta os erros e as imprecisões na avaliação das aprendizagens que realizo.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Os resultados da avaliação das aprendizagens devem ser os únicos fatores para fazer <i>rankings</i> das instituições.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. A avaliação das aprendizagens que realizo determina se os padrões de desempenho estabelecidos foram alcançados.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. A avaliação das aprendizagens permite-me concluir sobre a expressão das prováveis competências metacognitivas dos estudantes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. A avaliação das aprendizagens que realizo ajuda os estudantes a melhorarem a sua aprendizagem.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. A avaliação das aprendizagens que realizo permite que diferentes estudantes obtenham diferentes tipos de instrução/ensino.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. Os resultados da avaliação das aprendizagens que realizo são confiáveis.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. A avaliação das aprendizagens que realizo interfere positivamente no processo de ensino.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. A avaliação das aprendizagens que realizo tem impacto pedagogicamente positivo.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. A avaliação das aprendizagens que realizo é um processo impreciso.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Na sua prática enquanto professor/a do Ensino Superior, que métodos de avaliação utiliza com mais frequência?**

Responda utilizando a seguinte escala:

1 – Nada utilizados; 2 – Pouco utilizados; 3 – Bastante utilizados; 4 – Muito utilizados.

	1 <i>Nada utilizados</i>	2 <i>Pouco utilizados</i>	3 <i>Bastante utilizados</i>	4 <i>Muito utilizados</i>
1. Testes/Exames escritos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Testes/Exames orais	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Portefólios coletivos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Portefólios individuais	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Trabalhos práticos ou experimentais individuais	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Trabalhos práticos ou experimentais em grupo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Projeto realizado individualmente	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Projeto realizado em grupo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Relatórios individuais	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Relatórios em grupo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Reflexões escritas individuais	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Reflexões escritas em grupo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Apresentações orais individuais	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Apresentações orais em grupo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outro(s). Qual(quais)?				

**Dos métodos que assinalou anteriormente, que importância atribui a cada um deles?**

Responda utilizando a seguinte escala:

0 – Não se aplica; 1 – Nada importante; 2 – Pouco importante; 3 – Importante; 4 – Muito importante.

	0 <i>Não se aplica</i>	1 <i>Nada importante</i>	2 <i>Pouco importante</i>	3 <i>Importante</i>	4 <i>Muito importante</i>
1. Testes/Exames escritos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Testes/Exames orais	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Portefólios coletivos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Portefólios individuais	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Trabalhos práticos ou experimentais individuais	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Trabalhos práticos ou experimentais em grupo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Projeto realizado individualmente	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Projeto realizado em grupo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Relatórios individuais	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Relatórios em grupo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Reflexões escritas individuais	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Reflexões escritas em grupo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Apresentações orais individuais	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Apresentações orais em grupo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outro(s). Qual(quais)?					

Tendo em conta as características da avaliação das aprendizagens que realiza, indique em que medida utiliza alguma das práticas que a seguir se descrevem.

Responda utilizando a seguinte escala:

1 - Nunca; 2 - Raramente; 3 - Muitas vezes; 4 - Sempre.

	1 Nunca	2 Raramente	3 Muitas vezes	4 Sempre
1. A avaliação das aprendizagens fornece-me informação útil sobre a compreensão dos estudantes acerca do que foi ensinado.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Utilizo a informação que obtenho da avaliação das aprendizagens dos meus alunos na planificação de futuras atividades.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. As práticas de avaliação das aprendizagens que desenvolvo são determinadas mais pelo plano curricular do que pela análise daquilo que os estudantes têm vindo a desenvolver no curso ou nas aulas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. A ênfase da avaliação das aprendizagens que realizo centra-se naquilo que os estudantes sabem, compreendem e fazem dos objetivos curriculares.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. O <i>feedback</i> que os estudantes recebem ajuda-os a melhorar.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Forneço informação aos estudantes sobre o seu desempenho em comparação com os restantes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Dou oportunidade aos estudantes de decidirem os seus próprios objetivos de aprendizagem.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Uso o questionamento para identificar os conhecimentos dos estudantes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Tenho em consideração as melhores práticas de avaliação das aprendizagens que um docente pode utilizar.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. As minhas práticas de avaliação das aprendizagens ajudam os estudantes a aprenderem autonomamente.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Forneço informação aos estudantes sobre o seu desempenho em comparação com a sua performance anterior.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Os objetivos de aprendizagem dos estudantes são discutidos de modo a que eles os compreendam.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. A avaliação do desempenho dos estudantes consiste, primariamente, em atribuir uma nota.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Forneço orientações que ajudam o estudante a avaliar o seu próprio desempenho.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Identifico os pontos fortes dos estudantes e aconselho-os sobre como os devem potenciar.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Auxilio os estudantes a identificarem as suas necessidades de aprendizagem.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Os estudantes são encorajados a identificar os seus erros como valiosas oportunidades de aprendizagem.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Os estudantes são auxiliados a pensar sobre como aprendem melhor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Uso o questionamento para identificar as explicações/justificações dos estudantes em relação ao seu desempenho.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Forneço orientações que ajudam os estudantes a avaliar as aprendizagens dos outros.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Os erros dos estudantes são valorizados pelas evidências que fornecem sobre o seu pensamento.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. Os estudantes são auxiliados a compreender os objetivos de aprendizagem de cada atividade ou de um conjunto de atividades desenvolvidas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. A avaliação das aprendizagens dos estudantes é maioritariamente feita sob a forma de comentários.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. Os objetivos de aprendizagem dos estudantes são determinados principalmente pelo plano curricular.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. Forneço orientações que ajudam os estudantes a avaliar as suas aprendizagens.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. Os estudantes são auxiliados a planear os próximos passos das suas aprendizagens.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. O esforço dos estudantes é importante para a avaliação das suas aprendizagens.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. Os critérios de avaliação das aprendizagens são discutidos com os estudantes de modo a que eles os compreendam.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. Dou oportunidade aos estudantes para avaliarem o desempenho dos outros.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. Discuto regularmente com os estudantes formas de promover as aprendizagens.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Ao longo da sua carreira como professor/a universitário/a alterou a forma como avalia os seus alunos?**

Sim	<input type="checkbox"/>
Não	<input type="checkbox"/>
Talvez	<input type="checkbox"/>

Por favor, justifique a sua resposta:

**Tendo em conta a sua opinião e experiência, considera que a implementação do processo de Bolonha contribuiu para a mudança das práticas de avaliação no Ensino Superior?**

Sim	<input type="checkbox"/>
Não	<input type="checkbox"/>
Talvez	<input type="checkbox"/>

Porquê?

#### Comentários

Se quiser deixar um comentário sobre este tema, por favor, use este espaço.

Se desejar conhecer os resultados deste estudo, por favor, entre em contacto por e-mail.

Muito obrigada pela sua colaboração! Pela Equipa de Investigação:

Maria Assunção Flores, Universidade do Minho

Cláudia Pinheiro, Universidade do Minho

Diana Pereira, Universidade do Minho

Eva Fernandes, Universidade do Minho

Patricia Santos, Universidade do Minho

**E-mail para contacto: [aflores@ie.uminho.pt](mailto:aflores@ie.uminho.pt)**

## Teachers' conceptions of assessment questionnaire translation

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### TEACHERS' CONCEPTIONS OF ASSESSMENT QUESTIONNAIRE

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#### SCALE

**1 - Strongly disagree | 2 – Disagree | 3 - Neither agree nor disagree | 4 – Agree | 5 - Strongly agree**

*1 - Discordo Completamente | 2 - Discordo | 3 - Nem Concordo Nem Discordo | 4 - Concordo | 5 - Concordo Completamente*

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**1. Assessment that I do provides information on how well my institution is doing**

*A avaliação das aprendizagens que realizo proporciona informação sobre o funcionamento da instituição em que trabalho*

**2. Assessment places students into predefined categories**

*Avaliar os estudantes implica inseri-los em categorias pré-definidas*

**3. Assessment that I do is a way to determine how much students have learned from teaching**

*A avaliação das aprendizagens que realizo é uma forma de determinar o que os estudantes aprenderam do que foi ensinado*

**4. Assessment that I do provides feedback to students about their performance**

*A avaliação das aprendizagens que realizo fornece feedback aos estudantes sobre o seu desempenho*

**5. Assessment that I do is integrated with teaching practice**

*A avaliação das aprendizagens que realizo está articulada com o ensino*

**6. The results obtained from the assessment that I do are trustworthy**

*Considero fidedignos os resultados que obtenho da avaliação das aprendizagens que realizo*

**7. Assessment that I do is congruent with my pedagogical beliefs**

*A avaliação das aprendizagens que realizo é congruente com as minhas crenças pedagógicas*

**8. I do assessments and I make use of the results**

*Realizo as avaliações das aprendizagens e faço uso dos resultados no processo de planificação*

**9. Assessment results should be treated cautiously because of measurement error**

*Os resultados da avaliação das aprendizagens devem ser tratados com cautela por causa das imprecisões metodológicas*

**10. Assessment that I do is an accurate indicator of my institution's quality**

*A avaliação das aprendizagens que realizo é um indicador da qualidade da instituição em que trabalho*

**11. Assessment is assigning a grade or level to student work**

*Avaliar é atribuir um determinado nível ao desempenho dos estudantes*

**12. Assessment allows me to identify what students have learned**

*A avaliação das aprendizagens permite-me concluir sobre a expressão das prováveis aprendizagens dos estudantes*

**13. Assessment that I do feeds back to students their learning needs**

*A avaliação das aprendizagens que realizo fornece feedback aos estudantes sobre as suas necessidades de aprendizagem*

**14. The results from the Assessment that I do modifies ongoing teaching of students**

*Os resultados da avaliação das aprendizagens que realizo permitem ajustamentos nas minhas práticas pedagógicas*

**15. The results from the Assessment that I do are consistent**

*Os resultados da avaliação das aprendizagens que realizo são consistentes*

**16. Assessment that I do is fair to students**

*A avaliação das aprendizagens que realizo é justa para os estudantes*

**17. The results from the Assessment that I do are pedagogically ignored/irrelevant**

*Os resultados da avaliação das aprendizagens que realizo são inconsequentes pedagogicamente*

**18. I should take into account the error and imprecision in the assessment that I do**

*Devo ter em conta os erros e as imprecisões na avaliação das aprendizagens que realizo*

**19. The results from assessment should be the only factors to evaluate and do ranking institutions**

*Os resultados da avaliação das aprendizagens devem ser os únicos fatores para fazer rankings das instituições*

**20. Assessment that I do determines if students meet qualifications standards**

*A avaliação das aprendizagens que realizo determina se os padrões de desempenho estabelecidos foram alcançados*

**21. Assessment allow me to identify students' metacognitive competences**

*A avaliação das aprendizagens permite-me concluir sobre a expressão das prováveis competências metacognitivas dos estudantes*

**22. Assessment that I do helps students improve their learning**

*A avaliação das aprendizagens que realizo ajuda os estudantes a melhorarem a sua aprendizagem*

**23. Assessment that I do allows different students to get different instruction**

*A avaliação das aprendizagens que realizo permite que diferentes estudantes obtenham diferentes tipos de instrução/ensino*

**24. The results from the assessment that I do are reliable**

*Os resultados da avaliação das aprendizagens que realizo são confiáveis*

**25. Assessment that I do interferes positively with teaching**

*A avaliação das aprendizagens que realizo interfere positivamente no processo de ensino*

**26. Assessment that I do has a positive impact on teaching**

*A avaliação das aprendizagens que realizo tem impacto pedagogicamente positivo*

**27. Assessment that I do is an imprecise process**

*A avaliação das aprendizagens que realizo é um processo impreciso*

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**Note.** Translation and cultural adaptation from TCoA III (Brown, 2006a) and Conceptions' of Assessment Inventory (CAI) (Gonçalves, 2011, 2016)

## Appendix IV. Focus group – University teachers (Sub-Study 1)

### Guião de entrevista semidiretiva

#### Grupos focais - DOCENTES

**Contexto do grupo focal:** Projeto de doutoramento (SFRH/BD/103291/2014) intitulado *Conceções e práticas de avaliação no Ensino Superior após a implementação do processo de Bolonha: Um estudo com professores universitários (2015/2019)*, com o objetivo de estudar e compreender as conceções e práticas de avaliação no Ensino Superior após a implementação do processo de Bolonha em universidades públicas portuguesas..

**Participantes no grupo focal:** Docentes do Ensino Superior (mais de 15 anos de experiência, de todas as categorias profissionais e ciclos de ensino, das seguintes áreas científicas: Ciências Exatas, Ciências da Engenharia e da Tecnologia, Ciências Médicas e da Saúde, Humanidades e Ciências Sociais).

#### Objetivos do grupo focal:

- Conhecer as conceções dos docentes acerca da avaliação das aprendizagens no Ensino Superior;
- Conhecer as práticas de avaliação das aprendizagens no Ensino Superior;
- Compreender os atuais desafios da avaliação no Ensino Superior na perspetiva dos docentes;
- Conhecer as motivações atuais e as perceções futuras dos docentes;
- Conhecer possíveis mudanças na avaliação das aprendizagens do Ensino Superior no período pós Bolonha;
- Compreender as conceções de avaliação das aprendizagens do Ensino Superior dos docentes do Ensino Superior;
- Compreender modos de organização do processo de ensino e de aprendizagem no Ensino Superior;
- Conhecer metodologias de avaliação utilizadas no contexto do Ensino Superior;
- Compreender a relação entre avaliação e aprendizagem no contexto do Ensino Superior.

#### Caraterização dos participantes (dados biográficos)

- Sexo
- Idade
- Habilitações (licenciatura, mestrado, mestrado integrado, doutoramento, pós-doutoramento, agregação, cátedra)
- Formação e área do conhecimento
- Tempo de experiência como docente e tempo de experiência na universidade em questão
- Ano(s) e ciclos que leciona
- Cursos e unidades curriculares que leciona
- Departamento a que pertence
- Categoria profissional (prof. convidado, auxiliar, com agregação, catedrático...)
- Outros cargos ou funções

#### Guião da entrevista

Dimensões	Objetivos	Questões	Aspetos a ter em conta
<b>Conceções sobre avaliação no Ensino Superior</b>	<ul style="list-style-type: none"><li>- Conhecer as conceções dos docentes acerca da avaliação das aprendizagens no Ensino Superior;</li><li>- Conhecer as práticas de avaliação das aprendizagens no Ensino Superior;</li><li>- Compreender os atuais desafios da avaliação no Ensino Superior na perspetiva dos docentes.</li></ul>	<ul style="list-style-type: none"><li>• Quais são as metodologias de avaliação das aprendizagens que gosta ou gostaria de utilizar para avaliar as aprendizagens no ensino superior?</li><li>• De que formas(s) avalia os seus alunos? Quais as metodologias que privilegia?</li><li>• Gostaria de avaliar de outra forma?</li><li>• Tendo em conta a sua experiência enquanto professor e as mudanças introduzidas por Bolonha, quais são, atualmente, os maiores desafios na avaliação das aprendizagens do Ensino Superior? Porquê?</li></ul>	<i>Atuais desafios na avaliação das aprendizagens no Ensino Superior</i>

<b>Ser professor no Ensino Superior – percepções e motivações</b>	- Conhecer as motivações atuais e as percepções futuras dos docentes do Ensino Superior.	<ul style="list-style-type: none"> <li>• Como descreve a sua motivação neste momento (elevada, moderada, baixa, muito elevada, muito baixa)? Porquê?</li> <li>• Como evoluiu a sua motivação após a introdução das mudanças impostas por Bolonha? Porquê?</li> <li>• E a sua autoestima? E a sua confiança enquanto professor/a? Porquê?</li> <li>• Como perspetiva o seu futuro profissional? Porquê?</li> </ul>	<i>Motivação face à docência</i> <i>Percepções futuras: oportunidades e desafios</i>
<b>O processo de ensino e de aprendizagem no Ensino Superior</b>	Conhecer as mudanças no Ensino Superior no período pós Bolonha Compreender modos de organização do processo de ensino e de aprendizagem no Ensino Superior Compreender a relação entre avaliação e aprendizagem no contexto do Ensino Superior	<ul style="list-style-type: none"> <li>• Como se descreve enquanto professor?</li> <li>• Como descreve os docentes da sua Escola/Instituto? E da sua Universidade?</li> <li>• Considera que se registaram mudanças no trabalho docente após a implementação do processo de Bolonha? Se sim, em que sentido(s)?</li> <li>• Ao longo dos últimos anos (sobretudo após a implementação de Bolonha), mudou o modo como ensina? Porquê? Se sim, em que sentido(s)?</li> <li>• Na sua opinião Bolonha trouxe mudanças nas práticas de ensino aprendizagem dos professores da sua escola/instituto? E na Universidade? Se sim, em que sentido(s)?</li> <li>• No caso de existirem, essas mudanças tiveram repercussões na avaliação dos alunos? Porquê? Identifique as principais alterações.</li> <li>• E o seu relacionamento com os alunos? Como o descreve?</li> <li>• Como descreve a relação professor/aluno sua escola/instituto? E na sua Universidade?</li> </ul>	<i>Mudanças pós Bolonha</i> <i>Concepções de ensino e de aprendizagem dos docentes</i> <i>Corpo docente (características)</i> <i>Relação com os alunos</i>
<b>A avaliação das aprendizagens no Ensino Superior após Bolonha</b>	- Conhecer possíveis mudanças na avaliação das aprendizagens do Ensino Superior no período pós Bolonha - Compreender as concepções de avaliação das aprendizagens do Ensino Superior dos docentes do Ensino Superior - Conhecer metodologias de avaliação utilizadas no contexto do Ensino Superior	<ul style="list-style-type: none"> <li>• Como caracteriza a metodologia de avaliação que adota?</li> <li>• Na sua prática costuma negociar com os alunos? Se sim, em que momento(s)? De que forma? Se não, porquê?</li> <li>• Quais são as componentes que considera essenciais no processo de avaliação? Porquê?</li> <li>• Costuma usar <i>feedback</i> aos alunos? Se sim, Em que momento(s) e de que forma? (individual, coletivo, oral, escrito, outro...)</li> <li>• O que gostaria de melhorar no processo de avaliação das aprendizagens no Ensino Superior?</li> </ul>	Concepções de avaliação dos docentes Práticas de avaliação
<b>Relação entre as práticas de avaliação e a aprendizagem</b>	Compreender a relação entre avaliação e aprendizagem no contexto do Ensino Superior	<ul style="list-style-type: none"> <li>• Na sua opinião a aprendizagem dos alunos é influenciada pela forma como estes são avaliados? Porquê?</li> <li>• Se sim, de que forma?</li> <li>• Considera que a avaliação poderá potenciar a aprendizagem dos alunos do Ensino Superior? Se sim, de que forma?</li> <li>• Na sua opinião como é que os alunos poderão aprender melhor?</li> </ul>	Articulação entre os métodos de avaliação e a aprendizagem dos alunos do Ensino Superior.
<b>Conclusão:</b> Gostaria de acrescentar alguma questão, ou de fazer algum comentário que considere pertinente para a discussão desta temática?			



## Appendix V. Questionnaire – Programme coordinators/supervisors (Sub-Study 2)

### QUESTIONÁRIO SOBRE CONCEÇÕES E PRÁTICAS DE AVALIAÇÃO NO ENSINO SUPERIOR APÓS O PROCESSO DE BOLONHA - A VISÃO DOS DIRETORES DE CURSO

Este questionário realiza-se no âmbito do Projeto de doutoramento (SFRH/BD/103291/2014) intitulado Conceções e práticas de avaliação no Ensino Superior após a implementação do Processo de Bolonha: Um estudo com professores universitários (2015/2019).

Tem como objetivo conhecer as conceções e práticas de avaliação no Ensino Superior após a implementação do Processo de Bolonha nas universidades públicas portuguesas na perspetiva dos diretores e responsáveis de cursos/ciclos de estudo superiores.

O preenchimento do questionário demora cerca de 10 minutos, estando garantido o anonimato e a confidencialidade dos dados.

Por favor preencha o questionário até ao dia 23 de junho de 2018.

Muito obrigada pela sua participação.

Eva Fernandes  
ID 5783

[evalopesfernandes@gmail.com](mailto:evalopesfernandes@gmail.com)



Universidade do Minho  
Instituto de Educação  
Centro de Investigação em Estudos da Criança

**Por favor indique se aceita participar no Estudo:**

Aceito participar no estudo

Sim

**I – DADOS BIOGRÁFICOS** (por favor seleccione apenas uma opção)

**1.1 - Sexo**

Feminino

Masculino

**1.2 - Idade**

Menos de 30 anos

30-40 anos

41-50 anos

51-60 anos

Mais de 60 anos

**1.3 - Experiência como docente do Ensino Superior**

Menos de 5 anos

Entre 5 e 15 anos

Entre 15 e 25 anos

Mais de 25 anos

**1.4 - Experiência como coordenador/responsável de curso**

Menos de 1 ano

Entre 1 e 2 anos

Entre 2 e 5 anos

Entre 5 e 10 anos

Mais de 10 anos

**1.5 – Ciclo do curso que coordena/de que é responsável**

- |   |                       |
|---|-----------------------|
| 1.º Ciclo (Licenciatura)                            | <input type="radio"/> |
| Mestrado Integrado                                  | <input type="radio"/> |
| 2.º Ciclo (Mestrado)                                | <input type="radio"/> |
| 3.º Ciclo (Doutoramento e Programa de Doutoramento) | <input type="radio"/> |

**1.6 – Área Científica do curso que coordena/de que é responsável  
(área científica predominante)**

- |  |                       |
|--|-----------------------|
| Ciências Exatas                        | <input type="radio"/> |
| Ciências da Engenharia e da Tecnologia | <input type="radio"/> |
| Ciências Médicas e da saúde            | <input type="radio"/> |
| Ciências Sociais                       | <input type="radio"/> |
| Humanidades                            | <input type="radio"/> |

**II - CONCEÇÕES E PRÁTICAS DE AVALIAÇÃO NO ENSINO SUPERIOR - APÓS O PROCESSO DE BOLONHA - A VISÃO DOS DIRETORES DE CURSO**

**2.1 – Na sua opinião, considera as mudanças ocorridas no âmbito do processo de Bolonha** *(por favor selecione apenas uma opção):*

- Muito positivas
- Positivas
- Nem positivas nem negativas
- Negativas
- Muito negativas

**Por favor justifique a resposta à questão anterior.**

**2.2 – Na sua opinião, o Processo de Bolonha trouxe mudanças nas práticas de avaliação dos professores no curso que coordena/de que é responsável?** *(por favor selecione apenas uma opção)*

- Sim
- Não
- Talvez
- Não se aplica

**Por favor justifique a resposta à questão anterior.**

**2.3 – Quais são os métodos de avaliação predominantes no curso que coordena/de que é responsável?**

**2.4 – Quais são os pontos fortes das metodologias de avaliação dominantes no curso que coordena/de que é responsável? Por favor justifique.**

**2.5 – Na sua opinião, os objetivos dos programas das UC estão articulados com as metodologias de avaliação?** *(por favor selecione apenas uma opção)*

- Sim
- Não
- Talvez

**Por favor justifique a resposta à questão anterior.**

**2.6 – Promove, ao longo do ano, alguma reunião com os professores do curso para se discutir a avaliação?** *(por favor seleccione apenas uma opção)*

Sim

Não

**Porquê?**

**2.7 – Quais os aspetos que gostaria de melhorar no que concerne às metodologias de avaliação dominantes no curso que coordena/de que é responsável? Por favor justifique.**

**2.8 – Se quiser deixar um comentário sobre este tema, por favor, use este espaço.**

Muito obrigada pela sua colaboração.  
Eva Fernandes (evalopesfernandes@gmail.com)

## Appendix VI. Example of the monitoring instruments of the Intervention and training project (Sub-Study 3)

### GUIÃO ENTREVISTA INICIAL - DOCENTES

**CONTEXTO:** Projeto de doutoramento (SFRH/BD/103291/2014) intitulado *Conceções e práticas de avaliação no Ensino Superior após a implementação do Processo de Bolonha: Um estudo com professores universitários* (2015/2019), com o objetivo de compreender as conceções e práticas de avaliação no Ensino Superior após a implementação do Processo de Bolonha nas universidades públicas portuguesas.

**PARTICIPANTES:** Docentes do Ensino Superior da área científica das Ciências Sociais - área da formação de professores e da Educação

**OBJETIVOS:**

- Conhecer as conceções e práticas de avaliação das aprendizagens por parte docentes do Ensino Superior;
- Conhecer as metodologias de avaliação utilizadas no contexto das UC em análise;
- Identificar os principais desafios no campo da avaliação;
- Conhecer as motivações atuais e as perceções futuras dos docentes relativamente à avaliação.
- Compreender o modo como os docentes universitários veem a sua situação profissional presente e o seu desenvolvimento profissional futuro (Kelchtermans, 1995, 2009)

### I - CARATERIZAÇÃO DOS PARTICIPANTES (dados biográficos)

- Sexo
- Idade
- Grau académico mais elevado que possui (licenciatura, mestrado, mestrado integrado, doutoramento, pós-doutoramento, agregação, cátedra) e em que áreas
- Tempo total de experiência como docente e tempo de experiência na universidade em questão
- Categoria profissional (prof. convidado, auxiliar, com agregação, catedrático, outro...)
- Possui formação pedagógica?
- Ciclos em que leciona
- Outros cargos ou funções

### II - GUIÃO DA ENTREVISTA

1. Quais são os elementos que considera essenciais no processo de avaliação? Porquê?
2. Como caracteriza a sua forma/estilo de avaliar? Porquê?
3. Quais são as metodologias de avaliação das aprendizagens que utiliza com mais frequência para avaliar as aprendizagens dos estudantes no ensino superior?
4. Como caracterizaria a UC que leciona e que vai ser objeto de análise neste estudo?
5. Qual é a metodologia de avaliação que vai utilizar e porquê?
6. Como decide (que princípios, orientações, pressupostos ou modelos) a metodologia de avaliação?
7. Que balanço faz da metodologia de avaliação que tem adotado?
8. Como articula a forma como avalia os alunos e o modo como organiza o ensino e a aprendizagem dos alunos?
9. Quais são os principais desafios no processo de avaliação das aprendizagens no Ensino Superior?
10. O que gostaria de melhorar no processo de avaliação das aprendizagens no Ensino Superior?
11. Como se vê enquanto professora?
12. Como acha que os seus alunos a veem?
13. Quais são as suas expectativas para esta UC? Porquê?
14. *Gostaria de acrescentar alguma questão, ou de fazer algum comentário que considere pertinente para a discussão desta temática?*

## FICHA DE EXPECTATIVAS SOBRE AVALIAÇÃO - ESTUDANTES

Esta ficha inscreve-se num projeto de doutoramento em curso (SFRH/BD/103291/2014) em Ciências da Educação, especialidade em Desenvolvimento Curricular, intitulado *Conceções e práticas de avaliação no Ensino Superior após a implementação do Processo de Bolonha: Um estudo com professores universitários*. O projeto pretende compreender as conceções e práticas de avaliação no Ensino Superior após a implementação do Processo de Bolonha nas universidades públicas portuguesas. A presente ficha visa recolher dados sobre as atividades de avaliação da UC “designação da UC”. Solicitamos a sua participação, garantindo-se a confidencialidade e o anonimato dos dados. A sua colaboração é muito importante. Seja sincero/a para que as suas respostas descrevam efetivamente o que sente. É muito importante que responda a todas as questões.

**1. Sexo:** \_\_\_\_\_ **2. Idade:** \_\_\_\_\_ **3. Código (apenas do conhecimento do aluno):** \_\_\_\_\_

**4. Que ideias destaco desta primeira aula sobre o modo como se vai processar a avaliação nesta UC? Quais são as minhas primeiras impressões?**

**5. Quais são as minhas expectativas para esta UC? Porquê?**

**6. Que desafios vou encontrar? Como os vou superar?**

**7. Gostaria de acrescentar alguma questão, ou de fazer algum comentário que considere pertinente para a discussão desta temática? (por favor use o verso da folha)**

Muito obrigada pela colaboração.  
Eva Fernandes



## DISPOSITIVOS DE MONITORIZAÇÃO

### FICHA MONITORIZAÇÃO 2 – TEMA: DESENVOLVIMENTO DO TRABALHO INDIVIDUAL E DO TRABALHO DE GRUPO

Esta ficha inscreve-se num projeto de doutoramento em curso (SFRH/BD/103291/2014) em Ciências da Educação, especialidade em Desenvolvimento Curricular, intitulado *Conceções e práticas de avaliação no Ensino Superior após a implementação do Processo de Bolonha: Um estudo com professores universitários*. A presente ficha visa recolher dados sobre as atividades de avaliação da UC “designação da UC”.

Solicitamos a sua participação, garantindo-se a confidencialidade e o anonimato dos dados. A sua colaboração é muito importante. Seja sincero/a para que as suas respostas descrevam efetivamente o que sente. É muito importante que responda a todas as questões.

**Código** (apenas do conhecimento do aluno):

#### 1. Desenvolvimento do trabalho individual

Por favor responda ao seguinte conjunto de questões relacionadas com o desenvolvimento do trabalho individual

##### Por favor complete as frases

1.1) *A realização do trabalho individual permitiu-me...*



1.2) *Para realizar as tarefas/atividades propostas pela docente:  
Organizei o meu trabalho da seguinte forma...*

*Realizei as seguintes atividades...*



1.3) *Acho que **vou/não vou** (riscar o que não interessa) utilizar as aprendizagens que estou a realizar na minha prática futura porque...*



1.4) No desenvolvimento do trabalho individual senti as seguintes dificuldades:

Para superar essas dificuldades...



## 2. Desenvolvimento do trabalho de grupo

Por favor responda ao seguinte conjunto de questões relacionadas com o desenvolvimento do trabalho de grupo

### 2.1. Por favor identifique na tabela abaixo com que frequência o seu grupo de trabalho realizou cada uma das seguintes ações no desenvolvimento do trabalho de grupo:

	1. Nunca	2. Raramente	3. Não aplicável	4. Algumas vezes	5. Sempre
Realizámos pesquisa bibliográfica em fontes impressas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Realizámos pesquisa bibliográfica em fontes eletrónicas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Usámos manuais/livros de apoio para a realização do trabalho	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recorremos à docente sempre que tivemos dúvidas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Procurámos esclarecer as nossas dúvidas de forma autónoma	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Procurámos fontes alternativas de informação (e.g. internet)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trabalhámos para além do horário das aulas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Usámos fontes externas (livros, artigos...) para fundamentar o trabalho desenvolvido	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Definimos objetivos relativamente à planificação das aulas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Produzimos elementos capazes de estruturar as aulas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Produzimos elementos capazes de antecipar estratégias e dificuldades dos alunos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fundamentámos as nossas escolhas na literatura existente (fontes que pesquisamos)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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2.2) Quando analiso a dinâmica do meu grupo de trabalho identifico os seguintes... (por favor completar o esquema)



\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Pontos fortes...

Desafios...

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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2.3) A realização do trabalho coletivo permitiu-me...



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### 3. Comentários

3.1. Gostaria de acrescentar alguma questão, ou de fazer algum comentário que considere pertinente sobre o desenvolvimento dos trabalhos individuais e de grupo?

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Muito obrigada pela colaboração | Eva Fernandes

## FICHA DE AVALIAÇÃO FINAL

Esta ficha inscreve-se num projeto de doutoramento em curso (SFRH/BD/103291/2014) em Ciências da Educação, especialidade em Desenvolvimento Curricular, intitulado *Conceções e práticas de avaliação no Ensino Superior após a implementação do Processo de Bolonha: Um estudo com professores universitários*. A presente ficha visa recolher dados sobre as atividades de avaliação da Unidade Curricular “designação da UC”.

Solicitamos a sua participação, garantindo-se a confidencialidade e o anonimato dos dados. A sua colaboração é muito importante. Seja sincero/a para que as suas respostas descrevam efetivamente o que sente. É muito importante que responda a todas as questões.

**Código** (apenas do conhecimento do aluno):

1. Por favor identifique o grau de concordância que atribui a cada uma das afirmações relacionadas com a **avaliação das aprendizagens** realizadas no âmbito da unidade curricular:

	1. Discordo totalmente	2. Discordo	3. Não concordo nem discordo	4. Concordo	5. Concordo Totalmente
A metodologia de avaliação nesta unidade curricular foi justa	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A metodologia de avaliação nesta unidade curricular foi adequada	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A metodologia de avaliação nesta unidade curricular permitiu-me compreender os meus pontos mais e menos fortes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A metodologia de avaliação nesta unidade curricular é importante para a minha formação ao nível da metodologia do ensino da Matemática	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A metodologia de avaliação nesta unidade curricular possibilitou a articulação entre a teoria e a prática	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A metodologia de avaliação nesta unidade curricular permitiu a criação de instrumentos e ferramentas para o desenvolvimento da minha prática profissional	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
O trabalho em grupo nesta unidade curricular foi uma experiência positiva	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
O trabalho em grupo nesta unidade curricular foi uma mais-valia para o meu processo de formação	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
O trabalho individual nesta unidade curricular foi uma experiência positiva	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
O trabalho individual nesta unidade curricular foi uma mais-valia para o meu processo de formação	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
O teste ou exame realizado no âmbito desta unidade curricular foi uma experiência positiva	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
O teste ou exame realizado no âmbito desta curricular foi uma mais-valia para o meu processo de formação	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

A quantidade de elementos de avaliação foi adequada.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
As tarefas de avaliação realizadas foram complexas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
O apoio da docente foi importante para a realização das tarefas de avaliação	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
O apoio dos colegas da turma foi importante para a realização das tarefas de avaliação	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Globalmente, faço um balanço positivo da avaliação da unidade curricular	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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2. Por favor assinale a opção que melhor representa a sua prestação na unidade curricular:

Insuficiente	<input type="checkbox"/>
Satisfatório	<input type="checkbox"/>
Bom	<input type="checkbox"/>
Muito Bom	<input type="checkbox"/>
Excelente	<input type="checkbox"/>

3. Quais os principais desafios que identificou ao nível da avaliação das aprendizagens da unidade curricular?

4. O que fez para superar esses desafios?

5. Quais as principais potencialidades que identifica ao nível da metodologia da avaliação na unidade curricular?

6. Comentários/Sugestões de melhoria do processo de avaliação:

Muito obrigada pela colaboração | Eva Fernandes

## GUIÃO ENTREVISTA FINAL - DOCENTES

**CONTEXTO:** Projeto de doutoramento (SFRH/BD/103291/2014) intitulado *Conceções e práticas de avaliação no Ensino Superior após a implementação do Processo de Bolonha: Um estudo com professores universitários (2015/2019)*, com o objetivo de compreender as conceções e práticas de avaliação no Ensino Superior após a implementação do Processo de Bolonha nas universidades públicas portuguesas.

**PARTICIPANTES:** Docentes do Ensino Superior da área científica das Ciências Sociais - área da formação de professores e da Educação

**OBJETIVOS:**

- Conhecer as conceções e práticas de avaliação das aprendizagens por parte docentes do Ensino Superior;
- Conhecer as metodologias de avaliação utilizadas no contexto das UC em análise;
- Identificar os principais desafios no campo da avaliação;
- Conhecer as motivações atuais e as perceções futuras dos docentes relativamente à avaliação.
- Compreender o modo como os docentes universitários veem a sua situação profissional presente e o seu desenvolvimento profissional futuro (Kelchtermans, 1995, 2009)

1. Descreva (de forma sumária) como funcionou a UC que lecionou e que foi objeto de análise neste estudo? E a avaliação da UC? Houve alterações face à planificação inicial?
2. Que balanço faz do funcionamento da UC?
3. Que balanço faz da metodologia de avaliação da UC?
4. Quais foram os principais desafios que encontrou no processo de avaliação das aprendizagens da UC? O que fez para ultrapassar esses desafios?
5. O que gostaria de melhorar no processo de avaliação da UC (relativamente a este ano letivo)?
6. Na sua perspetiva qual a opinião dos alunos acerca do funcionamento da UC? E sobre a avaliação da UC?
7. Quais são as suas expectativas futuras para esta UC? Porquê?
8. *Gostaria de acrescentar alguma questão, ou de fazer algum comentário que considere pertinente?*

## GUIÃO GRUPO FOCAL - ESTUDANTES

**CONTEXTO:** Projeto de doutoramento (SFRH/BD/103291/2014) intitulado *Conceções e práticas de avaliação no Ensino Superior após a implementação do Processo de Bolonha: Um estudo com professores universitários (2015/2019)*, com o objetivo de compreender as conceções e práticas de avaliação no Ensino Superior após a implementação do Processo de Bolonha nas universidades públicas portuguesas.

**PARTICIPANTES:** Alunos do Ensino Superior da área científica das Ciências Sociais - área da formação de professores e da Educação

**OBJETIVOS:**

- Conhecer as conceções e práticas de avaliação das aprendizagens utilizadas pelos docentes do Ensino Superior na perspetiva dos estudantes;
- Conhecer as metodologias de avaliação utilizadas no contexto das UC em análise;
- Identificar os principais desafios no campo da avaliação na perspetiva dos estudantes;
- Conhecer as motivações atuais e as perceções futuras dos estudantes relativamente à avaliação;
- Conhecer o modo como os estudantes universitários veem a avaliação.

### I - CARATERIZAÇÃO DOS PARTICIPANTES (dados biográficos)

- Sexo
- Idade
- Percorso formativo (formação inicial, universidade, experiência na área da educação/formação, etc.)

### II - GUIÃO DO GRUPO FOCAL

1. Descrevam (de forma sumária) como funcionou a UC que foi objeto de análise neste estudo? E a avaliação da UC? Houve alterações face à planificação inicial?
2. Que balanço fazem do funcionamento da UC?
3. Que balanço fazem da metodologia de avaliação da UC?
4. Quais foram os principais desafios que encontraram no processo de avaliação das aprendizagens da UC? O que fizeram para ultrapassar esses desafios?
5. O que gostariam de melhorar no processo de avaliação da UC (relativamente a este ano letivo)?
6. O que diriam aos colegas do próximo ano sobre esta UC? E sobre a avaliação da UC?
7. *Gostariam de acrescentar alguma questão, ou de fazer algum comentário que considerem pertinente?*

## Appendix VII. Example of a synthesis shared with the ITP teacher and students (Sub-Study 3)

### RESUMO - FICHA DE EXPECTATIVAS SOBRE AVALIAÇÃO

CASE 1

N=25 (estudantes)



1. Ideias que os estudantes destacam da primeira aula (modo como se vai processar a avaliação da UC):

Categorias	f
Características da avaliação (Mais-valia/importância; justiça; qualidade e eficiência; adequação)	10
Componente reflexiva	9
Natureza das aulas e tarefas (articulação entre teoria e prática; orientações e instrumentos para o exercício da prática profissional)	7
Equilíbrio/Distribuição dos elementos de avaliação (cotações e percentagens; diversidade)	6
UC diferente (das outras UC); UC desafiante	4
Articulação entre a dimensão individual e coletiva	4
Avaliação como um processo "trabalhoso" e complexo	3
Trabalho colaborativo	3
Trabalho por portefólio (elemento interessante)	2
Desequilíbrio na distribuição dos elementos de avaliação (cotações e percentagens)	1
Avaliação ao longo do processo	1
Características (positivas) da docente	1
Existência de feedback	1

## PRÁTICAS DE AVALIAÇÃO DE PROFESSORES DO ENSINO SUPERIOR:

PROJETO DE INTERVENÇÃO/FORMAÇÃO

Doutoramento em Ciências da Educação – Especialidade em Desenvolvimento Curricular:

"Conceções e práticas de avaliação no Ensino Superior após a implementação do Processo de Bolonha: um estudo com professores universitários" (Ref. SFRH / BD / 103291/2014)





## 2. Expectativas dos estudantes face à UC:

<i>Categorias</i>	<i>f</i>
<i>Articulação/ preparação para a prática profissional</i>	19
<i>Articulação entre conceitos teóricos e a simulação da prática</i>	4
<i>Gosto pela área em estudo</i>	3
<i>Expectativas positivas</i>	3
<i>Consolidar/aprofundar conhecimentos/ aprendizagens significativas</i>	3
<i>Adequar atividades a cada um dos ciclos de ensino</i>	3
<i>Forte componente prática da UC</i>	2
<i>Melhorar a profissionalidade docente</i>	1
<i>Desenvolvimento do espírito crítico</i>	1

## 3. Identificação dos desafios:

<i>Categorias</i>	<i>f</i>
<i>Componente reflexiva</i>	7
<i>Articulação entre conceitos teóricos e a simulação da prática</i>	6
<i>Atingir os objetivos da UC</i>	2
<i>Construção do Portefólio</i>	2
<i>Gestão do tempo</i>	2
<i>Adequar atividades a cada um dos ciclos de ensino</i>	2
<i>Trabalhar em grupo</i>	2
<i>Volume de trabalho</i>	1
<i>Observação</i>	1
<i>Escolha do livro/texto</i>	1
<i>Criatividade/imaginação</i>	1
<i>Articulação entre os normativos e a simulação da prática</i>	1
<i>Superação pessoal</i>	1

## 4. Formas de superar os desafios:

<i>Categorias</i>	<i>f</i>
<i>Mobilização de conhecimentos/ articulação/desenvolvimento de ligações entre conceitos teóricos e a simulação da prática</i>	4
<i>Apoio da docente</i>	3
<i>Trabalho coletivo</i>	3
<i>Trabalho autónomo</i>	3
<i>Empenho (dar o meu melhor)</i>	3
<i>Melhor gestão do tempo</i>	2
<i>Sair da zona de conforto</i>	1
<i>Criatividade</i>	1

