



Universidade do Minho  
Instituto de Educação

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## Assessment in Higher Education and Quality of Learning: Perceptions, Practices and Implications

Assessment in Higher Education and Quality  
of Learning: Perceptions, Practices and  
Implications  
Diana Alexandra Ribeiro Pereira

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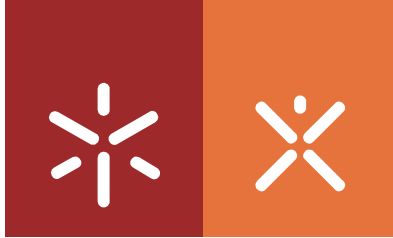
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**Universidade do Minho**  
Instituto de Educação

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## **Assessment in Higher Education and Quality of Learning: Perceptions, Practices and Implications**

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Especialidade em Desenvolvimento Curricular

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

janeiro de 2016

## DECLARAÇÃO DE INTEGRIDADE

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Universidade do Minho, 19 de fevereiro de 2016

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## Resumo

A avaliação desempenha um papel fundamental no processo de ensino e aprendizagem. A implementação do Processo de Bolonha no Ensino Superior despoletou mudanças nas universidades Europeias no que diz respeito ao currículo e à reorganização de programas com implicações para os processos de ensino, aprendizagem e avaliação.

O objetivo principal deste trabalho de investigação é compreender o modo como os professores e os alunos universitários percecionam o processo de avaliação no ensino superior. O estudo foi realizado em cinco universidades públicas Portuguesas e uma universidade Sueca, em diferentes áreas do conhecimento. O objetivo principal do estudo é contribuir para a melhoria da qualidade dos processos de ensino, aprendizagem e avaliação no ensino superior.

O *design* de investigação baseou-se numa abordagem mista, incluindo métodos qualitativos e quantitativos, com diferentes técnicas e procedimentos de recolha de dados. Foram utilizadas entrevistas presenciais e questionários abertos *online* com o objetivo de aprofundar as percepções dos professores universitários acerca da avaliação. O inquérito por questionário foi selecionado com o objetivo de conhecer as percepções de avaliação dos alunos universitários.

Os resultados sugerem que uma mudança de paradigma de uma abordagem centrada no professor para uma abordagem centrada no aluno é valorizada pelos professores universitários. Particularmente, uma avaliação centrada no aluno é entendida como positiva, uma vez que traz benefícios para o processo de aprendizagem. Para além disso, fomenta a avaliação formativa e o *feedback* sendo considerada como um processo de avaliação mais justo. A avaliação dita mais tradicional é entendida pelos professores universitários como tendo efeitos negativos, levando à memorização e representando poucos benefícios em relação à aprendizagem dos alunos.

Alguns professores universitários afirmam que mudaram as suas práticas de avaliação após a implementação do Processo de Bolonha. No entanto, os resultados revelam que o teste escrito continua a ser o método mais utilizado para avaliar os alunos. Esta tensão e contradição entre conceções e práticas de avaliação é explicada pela falta de recursos materiais e humanos, pela relação professor/aluno, pela sobrecarga de trabalho, pela falta de disponibilidade para o processo de avaliação, pelo tempo despendido para fazer investigação e pelos constrangimentos institucionais. Os resultados deste estudo também sugerem que a avaliação influencia o processo de ensino e de aprendizagem na perspetiva dos professores universitários. Os alunos universitários, tal como os professores universitários, percecionam a avaliação centrada no aluno

mais positiva do que a avaliação tradicional, uma vez que é mais justa, mais eficaz e mais positiva para a regulação do processo de aprendizagem. Pelo contrário, a avaliação tradicional é concebida pelos alunos universitários como menos eficaz, menos justa, promovendo uma abordagem superficial à aprendizagem e tendo um impacto negativo na qualidade da aprendizagem. No entanto, os alunos universitários também afirmam que o teste escrito é o método mais usado. Esta investigação constatou que as ideias que os alunos associam à avaliação estão relacionadas com os métodos de avaliação utilizados e as diferentes áreas de conhecimento. Em geral, a maioria dos alunos associa o teste/exame e as notas com a avaliação. Os resultados também sugerem que o *feedback* é entendido como mais relevante, eficaz e de uma forma mais positiva pelos alunos avaliados através de uma avaliação realizada através de métodos alternativos do que pelos alunos que são avaliados através de uma avaliação mais tradicional.

No que diz respeito a área de conhecimento, as Ciências Sociais e Humanas destacam-se das demais, uma vez que os professores que lecionam nesta área utilizam métodos mais centrados no aluno para avaliar e os alunos desta área associam ideias mais positivas à avaliação. Além disso, os professores que lecionam na área das Ciências Sociais e Humanas afirmam que já utilizavam métodos de avaliação centrados no aluno antes do Processo de Bolonha.

A investigação realizada no contexto sueco permitiu encontrar pequenas diferenças entre os dois sistemas de ensino superior. Particularmente, as percepções dos alunos universitários revelam diferenças no que diz respeito aos métodos e modos de avaliação mais utilizados e aos momentos em que ocorre a avaliação.

As implicações que emergiram dos resultados sugerem linhas de investigação para futuros estudos.



## Abstract

Assessment plays a key role in the teaching and learning process. It has gone through changes over time, due to different factors and influences. The implementation of the Bologna Process in Higher Education has brought about changes in European Universities in regard to curricula and programme restructuring with implications for teaching and learning processes as well as for assessment. Existing literature in this field suggests that a paradigm shift occurred changing the assessment practices leading to the emergence of new methods and strategies to assess students' learning.

The main purpose of this piece of research is to understand how university teachers and undergraduate students perceive the assessment process in higher education. Five Portuguese public universities and a Swedish university, in different fields of knowledge were included. The main purpose of the study is to contribute to improving the quality of teaching, learning and assessment processes in higher education.

The research design was based on a mixed method approach, including both qualitative and quantitative methods, focusing on different techniques and data collection procedures. Face to face interviews and online open-ended questionnaires were used in order to deepen the university teachers' perceptions of assessment. The questionnaire was selected in order to obtain a broad view of undergraduate students' perceptions of assessment.

Findings suggest that a paradigm shift from a teacher-centred approach towards a learner-centred approach promoted by the Bologna Process is appreciated by university teachers. Particularly, a learner-centred assessment is perceived as positive as it brings benefits to the learning process. It also enhances a formative assessment and feedback being considered as a fairer assessment process. On the contrary, the traditional assessment is perceived by university teachers as having negative effects, leading to memorisation and representing few gains in regard to students' learning.

University teachers claim they have changed their assessment practices after the implementation of the Bologna Process. However, this study found that the written test based on a summative assessment is the most used method to assess students. This contradiction between conceptions and practices of assessment is explained by the lack of material and human resources, the teacher/student ratio, heavy workload, lack of availability to the assessment process, time spent for doing research and institutional constraints. Findings from this study also suggest that

university teachers perceive assessment as influencing the teaching and learning process. The undergraduate students, as well as university teachers, perceived the learner-centred assessment more positive than the traditional assessment, one as it is fairer, more effective and more positive for the regulation of the learning process. In contrast, the traditional assessment is perceived by undergraduate students as less effective, less fair, promoting surface approaches to learning and having a negative impact on the quality of learning. Nevertheless, the undergraduate students also claim that the written test is the method most used. This research found that the ideas that students associate with assessment are related to assessment methods used and different areas of knowledge. In general, most of the students associated test/exam and grades with assessment. Findings also suggest that feedback is perceived as more relevant, effective and in a more positive way by students assessed through learner-centred assessment than students who are assessed through traditional assessment.

As far as the knowledge area is concerned, Social Sciences and Humanities stands out from the other areas as teachers claim that they use most learner-centred methods to assess and students associate more positive idea with assessment. Also, teachers who teach in Social Sciences and Humanities programmes claim that they used methods of assessment centred on the learner before the Bologna Process.

The research carried out in the Swedish context enabled to find minor changes between the two systems of higher education regarding students' perceptions about methods, modes and times of assessment.

The implications emerged from the findings suggest avenues for future research.

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## Abbreviations and Acronyms

A3ES – Agência de Avaliação e Acreditação do Ensino Superior

AEHE – Assessment and Evaluation in Higher Education

ECTS – European Credit Transfer and Accumulation System

EHEA – European Higher Education Area

ENQA - European Association for Quality Assurance in Higher Education

HE – Higher Education

LHS – Life and Health Sciences

NES – Natural and Environmental Sciences

SE – Sciences and Engineering

SPSS – Statistical Package for the Social Sciences

SSH – Social Sciences and Humanities



*À memória do meu pai.*





## Introduction

Assessment of students' learning has been a key focus of research on the higher education contexts (Sambell, McDowell, & Brown, 1997; Black & Wiliam, 1998; Struyven, Dochy, & Janssens, 2005; Pereira, Flores, & Niklasson, 2015). Considered as "the heart of students' experience" (Brown & Knight, 1994, p. 12) assessment influences the teaching and the learning process, as well all those who are involved in it (Snyder, 1971; Scouller, 1998; Rust, 2007). As Biggs (2003) argues "what and how students learn depends to a major extent on how they think they will be assessed. Assessment practices must send the right signals to students about what they should be learning and how they should be learning it" (p. 140). However, assessing is not an easy thing to do (Brown, Bull, & Pendelbury, 1997) it depends of understanding "its multiple purposes and how they are related, on our willingness to accept that all judgments about people's performance must involve human error, and how successfully we integrate the process of making judgments into the job of teaching" (Ramsden, 1996, p. 212). Combined with these issues, some external factors also bring implications for the assessment process. More specifically, in the European context, political, economical and social issues emerged and brought changes to the educational process. The implementation of the Bologna Process in European higher education contexts has changed the curricula and programmes within implications for teaching, learning and assessment processes. This new organisational structure, based on a new credit system (ECTS), boosted a paradigm shift from a teacher-centred approach towards a learner-centred approach. The teacher-centred paradigm assumes that teachers have a central role based on the knowledge transmission and the students as having a passive role based on the knowledge reproduction (Huba & Fred, 2000). This paradigm is based on the measurement model and assessment is a stand-alone activity that normally occurs in a couple weeks at the end of the year or semester. In addition, in this paradigm, assessment is separated from teaching and the marks and grades are emphasise through summative assessments and students are compared among themselves promoting competition (Attard, Dilorio, Geven, & Santa, 2010). It is recognised, however, that the traditional assessment methods such as the summative test or exam are appropriate in certain contexts and for certain purposes. In contrast, a learner-centred paradigm assumes that students have a central role, as active agents in the learning process, based on the knowledge construction through skills' development, with

teachers being facilitator of the process. In the learner-centred paradigm, teaching, learning and assessment are no longer separate but connected, and assessment is based on the promotion and diagnosis of learning through different methods such as papers, projects, and portfolios, amongst others (Huba & Freed, 2000).

Therefore, the assumptions of this new framework introduced by the Bologna Process are based on students' active learning comprising the whole work of training, contact hours, hours for field work, individual study and activities related to assessment. This process originated the emergence of new methodologies of teaching, learning and assessment based on a flexible curriculum. Although the Bologna Process is not solely the responsible for this paradigm shift, it helped to foster the process through different directives that assumed the use of a learner-centred approach rather than a teacher-centred approach (Leuven/Louvain-la-Neuve Communiqué, 2009; Bucharest Communiqué, 2012; Yerevan Communiqué, 2015). Even though recent research on learner-centred approach shows that this approach brings undoubted benefits for teaching, learning and assessment (Sursock & Smidt, 2010; Asikainen, Virtanen, Postareff, & Heino, 2014; Lea, Stephenson, & Troy, 2003). Attard et al. (2010) suggests that in a learner-centred assessment

“The best forms of assessment need to be aligned with set learning goals. Thus forms of assessment need to be used that show evidence of student achievement of the set learning outcomes. Otherwise students will not take such goals seriously. In addition, students should be clearly informed about the assessment strategy being used for their programme, what examinations or other assessment methods they will be subjected to, what will be expected of them and the criteria that will be applied to the assessment of their performance” (p. 31)

Amongst other features, in a learner-centred assessment the student is at the centre of the process, the knowledge construction is emphasised (Webber, 2012; Meyers & Meyers, 2014; Sin, 2015) and teachers use a variety of active methods (Struyven et al., 2005; Flores, Veiga Simão, Barros, & Pereira, 2015; Pereira et al., 2015;) enabling the skills' development (Sambell & McDowell, 1998; Fernandes, Flores, & Lima, 2012) promoting feedback and students' motivation (Gasiewski, Eagan, Garcia, Hurtado, & Chang, 2012; Huba & Freed, 2000). Thus, what is intended in this new scenario is that university teachers are creative in the use of

assessment practices, using various and different in their nature (Wen & Tsai, 2006). Special attention should be given to the assessment process as influences the way teachers teach and how the students learn. However, other studies suggest that the implementation of this assessment approach does not always lead to changes in the students' assessment perceptions and to the adoption of deep learning approaches (Segers, Gijbels & Thurlings, 2008).

Thus, and based on these assumptions, the motivation to carry out this research is due mainly to the intention to continue the research initially carried out in other contexts (Pereira, 2011; Pereira & Flores, 2012; Pereira & Flores, 2013; Flores et al., 2015.) and to try to respond to the research gaps in the field of assessment, through the voices of undergraduates students and university teachers regarding their perceptions about the assessment process in higher education.

Literature suggests the development of more empirical studies on assessment in order to contribute to improving the quality of the educational process regarding different issues (Brown, 2004; Rust, 2007; Watering, Gijbels, Dochy, & Rijt, 2008; Brown & Hirschfeld, 2008; Segers et al., 2008; Gilles, Detroz, & Blais, 2011; Flores et al., 2015; Pereira et al., 2015). Therefore, the presented research work aims, in general, to contribute to the improvement of the quality of teaching, learning and assessment processes in higher education. For this purpose five Portuguese public universities were included, covering different programmes from different areas of knowledge, through the university teachers' and undergraduate students' perceptions. The inclusion of different higher education institutions covering different areas of knowledge aimed at obtaining a broad view of a multiplicity of perceptions from the participants.

This research focuses mainly on assessment in higher education taking also into account the dimensions of learning and teaching. The following objectives were identified:

- To identify methodologies or assessment methods used in higher education from the perspectives of university teachers and students;
- To know the potential and difficulties in operationalising the assessment in higher education from the perspective of university teachers and students;
- To understand the relationship between assessment and learning from the perspective of university teachers and students;
- To analyse operational modes of assessment used by university teachers in the context of post-Bologna;

- To analyse the implications of different approaches and operational modes of assessment in terms of teaching and learning;
- To get to know the most used assessment methods in various Portuguese public institutions of higher education.

To achieve these objectives a methodological research plan was designed in order to conduct the research, regarding the collection and analysis of data. During the research, it appeared the possibility of holding a European PhD. Thus, a research was carried out over three months in a Swedish University under the supervision of Professor Laila Niklasson. The motivation for carrying out this work was primarily related to collect data in another European context. In this period of research it was intended to understand the assessment process in another European university, as well as to identify complementary information. Accordingly, a Swedish university was studied, covering different programmes from different areas of knowledge, through the undergraduate students' perceptions. It was only possible to collect data on some programmes and only from the undergraduate students' point of view which was due to time constraints.

The structure of this work consists of nine chapters.

The first three chapters are intended to describe the conceptual framework of the research, theoretically and conceptually contextualising the research topic based on a literature review.

The first chapter characterises the emergence and the development of the Bologna Process in the European landscape until today. In addition, it is explained as the Bologna Process emerged and developed in the Portuguese context. The assumptions underlying the Bologna Process were also analysed, with particular attention to the pedagogical issues, including the implications of the paradigm shift underpinning the Bologna Process.

The second chapter describes the history of evaluation according to different models in order to understand how the different periods in history and the economical, social and political factors influenced the evaluation within a particular paradigm. Furthermore different conceptions of assessment on international and national literature are analysed and discussed. The discussion of traditional vs alternative methods of assessment is also included.

The third chapter focuses on a literature review, particularly on the articles published in the journal *Assessment and Evaluation in Higher Education*, over the last eight years (2006–2013) on assessment in higher education. This chapter aims to explore the focus of studies regarding

assessment in higher education, after the Bologna Process, and what kind of issues emerge from them.

The second part of this research presents the methodological design. Thus, in chapter four the framework of the research it is presented as well as the objectives that guided this research. From the established objectives, methodological choices made are presented in its three distinct stages represented in the research design. In this chapter it is also described the study context (five Portuguese public universities and one Swedish university), as well as a biographical characterisation of the participants (university teachers and undergraduate students). The description of the methods and procedures used to collect and to analyse the data are also presented. In the last sections of this chapter the ethical considerations, as well the limitations of the study are presented.

The third part of this study concerns the presentation of the empirical data comprising the last five chapters. Findings from this research will be presented based on several studies. Thus, each study comprises an introduction, a literature review on issue under study, an independent methodology, the empirical data, the discussion of the findings and the conclusion. The option to present the findings by studies relates to a better organisation of the information analysed and to promote an analytical overview regarding the participants involved in the study and the different dimensions under analysis.

The chapter five analyses the teachers' conceptions and practices of assessment in order to get to know how they look at assessment; which assessment methods they use; and how they relate the assessment methods with issues of teaching and learning.

The chapter six comprises the Bologna Process and assessment in higher education in order to understand what changes occurred in the assessment practices after the implementation of the Bologna Process; what difficulties teachers face in the assessment process; and how assessment methods and assessment criteria are selected.

The chapter seven regards the perceptions of Portuguese undergraduate students about assessment. This study illustrates how students perceive assessment in terms of effectiveness, fairness and quality of learning in regard to traditional and learner-centred methods; how are perceived the moments and modes of assessment; what are the assessment methods most used; and what ideas students associated with assessment.

The chapter eight regards the Portuguese and Swedish students' perceptions of assessment and illustrates the main differences in assessment between the two educational systems, concerning

ideas associated with assessment; methods and modes of assessment; effectiveness and fairness of assessment; trust of assessment and influence and times of assessment.

The chapter nine regards the Portuguese students' perceptions about feedback in Higher Education and aims to analyse the feedback in relation to assessment methods used; effectiveness; and the self-regulated learning process.

This work ends with the presentation of the conclusions and implications, seeking to respond to the initial research questions. In this final section suggestions for future research are also identified concerning different issues in the field of assessment in higher education.

## CHAPTER I

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





In this chapter a characterisation of the Bologna Process is described. In addition to describing the Bologna Process in a European perspective, the ways in which it has been implemented in the Portuguese context is also analysed.

### 1.1. The Emergence of the Bologna Process

Drawing back to 1988, the *Magna Charta Universitatum*, signed in Bologna by 388 rectors of European universities presupposes a European University of excellence through a belonging pattern that shares the same values and assumptions. Analysing the Magna Charta it is possible to discern that some lines established moves towards what is now titled as the Bologna Process. Continuing education, training, the cultural scientific and technical development are highlighted

“Looking forward to far-reaching co-operation between all European nations and believing that people and states should become more than ever aware of the part that universities will be called upon to play in a changing and increasingly international society” (Magna Charta Universitatum, preamble).

Thus, in 1998 the Bologna Process begins to be inspired through the Declaration of Sorbonne which aims to harmonize the architecture of European Higher Education System, highlighting the development of a framework for teaching and learning and the mobility of teachers and students to spread knowledge in other European Institutions (Sorbonne Declaration, 1998). Later, in 1999, the Bologna Declaration was signed by the ministers of Education of 29 European countries aimed at creating the European Higher Education Area (EHEA) by the end of the decade (Bologna Declaration, 1999). The general assumptions of the Bologna Declaration are:

- To increase the competitiveness of European systems of higher education;
- Creating a system of academic degrees that allow the equivalence between the European institutions, through the Diploma Supplement;
- Implementing a grounded system into two cycles: the first leading to the bachelor's degree, with a significant role for the European labor market, lasting between six and

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<sup>1</sup> Retrieved from Magna Carta Universitatum available in <http://www.magna-charta.org/resources/files/the-magna-charta/english>

eight semesters, and a second cycle leading to a Master's degree, lasting between three and four semesters;

- Creating a credit system (ECTS - European Credit Transfer and Accumulation System) to encourage student mobility more free as possible, being the credit system not only transferable but cumulative.

In addition, other assumptions are highlighted in the Bologna Declaration as encouraging mobility of the students by promoting access to educational opportunities and training, to teachers, researchers and administrative staff; the encouragement of a European cooperation to ensure the excellence and the quality of the development of comparable criteria and methodologies; and the promotion of these European-wide dimension in the higher education plan. Through the implementation of the Bologna Process the students of higher education institutions, can initiate, continue or complete their training, obtaining a European degree in any Member State University. This implies the articulation of higher education systems in an open space delineated and controlled by mechanisms of training and recognition of degrees homogenized (Bologna Declaration, 1999). The European universities, supported by the independence and autonomy, through the creation of the EHEA promoted the changing needs, the demands of society and the continuous advances in scientific knowledge (Bologna Declaration, 1999).

From the Bologna Process, during the period between 1998 and 2012, communiqués and declarations have emerged in order to improve and adjust the process through new guidelines. Each communiqué and declaration has different milestones and commitments to the Bologna Process until 2012. Briefly, each communiqué is based on the following lines of action (European Commission/EACEA/Eurydice, 2015):

- a) *Praga Communiqué* (2001): to promote *lifelong learning* to meet the challenges of competitiveness and the use of new technologies to increase social cohesion and equal opportunities; to involve the students as active and constructive partners who should be involved internally and influence the organisation and contents of education at universities; and to promote the attractiveness of European Higher Education to students from Europe and other parts of the world.

- b) *Berlin Communiqué* (2003): to promote closer links between the EHEA and European Research Area (ERA) in order to improve the quality of higher education and competitiveness; to extend the two-cycle system (bachelor and master) for 3 cycles system (PhD) promoting an expansion of mobility at the level of doctoral and post-doctoral; and to increase the cooperation at the level of doctoral studies and training of young researchers.
  
- c) *Bergen Communiqué* (2005): to reaffirm the importance of the Berlin goals, emphasising the promotion of closer links between the EHEA and the ERA, towards of progression of research for economic and cultural development of societies; to emphasise the importance of research to maintain quality and increase competitiveness; and to adopt the European Standards and Guidelines for quality assurance.
  
- d) *London Communiqué* (2007): to produce national action plans with effective monitoring; to review the progresses since the Convention in Bergen; the recognition by ministers that the developments of the last two years have been significant with regard to the realisation of the EAHE, based on institutional autonomy, academic freedom, democracy, and equal opportunities for mobility and increase the attractiveness and competitiveness of European higher education; to reaffirm the priorities by 2009 and drawn commitments beyond 2010.
  
- e) *Leuven Communiqué* (2009): to define key areas of work for the next decade promoting the social dimension as *lifelong learning*, employability, learner-centred learning and the teacher's mission for education, international openness, mobility, education / research and innovation, funding of Higher Education and multidimensional transparency tools. Another change proposed in this conference regards the internal organisation, through this process to be chaired not only the country holding the Presidency of the European Union, but also by a non-EU member country. These areas of study point to a new direction of the Bologna Process, for further approach to reform, thereby ensuring the completion of the implementation process.

- f) *Budapest/Vienna Declaration* (2010): establishes that significant progress has been made towards 2010 regarding a competitive area of higher education supported by dedicated teams based on trust cooperation and respect for diversity of cultures, languages and education systems; to disclose that reforms have not been properly implemented and explained in all countries; to promote and facilitate a learning environment in order to promote a learner-centred learning as a way of empowering the learner in all forms of education, providing the best solution for sustainable and flexible learning paths.
  
- g) *Bucharest Communiqué* (2012): continuing to improve employability, *lifelong learning* and the entrepreneurial skills through the cooperation with employers; to assure that Bologna tools are based on learning outcomes.
  
- h) *Yerevan Communiqué* (2015): to enhance the quality and relevance of learning and teaching; to foster the employability of graduates throughout their working lives; to make the system inclusive; and to implement structural reforms.

According to the Implementation Report of the Bologna Process (European Commission/EACEA/Eurydice, 2015), at the moment, 47 countries are part of the EAHE, behaved 37.2 million students. However, the implementation of the Bologna Process has had different kinds of impact in different European countries (Furlong, 2005; Sweeney, 2010) because was carried out through different ways and paces across the member countries. Thus, understand how this process was implemented in the Portuguese context is of paramount importance, to better contextualise this study regarding the Portuguese Higher Education System.

## **1.2. The Bologna Process in Portugal**

In Portugal, the Bologna Process it began to be drawn in the XVII Constitutional Portuguese Government 2005-2009 that established the goal to

"Ensure the qualification of the Portuguese in the European space, implementing the Bologna Process, as a unique opportunity to encourage the attendance of higher education, improving the quality and relevance of training offered, encouraging the mobility of our students and graduates and the internationalisation of our courses" (Decree-Law n° 74/2006).

Thereby, the Decree-Law n° 74/2006 approves the implementation of the Bologna Process regarding the adoption of higher education organisation model in three cycles. The Constitutional Program of the Govern also proposed the immediate change of Lei de Bases do Sistema Educativo (Law n° 115/97) law that governs the education systems in the country. The amendment to the Lei de Bases do Sistema Educativo (Law n° 49/2005), in the articles regarding the organisation of higher education, establishes an organisational model for cycles and the adoption of the European credit system (ECTS) as proposed by the Bologna Declaration. The Decree Law n° 42/2005 approves the regulatory instruments for the creation of the EAHE, in Portugal, drawing attention that in

"This new conception, the student plays the central role, whether in the organisation of courses, whose contact hours will take the diversity of more appropriate teaching forms and methods, whether in the assessment and accreditation, which will consider the whole of the training work student (...) contact hours, project hours, the hours of field work, the individual study and the activities related to assessment".

Later, the Decree-Law n° 107/2008 amended the earlier decree and required a change of the current educational paradigm

"The transition from an education system based on transmission of knowledge to a system based on skill's development of students, in which the components of experimental work or project, among others, and the acquisition of soft skills should play a decisive role".

Furthermore, this decree also provides for the preparation of an annual report to inform about the methodologies and indicators adopted to assess each curricular unit, the established criteria

and skills to be achieved, and also the working methods adopted for the integration of learning and assessment.

As describe earlier, the implementation of the Bologna Process has brought changes and significant implications with regard to the role of teacher and student, to the curriculum and to the process of teaching, learning and assessment. This implied a learner-centred pedagogy that places the student at the center of the process, promoting their interests and learning opportunities (European Commission/EACEA/Eurydice, 2015). The Trends 2010 Report (Sursock & Smidt, 2010, p. 32), explain that

“The introduction of new degree structures, the ‘Bologna tools’ and action lines are closely linked with the shift towards a student-centred approach to higher education. A student-centred approach embraces flexibility and choice in progression routes and in approaches to learning and assessment, as well as the use of tools such as ECTS and support services for students, all in a European context”.

The learner-centred approach should focus on the student’s involvement on the learning process, on outputs rather than inputs and on a formative assessment with continuous feedback (Sursock & Smidt, 2010). Consequently, more active teaching practices and new forms of assessment more learner-centred (Veiga Simão, Santos, & Costa, 2003; Flores & Veiga Simão, 2007; Sursock & Smidt, 2010; Webber & Tschepikow, 2013) are required. This shift towards a learner-centred approach “makes it flexible and easier to develop blended teaching models and to recognise prior learning, thus benefiting both traditional and non-traditional learners and providing the flexibility to learn throughout life” (Sursock & Smidt, 2010, p. 32).

As argue in Yerevan Communiqué (2015, p. 2) the Ministers encouraged

“Higher education institutions and staff in promoting pedagogical innovation in student-centred learning environments and in fully exploiting the potential benefits of digital technologies for learning and teaching (...) these should be supported by transparent descriptions of learning outcomes and workload, flexible learning paths and appropriate teaching and assessment methods”

Since this study focuses on the assessment process in higher education is important to understand to what extent these changes influenced this process in its relationship with teaching and learning. However, there are few studies in Portugal regarding educational issues on the Bologna Process. The study of Veiga and Amaral (2009) found that Portuguese teachers see positively these changes implemented by Bologna to the educational process. Furthermore, the study of Sin (2012) found that Portuguese teachers see Bologna as an opportunity to improve their approaches to teaching, learning and assessment process. However, the author states that they are skeptical regarding the success of the learner-centred approaches. In fact, Sursock and Smidt (2010, p. 32) explains that “it is important to note that a student-centred approach is a resource intensive and is difficult to apply in resource-starved contexts because they often entail small group work and lower staff-student ratios”. So, research is needed on changes of educational practices arising from the Bologna Process (Wihlborg & Teelken, 2014) and on students’ and teachers’ perceptions of assessment, teaching and learning and its connection in practice (Fernandes et al., 2012). Studies on the Bologna Process and its implications in the different processes of teaching, learning and assessment in higher education are needed. As Boud (2010, p. 1) argues “Universities face substantial change in a rapidly evolving global context. The challenges of meeting new expectations about academic standards in the next decade and beyond mean that assessment will need to be rethought and renewed”.





**CHAPTER II**  
**ASSESSMENT AND EVALUATION: HISTORICAL PERSPECTIVES,  
CONCEPTIONS AND APPROACHES**



This chapter addresses issues related to evaluation. The need to understand the processes and impact driven by changes, both at the political or educational level, implies the need to understand evaluation regarding its emergence on educational field, its conceptions, modes and approaches in detail. Each of these topics is presented in the following sections.

## **2.1. Historical Perspective of Evaluation**

Evaluation in a historical perspective is condensed at different periods in the literature. In this study the well-known perspectives by Guba and Lincoln (1989) in their work “Fourth generation evaluation” and the perspective by Stufflebeam and Shinkfield (2011) in their work “Systematic Evaluation” are addressed.

### **2.1.1. Fourth Generations of Evaluation (Guba & Lincoln, 1989)**

Guba and Lincoln (1989) present four generations of evaluation, which result from different concepts and approaches identified by the authors regarding historic periods.

The first generation, *evaluation as measure*, is situated in the 20th-century and focused essentially on the evaluation as a technique that quantifies the students’ outcomes through standardised tests that measure objectively the students’ learning. Based on the objectivity, this generation aims the quantification and comparison of the students’ learning taken into account a given scale. The generation of *measure* presents characteristics rooted in the Taylorian assumptions, as the systematisation, the efficacy and the efficiency.

The second generation, *evaluation as description*, arises from the need to not only measure the students’ learning but to describe whether the objectives have been achieved or not. This generation emerges in the 30s up to the 50s, influenced by Ralph Tyler, American evaluator who conceived the curriculum according to a set of predefined objectives. This process regarding the achievement of objectives was named by Ralph Tyler as *educational evaluation*, and so it is considered as the “father” of educational evaluation. In this context, the evaluator's role is to describe the patterns of strengths and weaknesses regarding the educational objectives that were predefined. However, the evaluator continues to be based on the technical dimension of evaluation as *measure*.

The third generation, *evaluation as judgment*, beginning in the 70's, emerges from the need to overcome the gaps in the previous generation, towards the formulation of judgments about the evaluation objects. Though it still entails the technical and descriptive functions, in this generation, the evaluator's role also encompasses judging.

The fourth generation, *evaluation as construction*, emerges from the base of constructivism towards a shared and interactive process of all involved in the evaluation process. In this context, evaluation entails its integration into the process of teaching and learning. This generation implies an epistemological rupture with previous generations to overcome their limitations.

With regard to the first three generations of evaluation, Fernandes (2005, p. 60) states that

"Evaluation has become more complex and sophisticated, evolving in terms of used methods, assessment objects or purposes. From an initial conception limited, narrow and essentially technical, it has evolved towards a more systematic and comprehensive design. It became a more systematic assessment of the merits and the value of the evaluated objects, which are no longer exclusively things for students. Instead it includes teachers, projects, curricula, programmes, materials, teaching or policies".

Therefore, evaluation has evolved over time and has become a process increasingly sophisticated and complex. The technician and limited characteristics based on the measure conception has been overcome. Pedagogic issues were being emphasised taking into account changes in society regarding the political, historical and economic issues.

#### **2.1.2. Four Historical Periods of Evaluation (Stufflebeam & Shinkfield, 2011)**

Stufflebeam and Shinkfield (2011) identify four different ages to characterise evaluation historically. These ages described by the authors are based on the previous work by Madaus, Scriven and Stufflebeam (1983) entitled "Evaluation Models".

Before characterising the evaluation age's the authors present the pre-Tylerian period, which dates back to previous years of the twentieth century. Briefly, the pre-Tylerian period is characterised by historical events which, in one way or another, marked the emergence of the evaluation. The authors identified different events since 2000 b.c. until the 20<sup>th</sup> century: the ancient's Chinese people in 2000 b.c. carried out an evaluative investigation of the civil services;

Socrates and his disciples in Greece in the 5<sup>th</sup> century b.c. used evaluative surveys as part of their methodology; Royal commissions in England in the XIX century evaluate public services; the study by Horace Mann in United States of America (USA) in 1845 which was an evaluation through tests of performance in Boston schools; Joseph Rice, in the USA, between 1887 and 1898 carried out a study that evaluated orthography knowledge of 33.000 students, becoming known as the first formal evaluation in the USA; and also movements of accreditation of educational institutions and the emergence of standardised tests.

The first age identified by authors, the *Tylerian Age*, began in the first years of the 1930's and was characterised by the work by Ralph Tyler, known as the first person to use the term *educational evaluation*. Tyler has published important works on curriculum and evaluation. The assumptions of his work focus on the clear establishment of the objectives, being the evaluation something that determines whether these objectives have been achieved. The objectives became the basis for drawing the curriculum. In the scenery of the Great Depression, particularly in the US emerge the *Progressive Education* movement led by John Dewey emerged. It aimed at the dynamism and innovation of education. Tyler joined this movement and produced along with Smith's the work entitled "Eight-year study" which was based on the effectiveness of innovative curricula and teaching strategies in various schools in the USA. From then on, the Tyler's conception of educational evaluation was widespread in the educational landscape.

The *Age of Innocence*, started in 1946, emerged at the end of the Great Depression bringing fullness and prosperity. New educational institutions and educational offers emerged expansively, resulting in the training of teachers and in the increasing of students' attendance in schools. Although educators at that time wrote about evaluation, this did not result in the improvement of educational services. In fact, in this period there was a drawback towards the technical aspects of the evaluation. New evaluative tests as taxonomies of objectives, experimental models and statistical procedures emerged. However, this did not translate into a better education. To evaluate or not evaluate depended of the local power. This lack of external support and other issues has led the following age of evaluation.

The *Age of Realism* began in the late 50s and beginning of the 60s, and it is characterised by deep changes on evaluation of the curriculum projects and new educational programmes financed by federal funds. However, experts on evaluation realised that their works were not responding and being useful to the effect that they have wanted and the instruments and strategies applied were not suitable. They perceived, for example, that the standardised tests

were not able to measure specific issues and were not consistent with the Tylerian method. Taking into account these difficulties and gaps on evaluation, new theories, methods and programmes to train the evaluators emerged, as well the tests based on criteria instead of normative tests.

The *Age of Professionalism*, started in 1973 and was characterised by the consolidation of evaluation as a field of knowledge and as a profession. The role of the evaluator in this period has been clarified and interchanges between evaluators were promoted in order for them to share experiences. A great amount of literature on educational evaluation emerges and programmes and research centres related to evaluation in USA were created. In 1981 also The Joint Committee was created comprising twelve professional organisations which established the norms and standards to evaluate. All these developments have brought to the field of educational evaluation an improved communication, cooperation between organisations and a reduction in the fragmentation of evaluation literature. Although there is a consolidation in the evaluation as an educational field and profession, further research still is needed due to the constant change in the educational field.

Table 1 summarises the historical perspective of evaluation based on the work of Guba and Lincoln (1989) and Stufflebeam and Shinkfield (2011) regarding the evaluation objectives, the role of the student and the role of evaluator. The objectives of evaluation, the role of the evaluator and the role of the student have been subject of changes regarding the influence of different historical periods.

Table 1. Historical perspectives on evaluation

Historical Perspectives on Evaluation				
Generations (Guba & Lincoln, 1989)	Ages (Stufflebeam & Shinkfield, 2011)	Evaluation Objectives	Student	Evaluator
First Generation	Pre-Tyler	To Measure	Is measured	Measures
Second Generation	Tylerian Age	To Describe	Is seen as an instrument	Describes
Third Generation	Age of Realism	To Judge	Has passive role	Judges
Fourth Generation	Age of Professionalism	To Understand	Has an active role	Changes

## 2.2. Conceptions of Evaluation

According to Madaus, Scriven and Stufflebeam (1983, p. xi) “the conceptualisation of evaluation can never be a one-time activity nor can any conceptualisation be static. Conceptualisations that guide evaluation work must keep pace with the growth of theory and practice in the field”. In fact, in addition to advances in research on the theory and the practice, the evaluation is also conceptualised under the influence of the changes arising from social, economic, historical and political contexts, as described in the section above. Earlier literature highlights that “evaluation practices constitute one of the clearest indicators of the relationship between school and society, as they provide communication between them” (Broadfoot, 1979, p. 11) and its “referred to the diverse and dispersed frameworks and legal or governmental regulations that over time have come to affect the choice of different systems, models or forms of assessment” (Afonso, 1998, p. 30). Also Pacheco (2001, p. 128) sees evaluation as something controversial “which should be studied in scientific-technical and socio-political dimensions, because it involves evaluating technical processes that are theoretically justified and concerns are rooted in policies that determine it”. This dynamic feature of the evaluation as a science results in different conceptions, which are associated with the historical moments that characterise it and with different perceptions of experts in the field of evaluation influenced by different literary perspectives as the Francophone’s, the Anglo-Saxon, the American, among others.

Starting with the conception of evaluation defined by Tyler (1949), the evaluation is aimed at determining to what extent the objectives were fulfilled, through the curriculum and teaching process. Although this perspective is based on a narrow conception of evaluation, it is more sophisticated than earlier conception of evaluation as a measure of students’ learning. This conception of evaluation is based on receiving feedback, on useful information that subsequently influences how the objectives are formulated or defined. Other conceptions of evaluation emerged. Cronbach (1963) conceives evaluation as a process that comprises the obtainment and use of information in order to make decisions in regard to educational programmes. Similarly, Stufflebeam (1980) conceives evaluation as the process through which data is gathered and used to formulate decisions. Also in Pacheco’s perspective (2001, p. 129) the evaluation is “a process of obtaining information, formulating judgments and decision making whatever perspective it may be adopted”. Therefore, these conceptions of evaluation are based on the decision-making assumptions to adjust the educational programmes.

Some Francophone authors also brought to the field of evaluation perspectives rooted in the act of judging. Hadji (1994) considers that evaluate “means trying to establish links, bridges, between different levels of reality, always marking and emphasise by the same operation the distance that separates them: the reality of who that builds and makes the value judgment, and of what affects this judgment, even that concerns the same person, in a self-assessment act” (p. 29). Hadji (1994) also looks at evaluation as verification (knowledge or skills); positioning (the individual or a production in relation to a target); and judgment (the value of). Other perspectives (Lesne, 1984; Figari, 1996) suggest that to evaluate is to formulate a judgment that involves giving meaning to a value between “the object of evaluation (which is found or perceived immediately, object of systematic investigation or measure) and the criteria (which play the role of standard, model of what should be, goal pursued, etc)” (Lesne, 1984, p. 132). Lesne (1984) also sees that evaluation as the confrontation of the real (what is present) with the expected (ideal) which is composed of standards, objectives or criteria. However, evaluation always requires a clarification, namely “the hidden decisions and criteria, modes of interpretation of information” (Figari, 1996, p. 34).

Michael Scriven (1967) identified a new conceptual understanding of evaluation, emphasising the process of evaluation and developing the concepts of formative and summative assessment which will be described in the next section.

### 2.3. Functions and Modes of Assessment

According to Landsheere (1976, cit by Hadji, 1994), assessment comprises three essential functions which correspond to three main pedagogical objectives. Three possible objects of assessment were proposed: in a first dimension the *inventory* whose main function is to investigate the domain of skills and capacities of each student regarding the teaching object; in a second dimension the *diagnosis* that implies the level of needs, skills and interests comprising the difficulties of the individuals; and in the third dimension the *prognosis* that consists of analysing the success in terms of what seems to have been learned. Thus, Hadji (1994) distinguishes three main functions of assessment: to certify; to regulate and to guide that correspond to three different modes of evaluating: *summative assessment*, *formative assessment* and *diagnostic assessment*. The Figure 1 summarises the functions and modes of assessment in Hadji’s perspective (1994). The first is the moment *before the training process* which



corresponds to diagnostic/prognostic/predictive assessment and its function is to guide and adapt the process centred on the students and their characteristics. The second moment occurs *during the training process* and corresponds to formative assessment. Its function is to regulate and facilitate the process of training and learning. The third and final moment occurs *after the training process* and corresponds to summative assessment. Its function is to verify and certify the outcomes of the process.

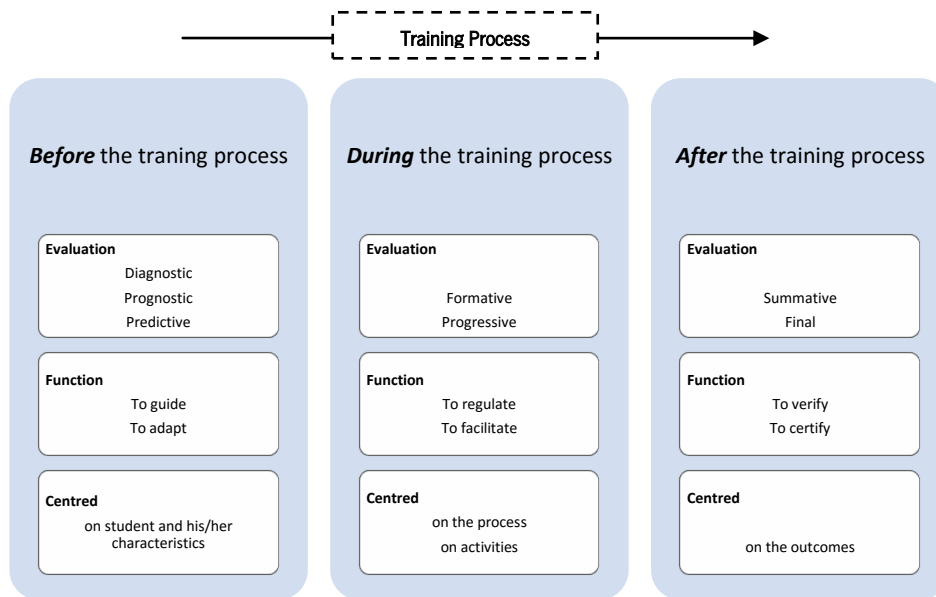


Figure 1. Modes and functions of assessment at the training process (Adapted from Hadji, 1994, p. 63)

Earlier literature shows that the traditional function of assessment is the *certification*, along with a summative dimension that provides vague details of knowledge and skills acquired, as well as student's domain in a given content. In addition, the certification also identifies hierarchies of excellence that are developed in order to certify the progression of a course of study (Perrenoud, 1999). Therefore, assessment and hierarchy are closely related because students are normally compared and get a grade under a standard of excellence. Afonso (1998) states that “the judgments of excellence, which occur daily in the school and in the classroom, contribute to fabricate positive or negative images and social representations as it may lead to promotion or stigmatisation of students, justifying students differential distribution in the school hierarchy” (p 35). Other authors such as Black and Wiliam (1998, p. 20) highlight that “the grading function is over-emphasised and the learning function underemphasised”. On one hand the grading function emphasises the competition; on the other hand the learning function emphasises the personal

involvement. Both functions are different in nature and serve different purposes, and tensions between them will always exist (Wiliam & Black, 1996). The authors argue that

“An evaluation is defined as serving a formative function when it elicits evidence that yields construct-referenced interpretations that form the basis for successful action in improving performance, whereas summative functions prioritise the consistency of meanings across contexts and individuals” (Wiliam & Black, 1996, p. 537).

However, literature also shows that despite the weaknesses related to the certification function of assessment it is still rooted in the education systems (Black & Wiliam, 1998; Dwyer, 1998).

### **2.3.1. Diagnostic Assessment**

The diagnostic assessment focuses on the identification of the characteristics of the individual such as representations and previously acquired knowledge in order to adjust and support the training process (Hadji, 1994). Therefore, diagnostic assessment takes place before action having essentially a predictive function (De Ketele, 1988). Barbier (1985) argues that in this stage it needs to be highlighted not only what is negative, but also what is positive identifying existing skills, that may be important to the learning process of the learner. Also Stufflebeam (1980) identifies this type of assessment as an assessment context, as it defines the environment in question, identifies the needs and determines the difficulties that inhibit these needs to be met. Regarding diagnostic assessment Alves (2004, p. 64) further states that teacher must perform a diagnostic of students' performances and “select the most important information that entails the learning difficulties”.

### **2.3.2. Summative Assessment**

Summative assessment is based on the realisation of a sum or balance at the end of the training process (Sadler, 1989; Light & Cox, 2003). Shepard, Hammerness, Darling-Hammond, Rust, Snowden, Gordon, Gutierrez, and Pacheco (2005:275) perceived summative assessment as “those assessments that are generally carried out at the end of an instructional unit or course of study for the purpose of giving grades or otherwise certifying student proficiency”. In other words,

this kind of assessment occurs at given moments, although “it also can be realised as a cumulative process in which the final balance takes into account a series of partial balances” (Hadji, 1994, p. 64). In addition, one of the goals is to rank students on a comparative basis and the realisation of a general assessment of the degree to which the objectives were achieved during the study cycle, or during any part of it, normally conducted at the end of a given period to assign a score, and subsequently, a certificate (Hadji, 1994).

According to Stufflebeam and Shinkfield (2011), summative assessment can serve the system “to help administrators decide whether the curriculum was finalised, polished by using the evaluative process in its first form (training), is an improvement over other available alternatives sufficiently significant as to justify the costs of its adoption by a school system” (p. 345). Pacheco (2001) also states that assessment is a requirement of the educational systems and its grading function “has been too dominant” in school systems (Black & Wiliam, 1998, p. 8).

Thus, the main function of summative assessment is the certification, the determination to which extent a student achieves the curricular objectives (Yorke, 2003) through products and the results. Therefore, the nature of summative assessment is opposite to the nature of formative assessment (Bloom, Hastings, & Madaus, 1971; Light & Cox, 2003). A more sophisticated assessment is required; it is no longer about students matching the learning objectives when performing a summative assessment test (Shepard et al., 2005). A formative assessment is needed as its purpose is the improvement of teaching and learning. Consequently, more emphasis is needed on the potential of classroom assessments to assist learning (Black & Wiliam, 1998). However, Shepard et al. (2005) perceived that summative assessment presents positive cognitive benefits as “students appear to study more and learn more if they expected to be tested” (p. 297). So, although not the ideal assessment, summative assessment may be suitable for certain purposes of the educational process.

### **2.3.3. Formative Assessment**

The term “formative assessment” was first used by Scriven (1967) as the development of the curriculum regarding programmes transposing it to the pedagogy and student learning (Perrenoud, 1999). Bloom et al. (1971) were the authors who spread the use of the term as an accepted meaning (Wiliam & Black, 1996). However, Black and Wiliam (1998) in a landmark

review on formative assessment explain that this term does not have a strong defined accepted meaning.

According to Scriven (1967), formative assessment requires its integration into the teaching-learning process based on active students' participation. In Scriven's (1967) perspective the formative assessment allows the collection of evidence during the phase of construction and testing of a new programme for the reviews to be conducted having as its base the collected evidence. Bates (1984) also perceived the formative mode of assessment based on the criterial diagnosis and evaluation framework laying a differentiated pedagogy that requires the adoption of a more equitable vision of the school. Sadler (1989) argued that formative assessment as concerns "how judgments about the quality of student responses (performances, pieces, or works) can be used to shape and improve the student's competence by short-circuiting the randomness and inefficiency of trial-and-error learning" (p. 120). Other Anglophones author's such as Black and Wiliam (1998) view formative assessment "as encompassing all those activities undertaken by teachers, and/or by their students, which provide information to be used as feedback to modify the teaching and learning activities in which they are engaged" (p. 7). Thus, and according to Bloom et al. (1971, p. 142), "the greatest merit of formative assessment is the help that it can give to the student in relation to learning and behaviour of the contents in each learning unit" because in addition to assessing the content domain and proposed learning tasks, it identifies what was not understood by the students, their failures in the process. Its main goal is therefore neither certification nor grading. The essence of formative assessment is, thus, the production of feedback on the students' performance improving the learning process (Sadler, 1989). The feedback in formative assessment is "concerned with praise for effort, which would lead to higher self-esteem, more effort, and finally higher achievement" (Sadler, 1998, p.78). Also Biggs and Tang (2007) draw attention that feedback, in addition to improving students' learning also improves the teachers' performance: "formative feedback is inseparable from teaching (...) the effectiveness of different teaching methods is directly related to their ability to provide formative feedback" (p. 163).

Accordingly, Black and Wiliam (1998) state that

"It is hard to see how any innovation in formative assessment can be treated as a marginal change in classroom work. All such work involves some degree of feedback between those taught and the teacher, and this is entailed in the quality of their

interactions which is at the heart of pedagogy. The nature of these interactions between teachers and students, and of students with one another, will be key determinants for the outcomes of any changes” (p. 16).

The quality and effectiveness of formative assessment is object of a great amount of studies in the field of assessment (Miller, 2009; Wiliam, 2010; Hodgson & Pang, 2012; Weurlander et al., 2012). Its effectiveness and quality in Biggs' perspective

“Depends on whether students actually perceive the gap between where they currently are and where they should be; and then if they do, what they are willing to do about closing it. This brings in a great deal of work on learning and performance goals, and the attributions usually associated with them (...) making feedback effective can enhance student learning, and that handing over responsibility for assessment to the students is particularly effective” (Biggs, 1998, p. 104).

Also Sadler (1998) responding to Black and Wiliam (1998) review's concludes that

“Formative assessment does make a difference, and it is the quality, not just the quantity, of feedback that merits our closest attention. By quality of feedback, we now realise we have to understand not just the technical structure of the feedback (such as its accuracy, comprehensiveness and appropriateness) but also its accessibility to the learner (as a communication), its catalytic and coaching value, and its ability to inspire confidence and hope” (p. 84).

Shepard et al. (2005, p. 277) underline that a formative assessment “effectively implemented, can do as much or more to improve student achievement than any of the most powerful instructional interventions, intensive reading instruction, one-on-one tutoring, and the like”. These authors also see formative assessment as “assessment carried out during the instructional process for the purpose of improving teaching and learning” (Shepard et al., 2005, p. 275). Perrenoud (1999, p. 77) asserts that "the portion of formative assessment across the continuous assessment aims to show that there is not a complete rupture between traditional assessment and formative assessment" being almost a mandatory component of continuous assessment.

However, Yorke (2003) claims that formative assessment may not be continuous, it may even be occasional and even in this way it continues to be consistent with its purposes.

Alves (2004) argues that formative assessment is essentially regulatory, identifying two specific levels: the level of regulation of the pedagogic instruction and the level of regulation of the students' activity. At the first level, the teacher receives feedback from the impact of their educational work and adjusts their actions. At the second level this regulation is an indicator that informs the student about the difficulties encountered during the training process in order to recognise and to correct their mistakes. Therefore, formative assessment should be a mode to be privileged because it is "a sense of a targeted intervention to improve the quality of teaching and teacher participation in the educational community" (Pacheco, 2001, p. 134).

Earlier literature shows that the term formative assessment has originated different meanings and variations in existing literature. Through this conception terms such as *assessment for learning* emerge towards a more sophisticated conception. For example, the term *assessment for learning* proposed initially by Mary James in 1992, in a paper presentation in an annual conference in New Orleans (Wiliam, 2010) was also proposed by Broadfoot, Daugherty, Gradner, Gipps, Harlen, James and Stobart (2002) in order to comprise not only the formative sense of assessment, which leads not only to a frequent and planned assessment integrated in the teaching process, but also comprising the student's active involvement, his/her motivation, effective feedback, self-assessment, among others.

However, some weaknesses have been identified to formative assessment as an instrument of oppression and control in a grading perspective (Enguita, 1990) and promoting the most advantaged social groups (Afonso, 1998). According to Perrenoud (1999, p. 174) if there is no conditions for teachers to adequate their working conditions, such as the number of students per class, overloading of programmes, rigid schedules and calendars, it is useless "to persist in a formative assessment, because these conditions lead to a teacher-centred teaching seen as a fatality". Yorke (2003, p. 483) identifies some of the pressures in higher education that inhibits the use of formative assessment:

- i) Increasing concerns with standards that lead to a emphasis on summative assessment of the outcomes;
- ii) The student/staff ratio, a big number of students per class;
- iii) More frequent assessments due to curricular structures ;

- iv) Time that teachers have to spend to do research.

Despite these weaknesses, formative assessment has a pedagogical purpose. It is intrinsic to the process of teaching, and its main objective is to improve learning during the process, providing students' feedback and the identification of their successes and failures (Hadji, 1994; Brown & Knight, 1994; Biggs, 2003). According to Wiliam (2010, p. 154) formative assessment is a useful tool if it comprises the following strategies:

- i) Clarifying, sharing and understanding learning intentions and criteria for success;
- ii) Engineering effective classroom discussions, activities and tasks that elicit evidence of learning;
- iii) Providing feedback that moves learners forward;
- iv) Activating students as instructional resources for one another;
- v) Activating students as the owners of their own learning.

In a context of a formative assessment, teachers and students have different responsibilities in order to the process be effective. Fernandes (2005) stresses that, on the one hand, teachers should organise the process; use appropriate tasks; promote feedback to regulate the students' learning; adjust the teaching process; and promote good communication. On the other hand, students should: participate in the learning and assessment process; self-regulate their learning; use feedback accordingly; communicate with teachers and colleagues regarding their successes and failures; and analyse their own work.

In the next section, issues regarding the relationship between summative and formative assessment are explained.

#### **2.3.4. Operationalising Summative and Formative Assessment**

To better understand the nature of these two assessments (summative and formative) it is important to briefly identify the key characteristics that distinguish them.

According to Sadler (1989, p. 120) the main distinction between formative and summative assessment regards their purposes and effects. It is not a question of time but "many of the principles appropriate to summative assessment are not necessarily transferable to formative

assessment; the latter requires a distinctive conceptualisation and technology". Shepard's et al. (2005) suggest a complementarity of the two assessments, regarding a cognitive perspective, and the ideal would be one system "where formative and summative assessments were mutually aligned with conceptually oriented learning goals, and where summative assessments were used as milestones of accomplishment, following successful learning periods supported by formative assessment". According to Black and Wiliam (1998), other tension between formative and summative assessment exists when teachers have the responsibility of both setting up difficulties in combining the two.

Biggs (1998) presents the assumptions of the connection between formative and summative assessment. The author explains that the "backwash" (effects) of summative assessment is seen as negative, and the feedback given in formative assessment is seen as positive. However, the negative effects of summative assessment are more impactful than the positive effects of formative assessment. This suggests "clearly those significant gains are to be found as much in mitigating or reversing backwash as by enhancing feedback" (Biggs, 1998, p. 106). Therefore, a powerful interaction between summative and formative assessment exists: "one might have a powerful enhancement to learning, using such a synthesis to engineer backwash from summative assessment so that the effects were positive, the backwash from summative assessment supporting the feedback from formative assessment". Figure 2 illustrates the formative and summative assessment during a course of learning in Bigg's (1998) perspective in regard to students' approaches to learning.

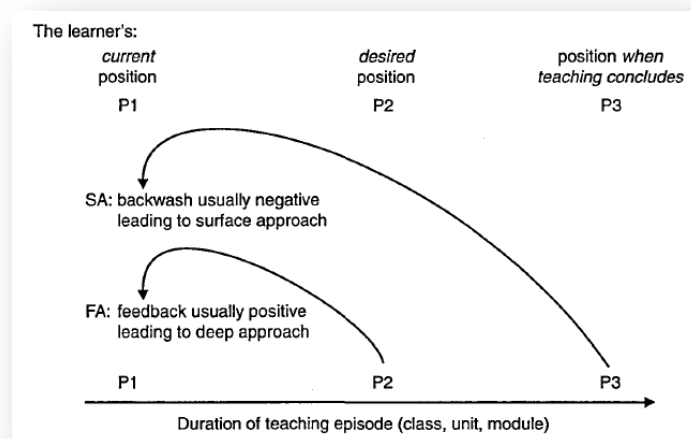


Figure 2. Formative and summative assessment during a course of learning (Biggs, 1998, p. 107)



In conclusion, both formative and summative assessment have strengths and weaknesses. Literature shows that the ideal is to combine both in the assessment process “formative, to provide feedback during learning; and summative, to provide an index of how successfully the student has learned” (Biggs, 2003, p. 164). Furthermore, assessment should be aligned with teaching and learning to reinforce the educational process.

#### **2.4. Assessment methods in Higher Education: traditional vs alternative methods**

Research on assessment reveals that certification remains the dominant perspective in the educational systems (Black & Wiliam, 1998; Fernandes, 2005). This influences the assessment practices used by teachers to assess students’ learning. Previous literature highlights that teachers use practices that promote low cognitive levels such as the assessment test (Crooks, 1988): “much testing is unreflective and is not aligned to the curriculum” (Biggs, 1998, p. 103) testing alone is inadequate or insufficient to serve assessment purposes (Stake, 1967). In this sense, teachers should use a wide range of assessment practices appropriate to the different evaluative contexts, so that they serve effectively the evaluation purposes (Stufflebeam & Shinkfield, 2011).

Fernandes also states that (2005)

“For years that it is generally recognised in the literature the need to change and improve practices of assessment of the student learning that are clearly not aligned to curricular and social demands that education systems are facing. Nevertheless, assessment practices aimed at grading students to the detriment of assessment practices which aimed at improving learning” (p. 23).

This quote from Fernandes (2005) reflects a major concern addressed by experts in assessment. It is a cornerstone in the educational process. However, this issue is not as simple as it seems, since the choice of assessment methods or practices implies a political orientation established (Afonso, 1998); the changes or policy innovations go beyond the educational issues and even techniques. Therefore, the use of summative methods such as tests or exams essentially play the function of certification, selection, control, accountability, and motivation (Fernandes, 2005).

These are embraced and are dependent on the goals and educational policies of different countries. When associated to a summative and measured dimension “assessment is a standalone activity” (Biggs & Tang, 2007, p. 175).

So, it is possible to argue that the methods and practices of assessment used are of paramount importance to the educational process, as assessment “defines what students regard as important, how they spend their time and how they come to see themselves as students and then as graduates” (Brown et al., 1997, p. 7). A review of existing literature reveals the identification of different issues related to different methods of assessment. There are traditional assessment (tests or exams) that promotes reproduction, memorisation and superficial approaches to learning (Birenbaum & Feldman, 1998; Perrenoud, 1999; Struyven et al., 2005). Brown et al. (1997) identify the key features of traditional methods as the written test: they are based on the same tasks, they are performed at the same time by all the students and the nature of the task is not revealed previously, reducing the formative value of assessment. According to the authors “examinations suffer from the defect of being one-shot measures. A bad day or a couple of bad days can make the difference” regarding the students’ performance and consequently the marks that they receive (Brown et al., 1997, p. 14).

The study of Sambell & McDowell (1998) concluded that most students perceived traditional assessment as having a negative effect on the learning process in so far as a simple test does not require as much understanding as a more difficult task, in which the student has to understand its meaning and its complexity. However, the review by Struyven et al. (2005) concludes that students adopt a more favorable position when they are assessed through multiple choice tests, because they think that this type of test is easy to perform, since the correct answer is already written, with less anxiety in relation to the examination type test. Nevertheless, multiple choice examinations do not invite students to make a deeper effort to study, leading them to adopt a superficial approach to learning which makes it more comfortable and safe in the assessment act. In addition, Biggs and Tang (2007) refer that students’ when perform a multiple choice examination “quickly see that the score is the important thing, not how it is comprised, and that the ideas contained in any one item are of the same value as in any other item” (p. 174). Also, the Scouller’s study (1998) found that students who adopt superficial approaches to learning when they perform a multiple choice examination consider this type of method as based on the assessment of low cognitive levels. Furthermore, the authors found that students who performed assignment essays adopt deep approaches to learning and consider this

type of method as based on high cognitive levels. Thus, teachers' role in assessment is a key feature as "teachers in higher education frequently assess as amateurs (...) they do not operate from the understanding of assessment, in which assessment is fundamentally about helping students to learn and teachers to learn about how best to teach them" (Ramsden, 1996, p. 183). Thus, the traditional assessment, although suitable in certain contexts of assessment, is limited when used alone, in so far "the assessment tasks should also support student learning, not sidetrack students, as do some traditional assessment tasks, into adopting low-level strategies such as memorisation, question spotting and other dodges" (Biggs & Tang, 2007, p. 195). According to Light and Cox (2003), the traditional assessment in higher education promotes memorisation, emphasises the factual knowledge, and it can be a question of luck and does not promote constructive feedback.

The Table 2 summarises the key features of traditional assessment.

Table 2. Characteristics of traditional assessment (Adapted from Falchikov, 2005, p. 61)

Characteristics	Source
Can give rise to negative feelings which can persist	Boud (1995)
Descontextualised knowledge and unrelated to the student experience	(Dochy, 2001)
Criteria are not clear	(Dochy, 2001)
Instruction and testing are separated activities/methods do not reflect the aims	(Dochy, 2001)
Narrow range of methods used	(Edwards & Knight, 1995)
Measurement of a performance along a scale/standardised conditions	(Biggs, 1999)
Tests basic skills and ignore high-order skills	(Birenbaum, 1996)

If the purpose of assessment is a "way of comparing the weakest against the brightest" the methods more suitable are the traditional ones as test or examination. If the purpose of assessment is "about finding out what students have failed to learn" (Ramsden, 1996, p. 190) the methods more suitable are the so-called alternative methods of assessment that are based on a learner-centred approach.

The non-traditional methods of assessment have emerged as a response to criticism from experts and policy makers, especially to bridge less successful aspects in traditional assessment. Methods such as portfolios, projects, simulations, collaborative work and modes of assessment as self- and peer assessment (Struyven et al., 2005; Tang, Lai., Arthur, & Leung, 1999; Ramsden, 1996; Flores et al., 2015) have been introduced in higher education contexts. Table 3 identifies some of the alternative methods of assessment.

Table 3. Alternative methods of assessment (Adapted from Falchikov, 2005, p. 71)

Alternative methods of assessment	Source
Authentic real-life tasks	(Klenowski, 1995; Segers, 1996)
Group activities	(Birenbaum, 1996)
Oral presentations (group or individual)	(Dierick & Dochy, 2001)
Portfolios	(Birenbaum, 1996)
Practical activities	(Klenowski, 1995)
Research projects	(Klenowski, 1995)
Self, peer and co-assessment	(Birenbaum, 1996)
Simulations exercises	(Dierick & Dochy, 2001)

But what differs between these so-called alternative methods and the traditional ones? Essentially, these methods may correspond to the aims of formative assessment, otherwise “if alternative assessment devices are to be used for summative purposes, the validity of alternative assessment has to be considered” (MacLellan, 2004a, p.311). According to Falchikov (2005), the emergence of the so-called alternative methods of assessment is based on different conceptualisations of assessment as “authentic assessment” (Torrance, 1995); “autonomous assessment” (Brown & Glasner, 1999) or “sustainable assessment” (Boud, 2000). However, MacLellan (2004a) state that “these examples or variants of alternative assessment suggest that the construct is, as yet, insufficiently robust to be used with any degree of consensus” (p. 312). Based on a contextual- qualitative approach and on constructivism (Birenbaum, 1996) these methods are considered by students as meaningful due to authenticity (Dierick & Dochy, 2001). As an alternative to a traditional assessment (norm-referenced) the alternative assessment encourages the active and autonomous role of the student and his/her involvement in setting goals and criteria (Sambell & McDowell, 1998; Sluismans et al., 1999), promoting the use of higher-order thinking and feedback (Light & Cox, 2003; Falchikov, 2005; Webber, 2012) emphasising the problem solving and the skills’ development in real world applications (Dochy et al., 1999) and providing meaningful instructional activities and deep approaches to learning (Segers et al., 2008; Fernandes et al., 2012). Segers et al. (2008) found that students who perform a portfolio have a greater impact on the depth their learning than students who perform multiple choice tests. More recently, Burner (2014) in a review of portfolio assessment also identified benefits of this method to students’ learning such as the development of writing skills, autonomy and the increase of motivation. The study by Frank and Barzilai (2004) also found that the Project-Based Learning (PBL) promotes interdisciplinary knowledge, active and experiential

learning, responsibility for the learning process, the development of communication skills and decision-making within a team, and self-esteem. Also, Light and Cox (2003), regarding the use of project, state that the use of this method fosters independence, enhances skills' management, promotes deep learning and provides problem solving. Peer-assessment as a mode of assessment that conducts to a learner-centred approach also supports the learning process from the point of view of the students' (Asikainen et al., 2014). In addition, the study by Sadeghi and Zainab (2015) shows that students perceived positively the alternative assessment that may lead to an improvement of the learning process and a more effective teaching and assessment processes. Therefore, as mentioned earlier, the alternative assessment is based on a learner-centred approach fostering teachers' support to the students' in order to "approve/reinforce/agree with/affirm the value of students' contributions" (Light & Cox, 2003, p. 119).

The main characteristics of methods based on an alternative assessment perspective and on a learner-centred approach entail benefits to the educational process (see Figure 3):



Figure 3. Characteristics of alternative methods of assessment based on a learner-centred approach

However, Falchikov (2005) states that "even with confirming evidence, it would be unwise to assume that alternative assessment is the panacea for all assessment problems in higher

education” (p. 313). The following chapter summarises research published in *Assessment and Evaluation in Higher Education* regarding assessment methods in Higher Education.

**CHAPTER III**

**ASSESSMENT REVISITED: A REVIEW OF RESEARCH IN ASSESSMENT  
AND EVALUATION IN HIGHER EDUCATION**





A review of articles published in *Assessment and Evaluation in Higher Education*, over the last eight years (2006–2013) on assessment in higher education, since the introduction of the Bologna Process, is the subject of the chapter. The first part discusses the key issue of assessment in higher education and the method used for selecting articles. The second part presents results according to the main emerging themes arising from data analysis: assessment methods, modes of assessment and assessment related to a given teaching and learning method. The chapter concludes that the foci of the studies are aligned with assessment practices other than the written test, in accordance with a learner-oriented perspective. Although the implementation of the Bologna Process has had different kinds of impact in different European countries, the review shows that the use and effects of a diversity of assessment methods in higher education have been investigated, particularly those pointing to the so-called alternative methods. Implications of the findings are discussed.

### **3.1. Introduction**

The assessment process in higher education has changed over the last few years. In addition to the Bologna Process (Bologna Declaration, 1999), that introduced significant changes with regard to the processes of teaching, learning and assessment, the literature also suggests the existence of an assessment approach more focused on students and learning (Dochy & McDowell, 1997; Black & Wiliam, 1998; Webber, 2012). The interest in students and in their learning is also shown in a variety of studies which highlight how assessment and learning can be connected. Assessment has significant effects on student learning (Scouller, 1998; Gibbs, 1999), as assessment and learning are closely related (Scouller, 1998; Light & Cox, 2003). Teaching methods must be aligned with assessment methods and learning goals for teaching effectiveness to be enhanced (Biggs, 2003). Assessment practices have an important role in the quality of learning (Atkins, 1995; Fernandes et al., 2012; Flores et al., 2015) and influence the ways in which students perceive learning (Brown & Knight, 1994; Drew, 2001). The influence of assessment on learning, either negatively or positively, might be seen as an incentive for study and improved performance (Brown & Knight, 1994; Brown et al., 1997; Biggs, 2003; Boud & Falchikov, 2007; Waring et al., 2008). Assessment practices based on a learner-centred assessment enhance the active involvement of the students, produce feedback, enable

collaboration between students and faculty and allow teachers to realise how learning is occurring (Webber, 2012). Such practices prepare students for professional life, promoting problem solving and skills development in real-life contexts (Dochy, Segers, & Sluijsmans, 1999). During the past eight years, *Assessment and Evaluation in Higher Education* published a large number of articles that reported research on assessment in higher education. The studies were carried out in different countries using different methods. This study summarises and critically discusses a selection of empirical studies focusing on assessment in higher education, particularly on how different practices of assessment have been scrutinised in research since the implementation of the Bologna Process in Europe. The overarching questions of this review are as follows:

- What is the focus of the studies on assessment in higher education after the Bologna Process?
- What kind of themes emerges from them?
- What do we know about assessment in higher education from papers published in *Assessment and Evaluation in Higher Education*?
- What are the questions that remain to be answered?

### **3.2. The Bologna Process**

The general assumption of the Bologna Process was the creation of a European Higher Education Area, enabling students of any institution to start, continue or complete their education and get a degree in any EU member state university through the European Credit Transfer System (ECTS) (Bologna Declaration, 1999). In most European countries, this has implied changes in curriculum regarding teaching, learning and assessment (Flores & Veiga Simão, 2007; Flores et al., 2015), in so far as students are seen as active learners (Flores & Veiga Simão, 2007; Veiga Simão et al., 2003). The European Association for Quality Assurance in Higher Education states that assessment requires students to be evaluated through explicit criteria for marking, with procedures adequate for formative, summative or diagnostic assessment purposes, and the assessment strategy to be clear and communicated to students. In addition, assessment is an indicator of teaching and learning effectiveness, and its outcomes impact on the future careers of the students (European Association for Quality Assurance in Higher Education, 2009). In addition

to the Bologna Process, the Leuven/Louvain-la-Neuve Communiqué (2009) refers to the importance of a learner-centred learning approach that helps students to develop competences needed in real life. This implies a learner-centred curriculum reform, based on new approaches to teaching and learning along with effective support. Later, in 2012, the Bucharest communiqué further reaffirmed the importance of continuously promoting learner-centred learning, encouraging the use of innovative methods enabling students to participate in their own learning and develop critical thinking (Bucharest Communiqué, 2012).

### **3.3. Assessment in higher education**

The assessment methods conventionally used in higher education are examinations and written tests (Pereira & Flores, 2012; Perrenoud, 1999; Scouller, 1998). However, these methods do not inform how learning occurred as they mainly promote a hierarchy of grades (Perrenoud, 1999). A brief review of the literature about assessment methods reveals that tests with multiple-choice questions raise some issues (Scouller & Prosser, 1994), encouraging surface rather than deep learning (Ramsden, 1988; Tang, 1992; Struyven et al., 2005) and assessing low levels of cognitive processing (Scouller, 1998). Researchers found that students with poor learning skills and low confidence prefer multiple-choice questions tests rather than essays (Birenbaum & Feldman, 1998). Earlier empirical work (Sambell et al., 1997) shows that students have a negative opinion about conventional assessment methods, considering that they affect negatively the learning process. In contrast, the same students state that new and alternative assessment methods enable a better quality of learning, promoting understanding rather than memorisation. For example, Segers and Dochy (2001) demonstrate that students have positive perceptions about the use of self- and peer-assessment in a problem-based learning environment, insofar as they stimulate deep learning and critical thinking.

Learner-centred methods foster the development of autonomy, sense of responsibility and reflection (Sambell & McDowell, 1998), and influence the ways in which students look at their own learning (Sluijsmans, Dochy, & Moerkerke, 1999). However, nontraditional methods do not always change the perceptions of students and do not always lead to deep learning (Segers et al., 2008). Students' approaches to learning (Marton & Säljö, 1997) may be influenced by assessment methods and assessment tasks (Struyven et al., 2005). Thus, a wide variety of methods should be used (Brown, Race, & Rust, 1995; Wen & Tsai, 2006), and teachers should

be designers of the assessment process avoiding the exclusive use of conventional assessment (Boud, 1995). The focus of higher education is also about developing technical and soft skills in order for students to be successful in their future careers (Dochy et al., 1999). Learner centred methods (Webber, 2012) enhance the development of the skills needed for real life, ensuring that the success criteria for education and training are the same as used in practice (Segers & Dochy, 2001).

Learner-centred practices such as self- and peer-assessment enhance students' autonomy, self-confidence and reflection (Dochy et al., 1999), allowing the development of skills (Sambell & McDowell, 1998) and promoting deep learning (Brew, Riley, & Walta, 2009). Methods such as problem-based and case-based learning promote the development of professional skills and learning in real-life contexts (Dochy et al., 1999). These methods are considered as new or alternative methods for assessing students in higher education. However, more needs to be known about the effectiveness and relevance of these methods in different contexts and programmes. It is important to learn more about empirical research on assessment in higher education, especially after the implementation of the Bologna Process.

### **3.4. Method**

As a first step, the journal *Assessment and Evaluation in Higher Education* was chosen for review. This choice was made because the main focus of the journal is assessment and evaluation in higher education, and the preliminary literature review showed that it published many studies on this topic. However, other research published elsewhere (namely in journals related to higher education, but not focusing on assessment and evaluation) was also considered in order to frame the topic of this study. As a second step, articles from 2006 until 2013 were chosen as they are subsequent to the implementation of the Bologna Process in European universities. This choice was made because from 2006 onwards articles more directly related to the implementation of the Bologna Process have begun to be published. As a third step, a choice of keywords was made to search: 'assessment methods', 'teaching' and 'learning'. These keywords were chosen because the purpose of this article was to find out what kinds of themes and conclusions emerge from recent research in this field. As assessment is directly related to teaching and learning, it seemed appropriate to include these keywords in the search.

From the first search 64 articles were identified. After examination of the abstracts and in some cases the complete article, seven articles were excluded since they were not in the focus of our study, covering topics such as learning environment, learning communities, educational choices and conceptions of good teaching. A choice was made to select only empirical studies and not, e.g. reflections and reviews of the literature. As a consequence, 57 articles drawn from empirical studies were selected. However, as one of the goals of this study is to identify what is known about assessment in higher education, after the implementation of the Bologna Process, 30 of the articles were selected for analysis (see Table 4), since the remaining 27 articles were from non-European countries.

Table 4. Articles published in Assessment and Evaluation in Higher Education (2006-2013)

Themes	No. of Papers	Geographic Location
Methods of Assessment	11	United Kingdom (8), the Netherlands (2), Norway (1)
Modes of Assessment	13	United Kingdom (9), Sweden (2), the Netherlands (2)
Assessment related to a given teaching and learning method	6	United Kingdom (3), Portugal (2), Lithuania (1)

Content analysis was used to identify the emerging categories in order to describe, in a systematic and articulated way, the meaning of the data collected (Schreier, 2012). The 30 articles were analysed concerning (1) aims of the study, (2) participants, (3) method, (4) main results and (5) conclusions. After reading all the abstracts and the articles, a categorisation was carried out resulting in the following emerging themes: (i) assessment methods, (ii) modes of assessment and (iii) assessment related to a given teaching and learning method.

### 3.5. Findings

#### 3.5.1. Assessment methods

The papers listed in Table 5 have similar purposes. Some studies focus on the comparison of assessment methods (Gleaves, Walker, & Grey, 2007; Tian, 2007; Huxham, Campbell, & Westwood, 2012) and on perceptions of assessment methods (Brinke, Sluijsmans, & Jochems,

2010; Turner, Roberts, Heal, & Wright, 2013) by both students and teachers. Other studies aimed at getting to know the nature of a given assessment method (van der Schaaf & Stokking, 2008), its characterisation (Dysthe & Engelsen, 2011) and its validity (Tummons, 2010). Almond (2009) sought to know the effects of group summative assessment on marks in comparison with individual assessments. The remaining studies examined the impact of assessment methods on students' learning process (Kuisma, 2007) and students' performance in relation to a given assessment method (Betts, Elder, Hartley, & Trueman, 2009).

Table 5. Assessment methods

Author and year	Aim of the study	Focus	Methodology	Major Findings
Tian (2007)	To look at the roles of two assessment methods (formal examination and coursework) in learning from a distinctive perspective.	Assessment methods (examination and coursework)	Questionnaire with students	<ul style="list-style-type: none"> <li>The relationship between learning approaches and learning outcomes is sensitive to how learning outcomes are assessed.</li> <li>The deep learning approach is associated with good learning outcomes as assessed by assignment essay, but poor learning outcomes as assessed by formal examination.</li> <li>Assignment essay appears to function as a good assessment method, while formal examination fails to do so.</li> </ul>
Kuisma (2007)	To explore students' learning while undertaking a group project and to discuss the practice of portfolio assessment as an individual component	Portfolio	Semi-open interviews with students	<ul style="list-style-type: none"> <li>The students produced a great variety of items in their portfolios and many had been able to reflect on the year-long project work and what they had learnt during the process.</li> <li>The students were concerned about the time involvement in creating their portfolios and also about uncertainty of what to include in it.</li> </ul>
Gleaves, Walker, and Grey(2007)	To understand the nature and quality of the students entries in digital diaries and to co-relate emergent themes with the acts of writing in two possible and distinctive ways	Digital and paper diaries for assessment and learning	Digital diaries with students	<ul style="list-style-type: none"> <li>The students who preferred the paper diaries have less mutable self-concepts, using their entries to craft and re-script ideas about themselves and their work. They were also more willing to engage in reflexive criticism.</li> <li>The development of e-learning has opened up new opportunities to reflect upon and innovate with assessment practices.</li> </ul>
Schaaf van der and Stokking (2008)	To understand how the portfolio format is related to the content standards and to know the raters' portfolio scoring related to the content standards	Portfolio assessment	Portfolio with teachers	<ul style="list-style-type: none"> <li>Developing a valid portfolio assessment design is a complex and interactive process. Construct validation is a key issue, because it concerns the theoretical and conceptual definition of the constructs measured and the empirical evidence that supports the adequacy of the assessment.</li> </ul>
Betts, Elder, Hartley, and	To investigate psychology students' performance, and experiences of	Multiple-choice	MC examinations	<ul style="list-style-type: none"> <li>Students scored higher, and left fewer questions unanswered, when there was</li> </ul>

Trueman (2009)	MC examinations with and without correction for guessing.	examinations	with students	<ul style="list-style-type: none"> <li>no correction for guessing.</li> <li>Students who were told there was no correction for guessing did better than those told there was a correction.</li> <li>Students reported feeling less anxious and more confident on the open-book MC examinations.</li> </ul>
Almond (2009)	To explore how group summative assessment marking affected the overall marks in comparison with individual assessment.	Group summative assessment	Group project with students	<ul style="list-style-type: none"> <li>Students with high individual marks obtained lower marks in the group component.</li> <li>Students with low individual marks obtained higher marks in the group component.</li> <li>Group summative assessment marking affects students differently according to their attainment levels.</li> </ul>
Brinke, Sluijsmans, and Jochems (2010)	To explore assessors' approaches to portfolio assessment	Portfolio assessment	Interviews and questionnaires with teachers	<ul style="list-style-type: none"> <li>For the assessors the portfolio assessment is relevant, fair and useful.</li> <li>Although the assessors' approaches to portfolio assessment differed, the need to interpret criteria was observed. The majority of assessors found the process fair.</li> </ul>
Tummons (2010)	To explore the validity of assessment practices on one part-time HE courses	Portfolio-based assessment	Interviews with students and teachers	<ul style="list-style-type: none"> <li>The ways in which portfolios are assessed and the ways in which the crucial requisites of validity and reliability are assigned to them, mask complexities and contradictions in their creation by the student.</li> <li>The validity of portfolio-based assessment implies that the contents of a portfolio are an authentic reflection of the professional working practices of the student and that the portfolio represents a meaningful engagement with learning within the course in question.</li> </ul>
Dysthe and Engelsen (2011)	To get to know what characterises portfolio practices in Norwegian higher education and how the use relates to categorisations of portfolio types found in international portfolio literature.	Portfolio	Survey with teachers	<ul style="list-style-type: none"> <li>Macro-level influences, especially policy decisions at the top, affect portfolio practices in ways that are not always transparent and that also may be contradictory.</li> <li>Systematic differences exist between professional and non-professional educational institutions.</li> <li>Inherent disciplinary differences and pedagogical traditions also affect portfolio practices.</li> </ul>
Huxham, Campbell, and Westwood (2012)	To get to know if the results in oral and written examinations differ between different types of questions (in particular, between abstract 'scientific' questions and those requiring reflection on personal skills)? To know if the students find oral assessments more stressful than written assessments.	Oral and written assessments	Written and oral questions, questionnaires with students	<ul style="list-style-type: none"> <li>Students performed better in oral compared with written tests.</li> <li>The oral assessments might induce more anxiety than written ones. The oral interview required a different approach from a written test.</li> <li>Oral assessments may be more inclusive than written ones and that they can act as powerful tools in helping students establish a 'professional identity.'</li> <li>There is no evidence of disadvantage accruing from oral assessments to particular groups of students, nor of the need to restrict orals to particular types of questions. Quantitative and qualitative</li> </ul>

Turner, Roberts, Heal, and Wright (2013)	To get to know students' perceptions about oral examination in a pre-service teacher education course.	Oral presentation	Questionnaire with students	<p>results suggest important benefits to students from their use</p> <ul style="list-style-type: none"> <li>• The combination of a school-based enquiry and an assessed oral presentation created an authentic learning context.</li> <li>• Although there were anxieties associated with presenting findings to an audience, students felt there was a constructive alignment between their learning and the mode of assessment and the process supported the students' developing professional identity.</li> </ul>
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### 3.5.1.1. Method

Questionnaires and interviews were the most used methods for data collection purposes. Data collection focused on digital diaries, portfolios, group projects, essays and multiple-choice examinations. In the eleven studies listed, more students participated than teachers. Seven studies were conducted with students, three with teachers and one with both students and teachers.

### 3.5.1.2. Key issues arising from the studies

The results of the studies comparing assessment methods reveal the higher efficacy of some methods in detriment to others. Tian (2007) compared formal examinations and coursework in relation to approaches to learning, concluding that approaches to learning are related to assessment of learning outcomes. When students are assessed through an essay, deep learning approaches associated with good learning outcomes are identified. When students are assessed through formal examinations, poor learning outcomes are highlighted.

Gleaves et al. (2007) compared digital diaries and paper diaries for students' assessment and learning, finding that students consider both forms of diary acceptable and convenient. Digital diaries were used more frequently; however, the entries were often incomplete. Students made fewer entries in paper diaries but these entries were longer and more discursive. Students who preferred the paper diaries engaged more in reflexive criticism. Huxham et al. (2012) compared oral and written examinations, focusing on students' performance and whether these methods were inclusive. They found that students performed better in oral than written tests. However,



there was evidence that oral assessments provoke more anxiety than written ones. Oral assessments were found to be more inclusive than written ones, helping students to find a professional identity. The perceptions of the students' regarding oral examinations were the focus of Turner et al. (2013). They suggested that oral presentations were seen as an authentic learning context, although there were anxieties associated with these methods. Students felt there was a constructive alignment encouraging them to develop a professional identity.

Brinke et al. (2010) concluded that teachers considered portfolio assessment to be fair, useful and relevant. However, in some cases, the assessors' approaches to portfolio assessment differed, as the rating criteria to assess the portfolio were interpreted differently. Teachers identified a lack of some skills, such as written skills, and thereafter gave the students additional assessments to overcome these shortcomings.

van der Schaaf and Stokking (2008) concluded that developing a valid portfolio design is a complex and interactive process. Tummons (2010) also found that the ways in which portfolios are assessed can bring complexities and contradictions. The validity of portfolio-based assessment rests on the portfolio being a reflection of professional working practices. Dysthe and Engelsen (2011) consider that existing differences between disciplines, policy decisions and pedagogical practices may influence the use of portfolio in higher education. Kuisma (2007) found that portfolio assessment allows the students to produce a great amount of items and reflect what they had learnt during the learning process. The students argued, however, that this was a very time-consuming process.

Concerning group summative assessment, Almond (2009) found that students who performed examinations with a peer evidenced higher levels of motivation than students who performed examinations individually. However, students with high individual marks obtained lower marks in the group component, and students with low individual marks obtained higher marks in the group component. Group summative assessment marking affects students differently according to their attainment levels.

Betts et al. (2009) demonstrated that students who were told there was no correction for guessing in multiple-choice examinations performed better than those who were told that there was a correction. They also found that students felt more confident and less anxious in open-book multiple-choice examinations.

### 3.5.2. Modes of assessment

The papers listed in Table 6 are related to self-assessment, peer-assessment, continuous assessment, formative assessment and summative assessment. The studies regarding self-assessment focus on students' engagement (Fitzpatrick, 2006) and on the improvement of learning (Lew, Alwis, & Schmidt, 2010). Cassidy (2007) focuses on the ability of the inexperienced students to self-assess, and Orsmond and Merry (2013) on tutor feedback in the self-assessment process. The studies whose focus is peer-assessment are related to optimal design (van den Berg, Admiraal, & Pilot, 2006), the presentation of peer-assessment for final marks (Sharp, 2006) and students' perceptions (Vickerman, 2009; Patton, 2012). The study by Langan, Shuker, Cullen, Penney, Preziosi, and Wheeler (2008) seeks to know the effects of gender and level of attainment on the triangulation of marks related to self-, peer- and tutor-assessment. In two other studies, the purpose was to get to know the effect of continuous summative assessment (Trotter, 2006) and its impact on learning process (Isaksson, 2008). Other studies explored students' experience of formative assessment (Nestel, Kneebone, Nolan, Akhtar, & Darzi, 2011; Weurlander, Söderberg, Scheja, Hult, & Wernerson, 2012).

Table 6. Modes of assessment

Author and year	Aim of the study	Focus	Methodology	Major Findings
Berg, Admiraal and Pilot (2006)	To find an optimal design of peer assessment	Peer Assessment	Multiple-case study: Questionnaires and class observations with students; Semi-structured interview with teachers	<ul style="list-style-type: none"> <li>Students appreciated the method of peer assessment.</li> <li>Assessing peer's work is useful.</li> <li>Students value peer feedback because it stimulates subject matter discussions between students.</li> </ul>
Fitzpatrick (2006)	To critically evaluate the dilemmas members of a module teaching team experienced in advocating that students engage in a form of self-assessment.	Self-assessment	Questionnaires, interviews, meeting and reports with students and teachers	<ul style="list-style-type: none"> <li>The use of self-assessment informs about individual development and provides the focus of activities in the collaborative learning groups.</li> <li>Students engaged in self-assessment are more articulated and assertive on completion of the module.</li> </ul>
Sharp (2006)	To present a method for deriving final student	Group Work and peer-	Spreadsheet software to do peer assessment with	<ul style="list-style-type: none"> <li>The decision to moderate individual students' marks on the basis of their contributions to a group project is not an automatic one and</li> </ul>

	marks from a single tutor mark and ratings which students make of each other's contributions	assessment	students divided into groups	<ul style="list-style-type: none"> <li>the arguments for and against doing so should be carefully considered in advance.</li> <li>The aim should not be to introduce radical changes to marks but to moderate them within preset limits around the tutor-given mark.</li> </ul>
Trotter (2006)	To get to know the effect that assessment had on student motivation, their approach to learning and the change to their learning environment.	Continuous summative assessment	Questionnaires and interviews to students	<ul style="list-style-type: none"> <li>Students are extremely positive about the use of continuous, summative assessment in the form of tutorial files.</li> <li>The majority of the students believe that as a result of having to prepare tutorial files, they have learned more about the topic and as a result their grade has improved.</li> </ul>
Cassidy (2007)	To assess at what level students entering higher education (inexperienced students) are capable of self-assessing and to examine the relationship between self-assessment skill and learning style, academic personal control.	Self-assessment	Questionnaire with students	<ul style="list-style-type: none"> <li>The relevance and appropriateness of self-assessment for students at the beginning of their career in higher education.</li> <li>Inexperienced students do have the capacity for self-evaluation and should be included in self-assessment activities.</li> </ul>
Isaksson (2008)	To get to know the effect of continuous assessment on student learning during a short course in archaeology.	Continuous assessment	Essays with students	<ul style="list-style-type: none"> <li>The application of continuous assessment in the form of "five minute essays" after each lecture, combined with direct feedback resulted in a strong positive correlation between obtained grades and time into the course.</li> <li>The assessment technique was appreciated by the students, though some found it too stressful.</li> <li>The continuous assessment provided good insight into the students' progress and facilitated the means to give the students direct feedback.</li> <li>The "five minute" essay proved to be a favorable alternative to more traditional assessment techniques such as the written final exam.</li> </ul>
Langan, Shuker, Cullen, Penney, Preziosi, and Weather (2008)	To examine the effects of gender and level of attainment on the triangulation of marks awarded to student presenters.	Self, peer and tutors evaluations of oral presentations	Oral presentations with students	<ul style="list-style-type: none"> <li>Tutor assessment were most closely associated with peer assessment rather than self-awarded grades. However, peer assessment was constrained by a narrow mark range, unlike self-assessments.</li> </ul>
Vickerman (2009)	To explore the views and opinions of undergraduate students in relation to their perceptions and experiences of formative peer assessment.	Formative peer assessment	Questionnaires with students	<ul style="list-style-type: none"> <li>Formative peer assessment was a positive experience in enhancing students learning and development.</li> <li>Considerations need to be taken to address individual learning styles, as a limited number of students found the process to be less useful.</li> </ul>
Lew, Alwis, and Schmidt	To evaluate the accuracy of students' self-assessment ability to	Self-assessment	Questionnaires with students	<ul style="list-style-type: none"> <li>The overall correlations between the scores of self, peer and tutor assessments suggest weak to moderate accuracy of student self-</li> </ul>

(2010)	examine whether this ability improves over time and to investigate whether self-assessment is more accurate if students believe that it contributes to improving learning.			<ul style="list-style-type: none"> <li>assessment ability.</li> <li>Students judged as more academically competent were able to self-assess with higher accuracy than their less competent peers.</li> <li>Students' beliefs about the use of self-assessment are not relevant to the development of self-assessment skills.</li> </ul>
Nestel, Kneebone, Nolan, Akhtar, and Darzi (2011)	To compare a traditional approach to procedural skills assessment – the Objective Structured Clinical Examination (OSCE) - with the Integrated Performance Procedural Instrument (IPPI). To explore students' responses to OSCEs and the IPPI when used as formative assessment.	Formative assessment	Students participated and were observed in two forms of assessment: practice OSCE – designed to reflect the process and content of the forthcoming summative exam- and a six-scenario IPPI – designed to reflect clinical encounters requiring a similar set of procedural skills. Interviews with students.	<ul style="list-style-type: none"> <li>The OSCE and IPPI provide different but complementary perspectives on procedural skills. Both were perceived as valuable, with their different emphases highlighting distinct aspects of the assessment process.</li> <li>The formative OSCE functioned more as rehearsal of the examination process, whereas the IPPI was seen more as a reflection of real-life clinic care.</li> <li>There is scope for enhancing the formative aspects of both assessments.</li> <li>Both have benefits and have limitations.</li> </ul>
Patton (2012)	To explore the attitudes and perceptions of three cohorts of Australian humanities and social science undergraduate students towards peer assessment.	Peer assessment	Focus group with students	<ul style="list-style-type: none"> <li>The students' proposed model of peer assessment addressed their concerns with current peer assessment practices by increasing formative feedback and limiting its potentially damaging impact as a summative exercise.</li> </ul>
Weurlander, Soderberg, Scheja, Hult, and Wernerson (2012)	To explore students' experiences of different methods of formative assessments within the same course.	Formative assessment	An individual written assessment with mainly factual questions, and an oral assessment which encouraged students to solve problems in groups to students.	<ul style="list-style-type: none"> <li>The findings show that formative assessment influenced students' motivation to study, made them aware of what they had learned, and therefore acted as a tool for learning which influenced both the process and outcomes of learning. The way the assessment methods were constructed was important for students' experiences.</li> </ul>
Orsmond and Merry (2013)	To get to know how students process tutor feedback	Self-assessment	Interviews and focus group with students	<ul style="list-style-type: none"> <li>The implementation of tutor-orientated feedback models may be of limited influence in the learning undertaken by high achieving students and, perhaps, encourage further dependency on external regulation in non-high achieving students such that their development of self-assessment processes do not occur.</li> <li>Self-assessment is a genuine student-centred approach.</li> <li>Learning environments which are constructed to allow student self-feedback and with clear structured learning activities such as those involving the goals process may enrich feedback process already carried out by high achieving students and develop non-high achieving student ability to self-assess and hence develop their ability to learn.</li> </ul>

### 3.5.2.1. Methods

Questionnaire and interviews were again the most used methods for data collection. Focus group, reports, written, oral and practical assessments and spreadsheet software were also used for data collection. In thirteen studies, participants were mostly students, and in only two, both students and teachers participated. There were no studies in which only teachers are participants.

### 3.5.2.2. Key issues arising from the studies

Self-assessment is a learner-centred approach that engaged learners in the learning process, promoting feedback and developing the students' ability to learn and to self-assess (Orsmond & Merry, 2013). Cassidy (2007) suggests that students should do self-assessment activities right from the beginning of their career in higher education. Other advantages of self-assessment were found by Fitzpatrick (2006): students are more articulated and assertive, and this practice also has a significant effect on their critical thinking skills. Lew et al. (2010) demonstrate that students judged as more competent academically self-assessed with higher accuracy as compared to their less competent peers. Their accuracy does not improve over time, and the students' beliefs about self-assessment do not interfere with the development of self-assessment skills.

Peer-assessment is appreciated by the students for many reasons; it is useful and effective because it allows interaction between students (van den Berg et al., 2006) and produces formative feedback (Patton, 2012). However, the study by Sharp (2006) concludes that students should be assessed individually in group work, but with due recognition of the complexity associated with the process. Although it is a positive experience for students, when teachers are constructing strategies for formative peer-assessment, they should be aware of different learning styles in order to develop opportunities for students to learn and assess (Vickerman, 2009).

Langan et al. (2008) explain that tutor-assessments were often associated with peer-assessment, rather than with self-awarded grades. The use of continuous summative assessment in the form of tutorial files is positive, and the students had the opportunity to learn more about the topic and to articulate their knowledge (Trotter, 2006). Isaksson (2008) shows that continuous assessment provided a perception of the students' progress and facilitates immediate feedback.

Formative assessment supports students' learning, influences students' motivation to study and provides awareness of their learning (Weurlander et al., 2012). As formative assessment promotes feedback, in the students' perspectives, it is essential for their progress and a good experience because it is an effective way to learn (Nestel et al., 2011).

### 3.5.3. Assessment related to a given teaching and learning method

The papers listed in Table 7 related to different learning, teaching and assessment practices. Some studies seek to know the impact of different practices in students' learning. Klenowski, Askew, and Carnell (2006) investigate how portfolios can be used to develop learning, assessment and professional practices. Jesus and Moreira (2009) explore the use of students' questions as alternative assessment tool, and Orr (2010) looks at students' and lectures experiences of group work.

Different learning environments are also presented in the studies listed above. Russell, Elton, Swinglehurst, and Greenhalgh (2006) focus on specific features of the online environment and how it enables assessment to contribute to learning. Burkšaitienė and Teresevičienė (2008) focus on students' perceptions of an experience in a comprehensive learning and assessment system environment. The evaluation of the impact of project-led education on students' learning process and outcomes are the focus of another study (Fernandes et al., 2012).

Table 7. Assessment related to a given teaching and learning method

Author and year	Aim of the study	Focus	Methodology	Major Findings
Klenowski, Askew, and Carnell (2006)	To get to know how a portfolio for learning can be used in higher education to develop understanding into one's own learning, assessment and professional practices.	Portfolio for learning	Case-study research:  Semi-structured interviews and questionnaires with students  Participant observation examination and analysis  of learning portfolios, reflective	<ul style="list-style-type: none"> <li>The construction of the learning portfolio is an effective form of professional development.</li> <li>Learning portfolio is congruent with particular beliefs about effective learning and beliefs about effective professional development.</li> </ul>

			statements, self-assessments, course evaluations and course tutors' records by teachers	
Russell, Elton, Swinglehurst, and Greenhalgh (2006)	To get to know how specific features of the online environment can be explored to promote assessment as part of learning. To explore two ways in which the online learning environment enables assessment to contribute to learning.	Online environment in assessment for learning	Case study: designing and delivering a web-based Masters course to teachers and students	<ul style="list-style-type: none"> <li>The development of e-learning has prompted some fresh thinking within universities about what they are doing and why they are doing it, and thus has opened up new opportunities to reflect upon and innovate with assessment practices.</li> </ul>
Burkasaitiene and Tereseviciene (2008)	To examine students' perceptions of, and satisfaction with, the experience of learning English for Law in the environment of a comprehensive learning and assessment system integrating the project component and academic writing portfolio component into the framework of traditional learning.	Alternative methods of assessment	Questionnaire with students	<ul style="list-style-type: none"> <li>As a tool of reflection on the students' written work the portfolio method is suitable for planning one's further learning.</li> <li>Alternative methods proved to yield major benefits for students: promoted both receptive and productive language skills; academic writing portfolios deepened students' satisfaction with results they achieved.</li> <li>The integrated approach to learning present benefits: enhances students' satisfaction with their results, fosters one's motivation and promotes students' development as independent learners.</li> </ul>
Jesus and Moreira (2009)	To explore the use of students' questions as alternative assessment tools. To develop adequate formative and summative assignments for assessing student questioning competence based on problem-solving contexts.	Written questions on problem-solving contexts	Observation and problem based cases to students	<ul style="list-style-type: none"> <li>The questions written by students in the context of the assessment exceed in large number the oral and written questions posed in the other classroom contexts.</li> <li>The results support the use of student questions for assessment purposes and suggest the improvement of learning through question posing.</li> <li>It could be concluded that the alignment between teaching, learning and alternative modes of assessment, based on the simulation of student questions, has been accomplished.</li> </ul>
Orr (2010)	To explore students' and lecturers' experience of group work and creativity in a performing arts department that includes programs in theatre, dance and film production.	Group work assessment	Focus group, interviews and observation with students and teachers	<ul style="list-style-type: none"> <li>The students valued the opportunity to work in groups because this is seen as an authentic and effective preparation for life after graduation in the creative sector.</li> <li>Students and lecturers reported that the group work process usually comprises rehearsals and/or group meetings that occurred out of university teaching time.</li> <li>Students raised issues about trust and dependability frequently.</li> <li>The key conclusion is that the process element of group work projects should be assessed, but with due recognition of the complexity associated with assigning marks to it.</li> </ul>
Fernandes, Flores, and Lima (2012)	To evaluate the impact of project-led education (PLE) on students' learning processes	Project-led education	Survey and focus group with students	<ul style="list-style-type: none"> <li>The assessment model of PLE including the procedures undertaken to evaluate students in this approach reveals a set of advantages and constraints with regard to</li> </ul>

- Findings based on students' perceptions suggest that assessment practices in PLE enhance deep learning, by linking theory to practice to solve real-life problems.
- Feedback plays an important role in the assessment process of PLE, as students are provided with several opportunities to improve their work and are able to discuss results with teachers and tutors

### 3.5.3.1. Methods

Questionnaires and interviews were again the most used methods for data collection. Focus groups, observations, portfolios, records, self-assessment, problem-based cases and a web-based master's course were also used for data collection. In six studies, the majority of participants are students and teachers. In the remaining studies, the participants are students. There are no studies in which the participants are only teachers.

### 3.5.3.2. Key issues arising from the studies

Klenowski et al. (2006) highlighted the advantages of portfolio insofar as it enables effective learning and is seen as an effective form of professional development. Jesus and Moreira (2009) explain that the use of student questions for assessment purposes suggests the improvement of learning. In their opinion, the alignment between teaching, learning and alternative modes of assessment based on the stimulation of students' questions occurred. Orr (2010) demonstrates that group assessment provides benefits to learning and is an effective preparation for life after graduation. However, students and teachers considered that the group work process usually occurred out of university teaching time; that is why teachers need to be aware of students' group dynamics. Assessment fairness is also a difficulty; even within student groups, there are opposing ideas about what is fair in an assessment process.

Russell et al. (2006) demonstrate that new technologies impact on learning. The development of e-learning brings new opportunities for students to reflect and to innovate as far as assessment practices are concerned. Burkšaitienė and Teresevičienė (2008) reveal that the approach of integrating alternative methods of learning and assessment is useful in teaching. They also demonstrate that alternative methods, such as writing portfolios and projects, are beneficial for students: they promoted language skills and, e.g. portfolios deepened students' satisfaction with



the results they achieved. Fernandes et al. (2012) pointed to the development of both technical and soft skills and critical thinking, providing the opportunity for students to link the coursework to real situations. Interdisciplinary fostered by project-led education was seen an important key feature to the students.

### **3.6. Discussion and Conclusions**

The papers analysed show the wide range of research on assessment in higher education. Not surprisingly, in addition to aspects directly related to the assessment process, issues related to teaching and learning process are also identified. The main results of this review show that research over the last eight years in Assessment and Evaluation in Higher Education, focused on assessment, teaching and learning, draws attention to different issues:

- (i) Assessment methods used in higher education, their effectiveness, fairness, influence on learning and impact on teaching. Aspects related to the assessment methods and their impact on the students' performance are also addressed.
- (ii) Modes of assessment in higher education, related to self- and peer assessment practices and the monitoring of learning, taking into consideration formative, continuous and summative assessment.
- (iii) Learning and teaching practices and their impact on assessment. The influence of given learning environments and contexts on student learning and assessment is also discussed.

As far as the topic of assessment methods is concerned, the focus of the majority of the studies is on portfolio assessment, followed by written examinations, oral examinations, group assessment and paper and digital diaries. In regard to modes of assessment, these are mainly studies on self- and peer-assessment, followed by formative, continuous and summative assessment. Concerning assessment related to a given teaching and learning method, the studies focused on portfolio assessment, group work assessment, problem solving and project-led education, alternative methods of assessment and online environments. The topic modes of assessment comprises the majority of the studies, followed by assessment methods and assessment related to a given teaching and learning method.

Based on the studies reviewed, the following features were identified:

- (i) the largest amount of the studies are from United Kingdom;
- (ii) 2006 was the peak year in which most papers were published;
- (iii) the studies are both quantitative and qualitative, with questionnaires the most widely used method for data collection purposes; though qualitative studies were fewer, interviews and focus groups were the most used techniques;
- (iv) participants were mostly students, although there were a considerable number of studies in which both students and teachers participated.

Research in Assessment and Evaluation in Higher Education in the 2006–2013 period focused on a variety of methods and practices of assessment. Portfolio assessment, self- and peer-assessment are the principal foci of the studies. Topics related to the monitoring of learning and alternative contexts of teaching, learning and assessment are also analysed.

Research over the period indicates benefits for students' learning through assessment practices other than the conventional written test. Although there was a difference in the focus and pace of the implementation of the Bologna Process in European countries, the use of alternative or learner-centred assessment methods is consistent with the assumptions underpinning the Bologna Process. The studies addressed issues related to the role of the student in the assessment process, which may be indicative of a more learner-centred approach that is required by the Bologna Process. However, it is not possible to conclude that the emergence of research on assessment methods centred on the learner in higher education in this period is directly or totally related to the Bologna Process. Most articles are from UK, where the Bologna Process has had a different impact if compared with other European countries (Furlong, 2005; Sweeney, 2010). Different issues are implicated in Bologna's implementation in United Kingdom: the degree system in the UK is different from the rest of Europe, since the norm is the three-year bachelors and most masters are one year in duration; and in the UK, the use of ECTS system is in some cases avoided (Furlong, 2005; Sweeney, 2010). The difference in the focus and pace of the implementation of the Bologna Process in the European countries should be taken into account.

Further research is needed in this field in order to clearly argue for a change in the assessment methods after the implementation of the Bologna Process in higher education. This would be particularly relevant in the context of large mixed-method studies in different fields of knowledge,

as there might be differences in the ways in which assessment is carried out and teaching and learning processes occur.

More needs to be done with regard to university teachers as participants as well as students and pedagogical coordinators. In particular, issues related to students' monitoring and tutoring need to be explored further. More consistent studies are also necessary in order to investigate the effectiveness and fairness of alternative or learner-centred methods, as they call for a more active role on the part of students, and a more engaging and time-consuming role for teachers.



**CHAPTER IV**  
**THE RESEARCH DESIGN**



In this chapter, the methodology adopted for this study is presented and justified. First, the description of the research problem and the motivations to conduct the study, as well the contribution to the research field are described. Secondly, the research questions and objectives are presented. It is also explained the research design that provides an overview of the data collection, the context and the participants of the study. The methods of collecting and analysing data and the reliability and validity of the research are also presented. The concluding part of the chapter focuses on ethical considerations and the main limitations of the study.

#### **4.1. Rationale**

Education has a key role in a globalising world, and it is subject to political, economic, social and historical influences. In this context, especially the political influences result in constant changes and have significant implications for the educational practices (Lowe, 2007). Particularly, the assessment of learning in higher education, as a practice of the educational process, has been influenced, not only by policy agendas, but also by the implementation of the Bologna Process in European Universities, as well as through the emergence of new trends on assessment. These new trends focused on a learner-centred assessment enabling the link to the professional context (Teichler, 1999; 2004). Although in recent years research in higher education has been developed due to the mass education systems (Tight, 2004) some questions remain unanswered regarding the influence of the policies in the assessment process and the role of assessment in the educational process.

The research problem is the first step in the research process serving “the important function of focusing the researcher’s attention to the phenomenon in question, performing a guiding role in the research” (Coutinho, 2011, p. 45). Therefore, this study aims to get to know the assessment process in higher education in terms of perceptions, practices and effects. Research is crucial to analyse the changes of the educational process, as well to contribute to research in this field.

#### **4.2. Research Questions and Objectives**

The current context is guided by significant changes in the assessment process in higher education. After a few years of the implementation of the Bologna Process and the continuous

emergence of new assessment methods and practices, it is necessary to reflect on the perceptions of university teachers and undergraduate students about the assessment process. To formulate the research questions of the study a broad experiential approach (Braun & Clarke, 2013) was employed in order to understand the perceptions and accounts of the practices and behaviours of the stakeholders, as well as to identify the factors that influence these same experiences. The research questions were formulated in order to translate the research problem and to guide the research process (Quivy & Campenhoudt, 1995). According to Bryman (2008) the research questions guide the literature search, the data collection, the analysis of data and direct the way to follow. The research question “must have a clear social scientific angle” (Bryman, 2008, p. 70).

The general purpose of this study is to answer to the following questions:

- What are the perceptions of university teachers and undergraduate students about assessment process in higher education?
- What are the most used assessment methods and why?

Thus, the following general objectives have been identified:

- To identify methodologies or assessment methods used in higher education from the perspectives of university teachers and students;
- To get to know both the potential and difficulties in operationalising assessment in higher education from the perspective of university teachers and students;
- To understand the relationship between assessment and learning from the perspective of university teachers and students;
- To analyse operational modes of assessment used by university teachers in the context of post - Bologna;
- To analyse the implications of different approaches and operational modes of assessment in terms of teaching and learning;
- To get to know the most used assessment methods in various Portuguese public institutions of higher education.



From the formulation of the main goals aiming at understanding the role of assessment in its different dimensional aspects, and taking into account that the results of this PhD study will be presented through different studies, the following specific objectives were identified (see Table 8):

Table 8. Specific objectives in each of the studies

Studies	Specific Objectives
<b>Study 1</b> - <i>Conceptions and practices of assessment in Higher Education. A study of Portuguese university teachers</i>	<ul style="list-style-type: none"> <li>- To understand how university teachers look at assessment in HE;</li> <li>- To know what kind of assessment methods are used in HE, from the university teachers' perceptions;</li> <li>- To analyse how university teachers relate assessment methods and issues of teaching and learning.</li> </ul>
<b>Study 2</b> - <i>Portuguese university teachers' perceptions about the Bologna Process and assessment practices</i>	<ul style="list-style-type: none"> <li>- To analyse if university teachers have changed their assessment practices after the implementation of the Bologna Process;</li> <li>- To get to know how they select criteria and assessment methods;</li> <li>- To get to know what are the main difficulties they face in the assessment process;</li> <li>- To understand how they relate assessment methods to the teaching and learning processes.</li> </ul>
<b>Study 3</b> - <i>Perceptions of Portuguese undergraduate students about assessment: A study in five public universities</i>	<ul style="list-style-type: none"> <li>- To analyse how undergraduate students perceive assessment in terms of effectiveness and fairness in regard to traditional and learner-centred methods;</li> <li>- To analyse how undergraduate students perceive assessment through learner-centred methods and their impact in the quality of learning;</li> <li>- To analyse how undergraduate students perceive the moments and modes of assessment;</li> <li>- To get to know what kinds of assessment methods are most used;</li> <li>- To get to know what kinds of associations with assessment undergraduate students do;</li> <li>- To get to know the differences between programmes, learner-centred methods and traditional methods;</li> <li>- To get to know the differences on students' perceptions taking into account gender issues.</li> </ul>
<b>Study 4</b> - <i>Students' Perceptions of Assessment. A comparative analysis between Portugal and Sweden</i>	<ul style="list-style-type: none"> <li>- To know what are the main differences that can be traced while comparing students in Portuguese and Swedish educational systems;</li> <li>- To get to know what the implications of the results for assessment in higher education are.</li> </ul>
<b>Study 5</b> - <i>Effectiveness and relevance of feedback in Higher Education. A study of undergraduate students</i>	<ul style="list-style-type: none"> <li>- To get to know if there are significant differences in the perception of effectiveness of feedback practices depending on the assessment methods used;</li> <li>- To get to know if there are significant differences in the perception of the feedback practice being relevant depending on the assessment methods;</li> <li>- To analyse the relation between the mode and perception of effectiveness of feedback;</li> <li>- To analyse the relation between the mode and perception of feedback as a relevant practice;</li> <li>- To understand if feedback practices are perceived as more effective during the forethought, performance or self-reflection phases in the context of self-regulated learning process;</li> <li>- To understand if feedback practices are perceived as a more relevant during the forethought, performance or self-reflection phases of self-regulated learning process;</li> <li>- To know if there are any differences in perceived effectiveness of feedback practices in different phases and in the context of different assessment methods.</li> </ul>

### 4.3. Methodological Options

In the following section the methodological options regarding this study are presented based upon existing research paradigms.

#### 4.3.1. Interpretativism, Positivism and Mixed Research Methods

Research in Social Sciences predominantly comprises two paradigms which are different ontologically and epistemologically, and can be seen through different lenses: *the interpretative paradigm and the positivist paradigm* (Bryman, 2008; Coutinho, 2011; Flick, 2009). The *interpretative paradigm*, supported by a qualitative approach, is based on the interpretation of the phenomena, by understanding the meanings through the experiences of the individuals in a constantly changing reality. According to Bryman (2008), the interpretivism

“is an alternative to the positivist orthodoxy (...) it is predicated upon the view that a strategy is required that respects the differences between people and the objects of the natural sciences and therefore requires the social scientist to grasp the subjective meaning of social action. The subject matter of the social sciences, people and their institutions, is fundamentally different from that of the natural sciences. The study of the social world therefore requires a different logic of research procedure, one that reflects the distinctiveness of humans as against the natural order” (p. 15-16).

Based on the Classical Hermeneutics this paradigm explores the social dimension (Blaikie, 2010) having the researcher a systematic and integrated idea of the context and through the holistic dimension obtains a complex and substantial information (Miles, Huberman, & Saldaña, 2014). The behaviour and the action are key features (Thomas, 2003; Cohen, Manion, & Morrison, 2008) of the *interpretative paradigm* that intends to “understand the subjective world of human experience” (Cohen et al., 2008:21). However, Bryman (2008) identified some limitations regarding the qualitative research, such as the subjectivity, the lack of transparency and the difficulty to replication and generalisation.

Epistemologically and ontologically opposite, the *positivist paradigm*, supported by a quantitative approach, adjusts the model of Natural Sciences to Social Sciences and is based on the objectivity, measurability, order and regularity. Byrman (2008, p. 13) defines *positivism* as “an epistemological position that advocates the application of the methods of the natural sciences to the study of social reality and beyond”. The paradigm of *positivism* entails three different principles: the principle of *phenomenalism*, the principle of *deductivism* and the principle of *inductivism* (Byrman, 2008). This paradigm does not intend to study the human behaviour and its complexity (Cohen et al., 2008); instead it focuses on the demonstration of the reality through objective data to verify the facts and validate the knowledge (Coutinho, 2011) independently of the context where the research occurs (Silverman, 2010). As a main principle, the researcher in this paradigm tests hypothesis based on an experimental design (Creswell, 2014; Glaser & Strauss, 2012) and through an *objectivist epistemology* is neutral to avoid the subjectivity (Coutinho, 2011). However, some criticisms emerged regarding this paradigm. Earlier literature describes that there was never any investigation that could quantify, generalise and predict social phenomena in general, and education in particular (Coutinho, 2011). Usher (1996) also identifies weaknesses to the social research based on an epistemology positivist:

“with its emphasis on the natural sciences as the model is that its ontological assumptions about the nature of the world, i.e., that it is orderly, lawful and hence predictable, are highly problematic. Social events, processes and phenomena are more usefully seen as open and indeterminate” (p. 11).

Figure 4 illustrates the main differences between the two approaches to research:

Approaches	Quantitative	Qualitative
<b>The role of the theory in relation to research</b>	Deductive: testing of theory	Inductive: generation of theory
<b>Epistemological orientation</b>	Natural Science model- Positivism	Interpretivism
<b>Ontological orientation</b>	Objectivism	Constructionism

Figure 4. Differences between quantitative and qualitative approaches (Adapted from Bryman, 2008)

However, an integrated approach of these two paradigms has grown in popularity and has been discussed in social and behaviour sciences: the *mixed methods research* (Bergman, 2008; Byrman, 2008). According to Creswell and Clark (2007), the emergence of a *mixed methods research*, as a combination of quantitative and qualitative methods, appeared in a subtle way in the 50s but it was only recognised as a distinctive approach at the beginning of the second millennium. This approach has been subject to discussions and confrontations among academics due to different visions. Walker and Evers (1997) identified three different positions regarding the paradigms: *incompatibility* - the paradigms are irreconcilable; *complementarity* - complementarity between quantitative and qualitative methods and the researcher does not adopt one side or another; and finally *integration* - alternatives to overcome the confrontation between paradigms. Byrman (2008) also identified two versions of the debate regarding the paradigms: *epistemological version* - quantitative and qualitative research are incompatible epistemologically and ontologically and the *mixed methods research* is not possible; and the *technical version* - quantitative and qualitative research are capable of being fused, both have strengths in methods of collect and analyse data. As can be seen, two main trends lead the debate on the paradigms regarding their validity in a *mixed methods research*. However, most of the researchers are positioned in an integrated version of the two paradigms and in their complementarity that can bring positive aspects to research (Byrman, 2008). According to Coutinho (2011)

“The quantitative and qualitative methods can be applied together depending on the aspects of the situation to investigate. Science makes use of all methods, because they give a broader view of reality. The use combined methods is not free of difficulties, but it is the approach increasingly accepted in the scientific community in general” (p. 31).

The *mixed methods research* brings benefits in so far as it contemplates the strengths and weaknesses of each paradigm producing a broader view of the reality (Johnson & Christensen, 2012; Creswell, 2014; Coutinho, 2011) and answering questions that cannot be answered by each paradigm alone (Creswell & Clark, 2007). In general, a designed based on a *mixed approach* absorbs what is better in quantitative and qualitative methods (Bergman, 2008). Nevertheless, Byrman (2008) explains that

“Mixed methods research should not be considered as an approach that is universally applicable or as a panacea. It may provide a better understanding of a phenomenon than if just one method had been used. It may also frequently enhance our confidence in our own or others’ findings” (p. 624).

According to the purpose of this study, the research is not based on the assumption of a mono-paradigm, instead it is based on the complementarity of both paradigms. Therefore, it seems to be appropriate to identify the differences and the similarities between qualitative and quantitative research (see Figure 5).

Similarities		Differences	
Quantitative	Qualitative	Quantitative	Qualitative
Concerned with data reduction		Numbers	Words
Concerned with answering research questions		Point of view of the researcher	Point of view of participants
Concerned with relating data analysis with literature		Researcher distant	Researcher close
Concerned with variation		Theory testing	Theory emergent
To ensure that distortion does not occur		Static	Process
Importance of transparency		Generalisation	Contextual understanding
Address the question of error		Reliable data	Rich data
Appropriateness of the methods to the research question		Macro	Micro

Figure 5. Similarities and differences between qualitative and quantitative research (Adapted from Byrman, 2008)

To sum up, the qualitative research is based on the construction of reality, on the appropriateness of methods and theories (Flick, 2009) intending to discover the meanings of individual actions and social interactions (Coutinho, 2011). The quantitative research is based on measurement, causality and generalisation aiming to testing hypothesis (Black, 1999; Byrman, 2008). The *mixed methods research* encompasses both approaches and from that combination and integration it contributes to the global process of social research in order to consolidate theories and knowledge (Coutinho, 2011; Byrman, 2008; Johnson & Christensen, 2012; Creswell, 2014).

#### 4.4. The Studies within the Main Study

Any research, regardless of the knowledge area, requires an organised structure in order to establish a link between the empirical data and the research issues (Spector, 1981). The

research design works not only as a simple plan but its function is “to ensure that the evidence obtained enables us to answer the initial question as unambiguous as possible” (Vaus, 2001, p. 9).

The design of this study, based on a mixed method approach, incorporates elements of the *interpretative* and *positivist* paradigms, combining a quantitative and qualitative research. In general, the research followed a procedure that explored variables: 1) enabling to relate them to each other, in a quantitative approach; 2) and to a holistic perspective, emphasising the process and the context, in a qualitative approach. According to Creswell (2014), “collecting diverse types of data best provides a more complete understanding of a research problem than either quantitative or qualitative data alone” (p.18). This methodological option is the most appropriate to this study regarding the research problem to be analysed. Furthermore, the research question of this study meets what is proposed in the literature, as a research question in a *mixed methods research* is “an overarching question that potentially requires a structured quantitative approach and an emergent and holistic qualitative type of approach” (Tashakkori & Teddlie, 2010, p. 18). Particularly, this study was based on *convergent parallel mixed methods* converting the qualitative and quantitative data on a comprehensive analysis of the research problem. In this design “the investigator typically collects forms of data at roughly the same time and then integrates the information in the interpretation of the overall results” (Creswell, 2014, p. 15).

Thus, this research is based on different approaches regarding the relationship between theory and research. On the one hand, this research was based on the assumption of an *inductive research* that first aims the data analysis and then moves to the theory. On the other hand, the research was based on the logic of a *deductive research* which begins with theory, following to data analysis and then back to the theory again (Babbie, Wagner, & Zaino, 2015). As Figure 6 shows, the logic of an *inductive research* was the approach to the qualitative studies (Study 1 and Study 2) and the logic of a deductive research was the approach to quantitative studies (Study 3, Study 4 and Study 5).

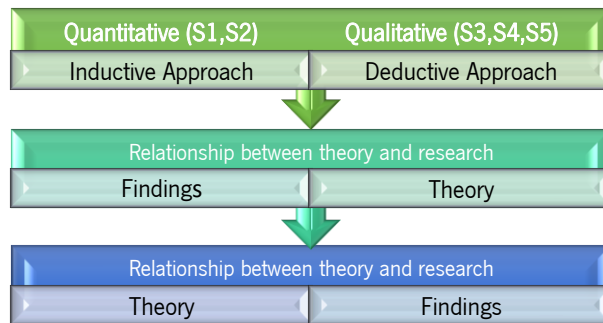


Figure 6. Relationship between theory and research

Based on this approach, this research was developed in 3 different phases (see Figure 7). The first and the second phases were carried out in the Portuguese context and the third phase was carried out in the Swedish context.

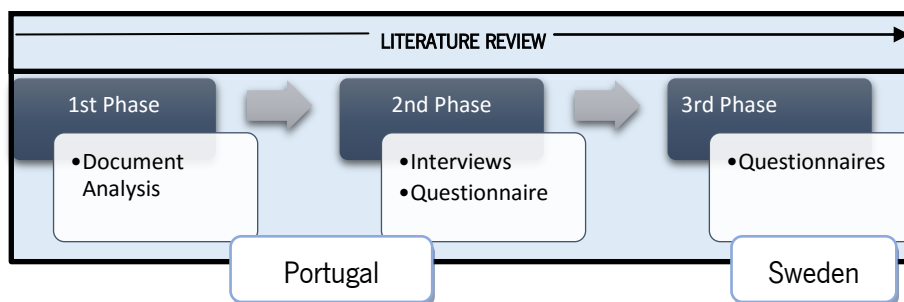


Figure 7. Illustration of the phases of the research process

The first research phase was carried out in the first semester in 2012. A document analysis was performed in order to deepen the international literature in the domain and in order to gathering information about the context in which the study was carried out. It was supported by a continuous review of the literature leading to the construction and the validation of the instruments to collect data to be applied in the second research phase. The second research phase was carried out in 2012/2013 and it consisted of the construction and application of an interview conducted with university teachers and a questionnaire administered to the students. The main purpose of the interview was to know the university teachers' perceptions in order to gather data in order to get to understand the issues under study. The main purpose of the questionnaire was to obtain students' perceptions. The third research phase was carried out between september and november of 2014 and it consisted of the application of the

questionnaire with Swedish students in order to get to know the differences between Portuguese and Swedish students' perceptions.

Table 9 summarises the research design, regarding the phases, the methods to collect data, the participants of the study and the objectives.

Table 9. Phases of the research design

Phases	Methods	Participants	Objectives
<u>First Phase</u> 2012	Document Analysis	Researcher	<ul style="list-style-type: none"> <li>• To analyse formal documents of the universities involved in the study (regulations regarding assessment) ;</li> <li>• To analyse documents of the Portuguese Foundation for Science and Technology;</li> <li>• To analyse papers from international journals.</li> </ul>
<u>Second Phase</u> 2012/2013	Interviews Questionnaire	Teachers Students	<ul style="list-style-type: none"> <li>• To get to know university teachers' perceptions of assessment.</li> <li>• To get to know students' perceptions of assessment.</li> </ul>
<u>Third Phase</u> 2014	Questionnaire	Swedish Students	<ul style="list-style-type: none"> <li>• To get to know the Swedish students' perceptions of assessment.</li> </ul>

Table 10 summarises key aspects in each study.



Table 10. Key aspects in each study

	Study 1	Study 2	Study 3	Study 4	Study 5
<b>Studies</b>	<i>Conceptions and practices of assessment in Higher Education. A study of Portuguese university teachers</i>	<i>Portuguese university teachers' perceptions about the Bologna Process and assessment practices</i>	<i>Perceptions of Portuguese undergraduate students about assessment: A study in five public universities</i>	<i>Student Perceptions of Assessment. A comparative analysis between Portugal and Sweden</i>	<i>Effectiveness and relevance of feedback in Higher Education. A study of undergraduate students</i>
<b>Methods to collect data</b>	Interview	Interview	Questionnaire	Questionnaire	Questionnaire
<b>Participants</b>	University teachers (n=57)	University teachers (n=57)	Students (n=624)	Students (n=245)	Students (n=605)
<b>Context</b>	5 Public Universities  Portugal	5 Public Universities  Portugal	5 Public Universities  Portugal	University in Portugal University in Sweden	5 Public Universities Portugal

#### 4.5. Context of the Study and Participants

In this section the context of the research is described as well the characterisation of the participants in this study.

##### 4.5.1. Portuguese Public Universities

The Portuguese system of higher education is structured according to the principles of the Bologna Process having the main orientation “to ensure a solid scientific and cultural preparation plus technical training that qualifies students for professional and cultural life while developing their capability to innovate and make critical analysis”<sup>2</sup>. Portuguese higher education system is a binary system that integrates the university and the polytechnic systems, and it is regulated by the *Lei de Bases do Sistema Educativo* and *Regime Jurídico das Instituições de Ensino Superior*. The Portuguese higher education system is of responsibility of *Ministry of Education and Science*.

<sup>2</sup> Retrieved from <https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Portugal:Overview>

The study courses lead to a bachelor, master and doctor degree. In the university system, the first degree (1<sup>st</sup> cycle), called *Licenciado*, comprises 180 to 240 ECTS and the length of the studies is between six to eight curricular semesters. The first degree should be based on the development of professional knowledge and skills, providing practical components, such work-experiences and theoretically-based studies<sup>3</sup>. The Master degree (2<sup>nd</sup> cycle), comprises 90 to 120 ECTS and the length of the studies is three to four semesters of work, and should be based on ensuring the acquisition of an academic specialisation, enabling research, innovation or deepening of professional skills. In particular, in the integrated masters degree, can be conferred after an integrated cycle of studies with 300 to 360 ECTS and a normal duration ten to twelve semesters of work<sup>4</sup>. Regarding the Doctor degree, the length of the studies or the corresponding number of ECTS cycle is not defined, although, the most common is the length of studies between six and eight semesters comprising between 180 and 240 ECTS. The Doctor degree is conferred to those who have passed the public defense of the thesis<sup>5</sup>.

As earlier mentioned, this study intended to get to know the university teachers' and undergraduate students' perceptions of assessment in higher education. Thus, this study was carried out in five Portuguese public universities (U1, U2, U3, U4, U5), in the north and in centre of the country were selected including the so-called *classical* and *new* universities. This selection was made since it is possible to produce a wider scope taking into account the time available to carry out the research. 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: *Social Sciences and Humanities* (SSH), *Life and Health Sciences* (LHS), *Natural and Environmental Sciences* (NES) and *Sciences and Engineering* (SE). Different programmes were selected in all areas of knowledge, considering the similarity of the programmes between the 5 universities in order to enable deeper analysis (see Figure 8).

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<sup>3</sup>Retrieved from <http://www.dges.mctes.pt/NR/rdonlyres/7F9240C8-7785-47B8-A0F1-731EEE152812/5909/DGESCURSOSALUNOSLic17FEV2012.pdf>

<sup>4</sup>Retrieved from <http://www.dges.mctes.pt/NR/rdonlyres/7F9240C8-7785-47B8-A0F1-731EEE152812/5919/DGESCURSOSALUNOSMest17FEV2012.pdf>

<sup>5</sup>Retrieved from <http://www.dges.mctes.pt/NR/rdonlyres/7F9240C8-7785-47B8-A0F1-731EEE152812/5921/DGESCURSOSALUNOSDout17FEV2012.pdf>

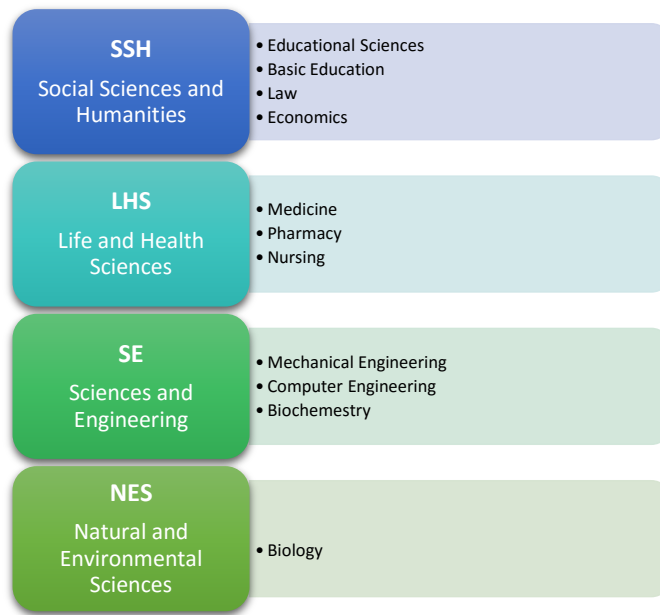


Figure 8. Knowledge areas and programmes included in the study

After selecting the programmes, the 3<sup>rd</sup> year (1<sup>st</sup> cycle) of each programme was selected as students attending the 3<sup>rd</sup> year already have more experience in being assessed in higher education than their colleagues in year 1 and 2.

#### 4.5.2. System of higher education in Sweden

As mentioned earlier, the third phase of data collection of this research was carried out in Sweden as part of a European Doctorate. It is, therefore, important to describe the Swedish university system to better contextualise it in the presentt research.

The system of higher education in Sweden comprises universities (universitet) and university colleges (högskolor) and it is structured according to the principles of the Bologna Process<sup>6</sup>. The responsibility of the university system is under the tutelage of *The Ministry of Education and Research* (Utbildningsdepartementet). The quality control of higher education and the degree authorisations are the responsibility of *The Swedish Higher Education Authority* (Universitetskanslerämbetet) and the admissions to the study programmes are the responsibility of *The Swedish Council of Higher Education* (Universitets- och högskolerådet). The Swedish higher education system is regulated by *The Higher Education Act* (Högskolelagen, SFS

<sup>6</sup> Retrieved from [https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Sweden:Higher\\_Education](https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Sweden:Higher_Education)

1992:1434) supplemented by *The Higher Education Ordinance* (Högskoleförordningen, SFS 1993:100). The main goal of Swedish higher education is to provide

“a close link between research and education. Scientific credibility and good practice are to be safeguarded. The higher education institutions must tailor their activities to attain high quality and make efficient use of available resources. Institutions of higher education should promote students’ influence over the education, as well as the understanding of other countries and international relations”<sup>7</sup>.

The study courses lead to a bachelor, master and doctor degree. The first and second level of studies is referred to undergraduate education and the third level of studies to post-graduate education. The courses can be taken independently or as part of a study programme to form degrees. The scale of a course or study programme is measured in higher education credits (*högskolepoäng*). In the first cycle, the general degrees are the higher education diploma (two years of study; *högskoleexamen*) comprising 120 ECTS and the Bachelor’s degree (three years of study; “*kandidatexamen*”) comprising 180 ECTS. The studies length of the first cycle is three years<sup>8</sup>. In the second cycle of studies, the master degree comprises between 60 ECTS<sup>9</sup> (one year; *Magisterexamen*) and 120 ECTS (two years; *Masterexamen*). The third cycle of studies comprises 120 ECTS of two years of research (“*licentiatexamen*”) and 240 ECTS of four years of research (“*doktorsexamen*”) including a doctoral thesis equivalent to a minimum of 120 higher education credits<sup>10</sup>.

In the Sweden context, the data collection was carried out in a university college (U6). Due to time constraints only three programmes were selected: Nursing, Engineering and Educational Sciences (see Figure 9). The Swedish students were also attending the 3<sup>rd</sup> year (1<sup>st</sup> cycle).

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<sup>7</sup> Retrieved from [https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Sweden:Higher\\_Education](https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Sweden:Higher_Education)

<sup>8</sup> Retrieved from <https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Sweden:Bachelor>

<sup>9</sup> Retrieved from [https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Sweden:Second\\_Cycle\\_Programmes](https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Sweden:Second_Cycle_Programmes)

<sup>10</sup> Retrieved from [https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Sweden:Third\\_Cycle\\_\(PhD\)\\_Programmes](https://webgate.ec.europa.eu/fpfis/mwikis/eurydice/index.php/Sweden:Third_Cycle_(PhD)_Programmes)

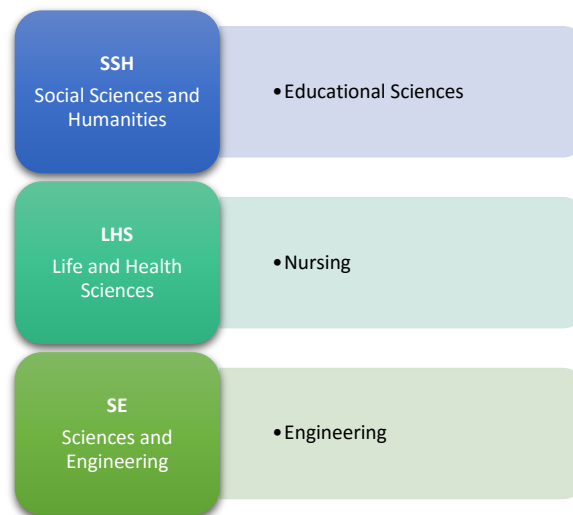


Figure 9. Programmes selected in Sweden

### 4.5.3. Participants

The participants in this study are university teachers and undergraduate students of higher education attending the 3<sup>rd</sup> year in different programmes in different universities. These participants were chosen as they are the ones that who are directly related to the assessment process in higher education contexts. They have the knowledge on the issue under study and through their individual experience it is possible to get to know how assessment works. On one hand, university teachers provide information about the ways in which the process occurs especially how assessment is structured for each module, the methods that are chosen and why, the frequency of the assessment process, etc. On the other hand, the students provide information about the positive and negative aspects of the assessment process, their perceptions about what can be improved and their approaches to the assessment process. A brief characterisation of the participants, in the different phases of data collection is presented below.

#### 4.5.3.1. University Teachers

Teachers interviewed in this study taught in 3<sup>rd</sup> year of different areas of knowledge (Figure 10) and in different programmes (graph 2) in 5 Portuguese public universities. In total, 57 teachers participated in this study. Most of teachers are from Social Sciences and Humanities (56%),

followed by Life and Health Sciences (18%), Natural and Environmental Sciences (16%) and Sciences and Engineering (10%).

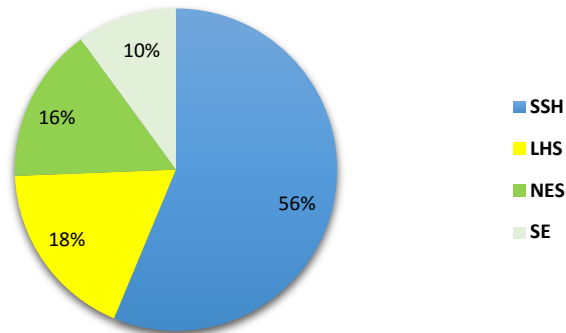


Figure 10. Participating university teachers

As shown in Figure 11, most teachers taught in Educational Sciences (30%), followed by Economics (21%), Biology (16%), Nursing (9%), Medicine (7%), Mechanical Engineering (7%), Basic Education (5%), Pharmacy (2%), Computer Engineering (1, 5%) and Biochemistry (1, 5%).

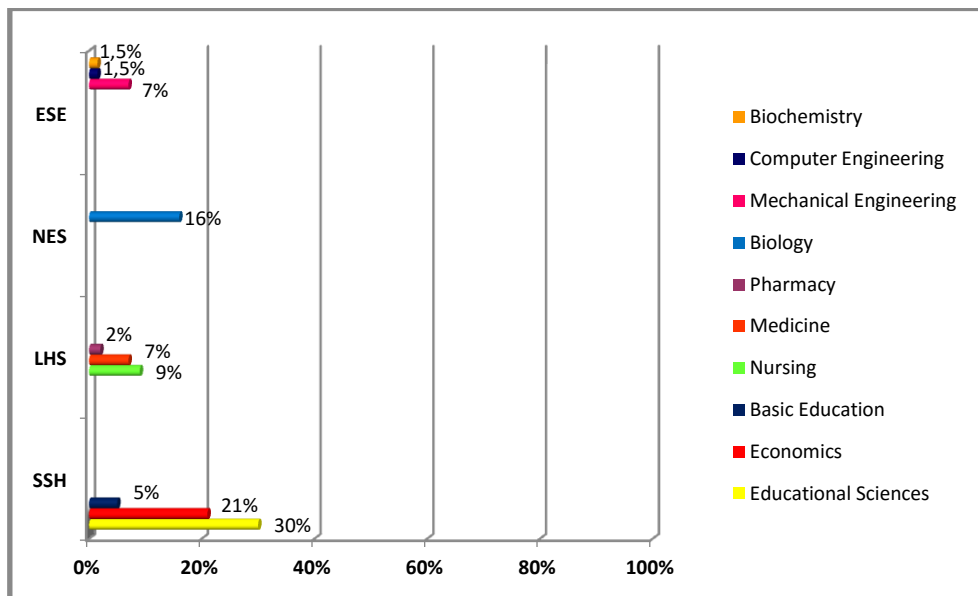


Figure 11. University teachers by programmes

Table 11 presents the university teachers' biographical data regarding gender, age, professional situation and academic qualifications. Data show that 53% of the participants are male and 47%

are female. The age of the participants ranged between 30 and 68 years old. Most of them (43%) are between 41 and 50 years old inclusively, 31% range between 51 and 60 years old, 15% between 30 and 40 years old, and 11% are more than 60 years old. Regarding the professional situation most of participants are Assistant Professors (51%), followed by Full professors (14%) and Associate Professors (12%). The years of teaching experience in Higher Education ranged between 2 and 44 years. The average of the teaching experience is 29 years. Most of the participants hold the PhD degree.

Table 11. Biographical data of university teachers

<b>Gender</b>	Male	53%
	Female	47%
<b>Age</b>	[30-40]	15%
	[41-50]	43%
	[51-60]	31%
	More than 60 years old	11%
<b>Professional Situation</b>	Assistant Professor	51%
	Full Professor	14%
	Associate Professor	12%
	Associate with aggregation	7%
	Invited Assistant	7%
	Adjunct Professor	5%
	Coordinator Professor	2%
	Researcher Assistant	2%
<b>Academic qualifications</b>	PhD	91%
	Postgraduate course	3%
	Master	2%
	Undergraduate	2%
	Postdoctoral	2%

#### 4.5.3.2. Undergraduate Students

Students participated in this study attended year 3 of different areas of knowledge (Figure 12) and different programmes (Figure 13) in 5 Portuguese public universities. In total, 634 students participated in this study.

Figure 12 shows that most students attended programmes in Social Sciences and Humanities (44%), followed by Life and Health Sciences (28%), Sciences and Engineering (20%) and Natural and Environment Sciences (8%).

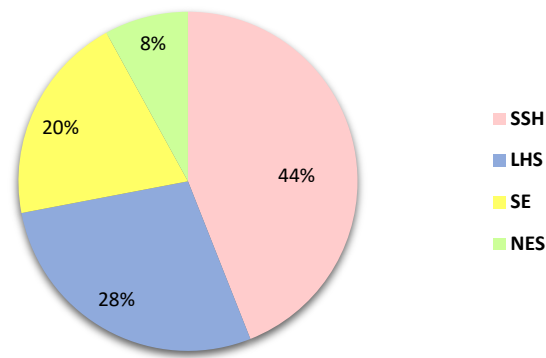


Figure 12. Students by area of knowledge

The figure below (Figure 13) shows that most students attended year 3 of Educational Sciences (25%), followed by Mechanical Engineering (21%), Nursing (19%), Biology (7%), Law (7%), Basic Education (6%), Economics (5%), Medicine (5%), and Pharmacy (5%).

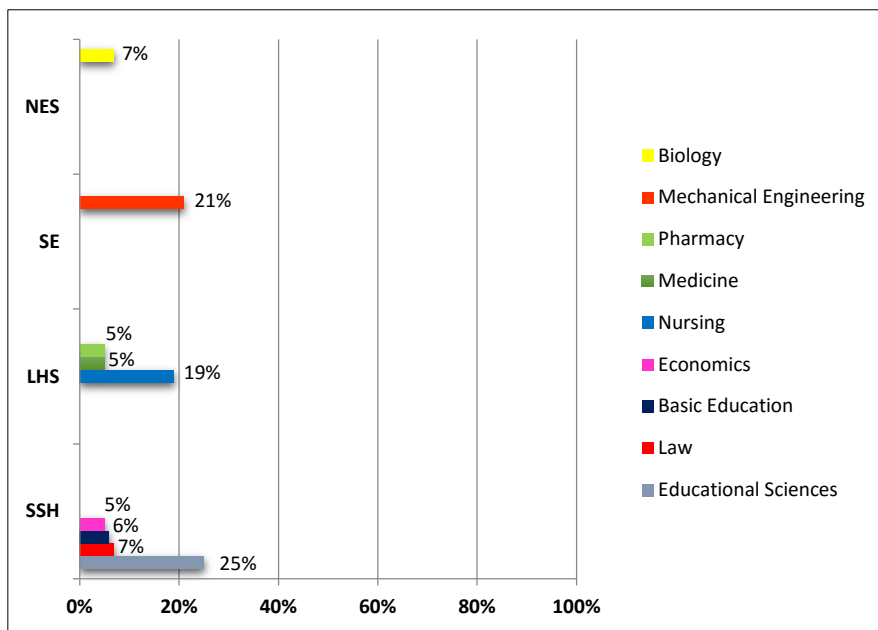


Figure 13. Students by programmes

Table 12 presents the biographical data of the students regarding gender and age. Data show that 65% of the participants are female. The age of the participants ranged between 20 and 61 years old. Most of them are 20 years old (37, 6%). 95,9% of students ranged between 20 and 30 years old inclusively, and 2,8% are between 31 and 40 years old.



Table 12. Biographical data of students

<b>Gender</b>	Female	65%
	Male	35%
<b>Age</b>	[20-30]	95,9%
	[31-40]	2,8%
	[41-50]	0,9%
	More than 50	0,4%

#### 4.5.3.3. Swedish students

In total, 72 Swedish students participated in the study. They were attending year 3 in different programmes in 3 different areas of knowledge (see Figure 14). Most of students attended Nursing programme (68%), followed by Educational Sciences programme (29%) and Engineering Programme (3%).

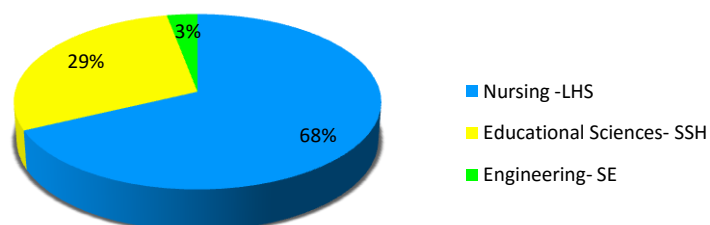


Figure 14. Swedish students by area of knowledge and programme

Table 13 presents the biographical data of Swedish students regarding gender and age. As shown in Table 13, 85% students are female. Their age ranged between 21 and 51 years old. Most of them are 21 (12, 1%) and 22 (12, 1%) years old.

Table 13. Biographical data of Swedish students

<b>Gender</b>	Female	85%
	Male	15%
<b>Age</b>	[21-30]	75%
	[31-40]	20%
	[41-50]	3%
	More than 50	2%

#### 4.6. Methods and Data Collection Procedures

The data collection methods used at different stages of the research were document analysis, interviews and questionnaires in order to obtain qualitative and quantitative diversified data to respond to proposed objectives. In this section a description of the methods and procedures used in the data collection are presented.

##### 4.6.1. Document analysis

The document analysis is required in any research as allows the extraction of useful and relevant information, guiding the researcher on the issue under study. In addition, this method allows the collection and verification of data and, furthermore, can create new empirical material (Albarelo, Digneffe, Hiernaux, Maroy, Ruquoy & Saint-Georges, 1997). This data collection method includes document research and literature research. The document research includes, for example, official documents and legislation. The literature research covers the entire published literature on a given topic as newspapers, magazines, monographs, amongst others (Marconi & Lakatos, 1999). According to Scott (1990, p. 6), when a document is selected the researcher should verify their “authenticity, credibility, representativeness and its meaning”. It is also important to ask the following questions when the document it is being analysed: “What kind of reality is the document creating? How is the document accomplishing this task?” (Coffey, 2014, p. 371). Thus, the researcher uses this method for collecting data as accurate and valid as possible. The document analysis was used in this research to contextualise the studies, ie, the 5 Portuguese public universities, and later a Swedish university. First, documents related to assessment process in 5 universities were analysed (e.g. Regulation of Assessment). The documents regarding the Domains and Scientific Areas of Knowledge of Portuguese Foundation for Science and Technology were also analysed in order to identify the areas of knowledge to be studied.

There was also a need to analyse the hierarchical organisation of each institute, faculty and department to perform the protocol and to identify the participants. The academic calendar of different programmes was analysed to schedule the interviews and the questionnaires. The papers regarding *methods of assessment* at the journal *Assessment and Evaluation in Higher Education* and other journals were also analysed in order to do a literature review. In Flick (2009, p. 262) perspective, “documents can be instructive for understanding social realities in institutional contexts” and for that reason the document analysis enables knowledge of the reality to be studied in this research, guiding future actions in the research process.

#### 4.6.2. Interviews

According to Byrman (2008, p. 436), the interview “is probably the most widely employed method in qualitative research (...) it is the flexibility of the interview that makes it so attractive”. The interview as a qualitative method of collecting data is characterised by producing knowledge through the interaction of the interviewer and the interviewee (Kvale, 2007; Given, 2008). However, according to Gubrium and Holstein (2001) the qualitative interview is not a simple procedure of research, instead it is part of our society and culture. Qualitative interview provides a rich source of data (Quivy & Campenhoudt, 1995; Silverman, 2015) through the experiences, feelings and opinions of the participants (Atkinson & Silverman, 1997; Gubrium & Holstein, 2001.) Through its interactivity, productivity and constructiveness, it enables the interpretation of the meaning of the phenomena in a social context (Silverman, 2011). As a part of a research, performing an interview is more than an everyday conversation “it is a professional interaction and becomes a careful questioning and listening approach with the purpose of obtaining thoroughly tested knowledge” (Kvale, 2007, p. 7).

In this research, the interviews were collected in 2012/2013, more precisely, between October 2012 and June 2013 in 5 Portuguese Public Universities. Due to limitations of the study data were unable to be collected in all selected programmes initially identified, therefore, interviews were performed in 10 out of 14 programmes. In total 57 teachers were interviewed. Figure 15 summarises the key features of the qualitative interview.



Figure 15. Key features of qualitative interview (Adapted from Byrman, 2008, p. 437)

The design of the interview chosen was the semi-structured interview. In this type of structure,

“The researcher has a list of questions or fairly specific topics to be covered, often referred to as an interview guide, but the interviewee has a great deal of leeway in how to reply. Questions may not follow on exactly in the way outlined on the schedule and questions that are not included in the guide may be asked” (Byrman, 2008, p. 438).

As a second step the *interview guide* was prepared. The interview guide is suitable to the purposes of this research as it enabled a flexible approach and the researcher “is free to drop some questions from the list, or add optional questions, or improvise still others (...) it can reshuffle the topics and questions to find the best fit for an individual” (Lindlof & Taylor, 2011, p. 200). The design of the *interview guide* was based on open-ended questions enabling the flexibility and the control of the process (Thomas, 2003) and a follow up of the questions that emerge during the interview (Lindlof & Taylor, 2011). The *interview guide* (see Appendix I) of this research focuses on six dimensions: 1) biographical data; 2) perceptions on assessment; 3) perceptions on assessment in relation to the process of teaching and learning; 4) assessment practices; 5) the Bologna Process concerning assessment and 6) assessment process in higher education.

In a third step, a research protocol was sent to the Presidents of Faculties and Institutes and to the Presidents of the Pedagogical Council of each Faculty and Institute in order to request permission to conduct the study. After having had permission to carry out the study, the directors of each programme were contacted in order to obtain the email contacts of the teachers who were teaching in the 3<sup>rd</sup> year of each programme. The interview protocol was validated with teachers teaching in one Public university between March and May 2012. All teachers identified

in each of programmes in year 3 were invited to participate in a face-to-face interview. However, due to time constraints some university teachers preferred to participate by sending their responses via email. For this purpose, a link with open-ended questions was created and was sent to them via email. Out of 57 interviews, 24 were performed face-to-face and 33 were received via email. The interviewed teachers on the day and time agreed were voluntarily interviewed. Permission was asked to record the interview. Interviews were transcribed *verbatim* (see Appendix II).

#### **4.6.3. Questionnaire**

The questionnaire based on a quantitative approach is a method for collecting data and it is possible to be applied to a universe (Pardal & Correia, 1995; Leedy & Ormrod, 2010; Sapsford, 1999; Langdridge & Johnson, 2009). This method is characterised by the questioning of individuals based on the measurement and comparison of large amounts of data and it intends the generalisation from a fraction of population (Fowler, 2009). According to Quivy and Campenhoudt (1995, p. 188-189), “the questionnaire aims to verifying theoretical hypotheses and the correlation analysis suggested by these hypotheses (...) it allows the possibility of measuring a plurality of data and carry therefore numerous correlation analysis”. Through the questionnaire it is possible to obtain information about “thoughts, feelings, attitudes, beliefs, values, perceptions, personality and behavioural intentions of research participants” (Johnson & Christensen, 2012, p. 197). Figure 16 summarises the key features of a questionnaire.

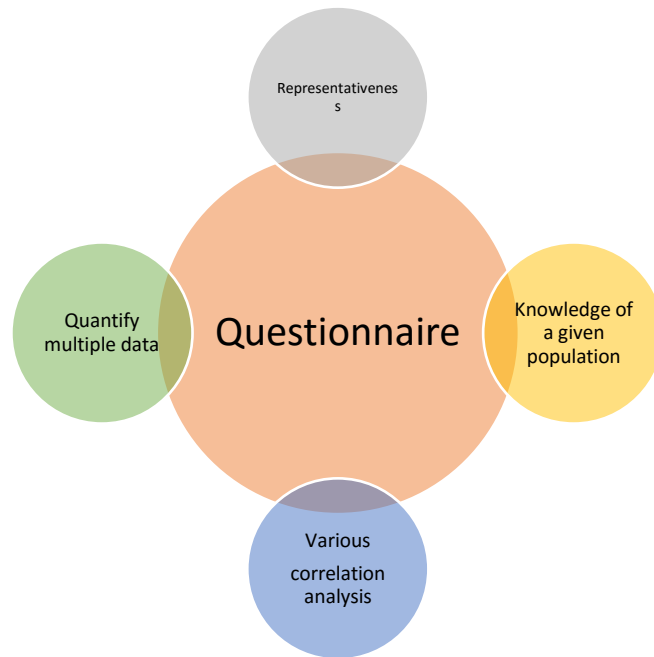


Figure 16. Key features of the questionnaire

In this research, the face-to-face questionnaires were administered in 2012/2013, more precisely, between October 2012 and June 2013 in 5 Portuguese Public Universities. Due to limitations of the study, data were unable to be collected in all selected programmes initially identified. Therefore, questionnaires were administered in 9 out of 14 programmes. In total 634 students participated in the survey.

The questionnaire was selected as it was expected to obtain responses from a large number of the students' regarding assessment in higher education. Literature on quantitative research shows that the construction of a questionnaire should respect different phases (Sapsford, 1999). Leedy and Ormrod (2010) present some guidelines to develop a questionnaire properly: the questionnaire should not be extensive; should be easy to read; should have clear instructions, should use clear and appropriate language; should be consistent and their validity should be tested. A revision of literature was carried out in order to design the questionnaire. The questionnaire was prepared based on the study by Pereira and Flores (2012) and Flores et al. (2015) and was developed in order to identify the perceptions and beliefs of the participants concerning several dimensions of assessment: 1) perceptions on assessment; 2) assessment methods; 3) the relation between assessment and learning; 4) practices of assessment and 5) feedback (see appendix III). The group of questions was organised by rating scales allowing a

single response by the students, except one open question (the last question of the questionnaire) regarding feedback. Earlier literature shows that using closed questions in research bring advantages and disadvantages. Byrman (2008) states that the main advantages are the ease in processing answers and allowing comparability, and as the main disadvantage the loss of spontaneity in respondents' answers. In the first scale a four point Likert-scale was used, ranging from 1=not at all to 4= very much. The second scale is based also on a four point Likert- scale, ranging from 1=not at all to 4= always. In third and four scales a five point Likert-scale was used, ranging from 1= strongly disagree to 5= strongly agree. This type of scale based on the method of summated ratings, assesses attitudes toward an issue (Ary, Jacobs, Sorensen, & Razavieh, 2010) and allows to evaluate a continuum of agreement of a particular statement providing a more reliable information about individual's opinion (Johnson & Christensen, 2012; Anderson, 1990). A research protocol was sent to the Presidents of Faculties/Schools/Institutes and to the Presidents of the Pedagogical Council of each Faculty/School/Institute in order to request permission to conduct the study (the same research protocol that was mentioned previously). Directors of the different programmes were contacted in order to obtain the email contacts of the teachers who were teaching in the third year of each programme. Teachers were contacted by email in order to help with the administration of the questionnaire in the classroom context. In other cases the programmes directors sent a request to an employee who sent the request directly to the teachers who subsequently came into contact in order to schedule the day, time and place for the administration of the questionnaire. A pilot study was validated with students from 4 different programmes in one Public university between March and May 2012. The sample of the students consisted of all students attending the 3rd year of the selected programmes. The respondents of the questionnaire were students that on the day and time agreed were voluntarily in the classroom to fill in the questionnaires.

#### **4.6.4. Procedures for data collection in Sweden**

In Sweden, the questionnaire was administered between October and November 2014. It was the same questionnaire administered in the Portuguese context. Minor changes were made in the second scale in order to adapt the questionnaire to the Swedish context. A research protocol was also sent to administrators in each programme in order to obtain permission to conduct the study, and the email addresses of the students were obtained. A choice was made to conduct an

electronic questionnaire designed in Quick Search, due to time constraints. The questionnaire was sent to a representative from a student union to check if the questions were suitable and relevant for Swedish students. In total, 72 Swedish students attending year 3 in three different programmes participated in this study.

#### **4.7. Methods and Procedures for Data Analysis**

This section presents how the data analysis in this research was conducted. The methods and data analysis procedures will be explained considering the qualitative data and quantitative data collected.

##### **4.7.1. Qualitative Data**

The analysis of qualitative data provides “rich descriptions and explanations of human processes with strong potential for revealing complexity” (Miles et al., 2014, p. 4-11) and it is based on interpretation and reflection. Analysing qualitative data consists of grouping the data and then put them together as a whole conferring on it a holistic dimension. Miles et al. (2014) identify three components for qualitative analysis: *data condensation* that consists of selecting and transforming the data; *display data* that consists of the organisation of the information and *conclusion drawing/verification* that consists of producing original findings, vague, remaining open until the process ends. According to LeCompte and Preissle (1993, p. 237) “the intention is to move from description to explanation and theory generation”. However, in this kind of analysis the research can be influenced by a certain subjectivity, through his/her beliefs, preferences, preconceptions, among others (Cohen et al., 2008). What the researcher intends to do with the data will determine the kind of analysis to be done. The main challenge for a qualitative researcher is “finding coherent descriptions and explanations that still include all of the gaps, inconsistencies, and contradictions inherent in personal and social life” (Miles et al., 2014, p. 10).

In this research, the content analysis were used to analyse the documents collected and data from interviews as they better serve the purposes of this research:



“Through a systematic series of analyse, including coding and categorisation, until theory emerges that explains the phenomena being studied or which can be used from predictive purposes” (Cohen et al., 2008, p. 461)

The early definition of content analysis shows that it performs valid inferences, leading to the emergence of what is relevant (Weber, 1990) and answer the research questions (Thomas, 2003). The main goal of content analysis is “summarising and reporting written data, the main contents of data and their messages” (Cohen et al., 2008, p. 475) classifying it into categories of similar meanings (Moretti, van Vliet, Bensing, Deledda, Mazzi, Rimondini, Zimmermann, & Fletcher, 2011). In other words, it is “a research method for subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns” (Hsieh & Shannon, 2005, p. 1278). Cho and Lee (2014) explain that content analysis has two unique features: its flexibility regarding the use of inductive or deductive approaches, or both and the possibility to extract implicit or explicit content meaning. On one hand, the use of an inductive approach is appropriated when there is limited knowledge of the phenomena and the codes and categories emerged from the data. On the other hand, the use of deductive approach is appropriated to test existing theory and the codes and categories are drawn before based on literature. Furthermore, earlier literature explains that content analysis is also characterised by allowing a systematic and rigorous procedure through the examination and verification of the data content (Flick, 2009; Mayring, 2004). Ezzy (2002, p. 82) states that “through logical deduction from the preexisting theory” the content analysis develops units of analysis, and from it develops categories of analysis, enabling the counting of occurrences and, in the final stage, the analysis is based on the interpretation of the results: “Results are compared with the predictions of the pre existing theory and conclusions for theory are drawn” (Ezzy, 2002, p. 84). Although content analysis has their roots on quantitative research strategy, it “becomes applicable to many different forms of unstructured information, such as transcripts of semi- and unstructured interviews” (Byrman, 2008). Furthermore, content analysis aims “the inference of knowledge concerning production conditions (or, reception), and this inference uses indicators (quantitative or not)” (Bardin, 2009, p. 40).

However, Bardin (2009) draws attention to the following:

“The interviews’ content analysis is very delicate. It can certainly make a classic content analysis with categorical analysis grid, favoring the repetition of frequency of the themes with all the interviews together. But, in the end, this reduction will leave in the shadow part of the richness of specific information of this type of research. The result will be an abstraction incapable of transmitting the essential of the meanings produced by the people, letting out the latent, the original, the structural, the contextual” (p. 91).

The author suggests the use of two different levels of analysis: 1) the *classical* or vertical analysis that is irreplaceable and it was described above, and 2) the *decryption* analysis attempting to emerge in the subjective world of another disregarding deciphering of previous interviews.

Therefore, in the context of this research, content analysis is considered to be the method appropriate to analyse the documents collected and the data obtained in the interviews. The procedure of content analysis followed the steps illustrated below (see Figure 17) based on Bardin’s work (2009). The author identifies 3 phases of analysis: *pre-analysis*, *the material exploration* and the *treatment of the results: inference and interpretation*. This framework should be guided through the principles of *completeness, representativeness, consistency, exclusivity and relevance*.

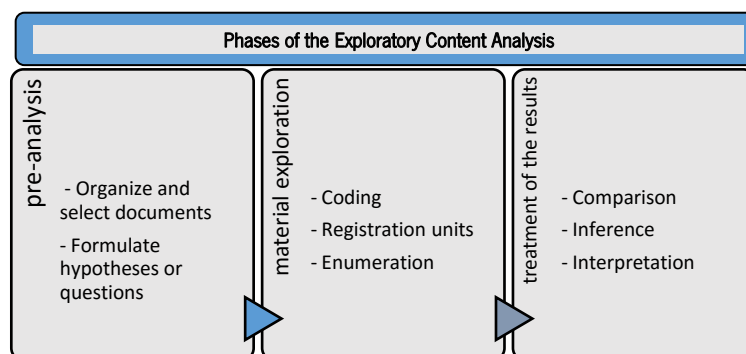


Figure 17. Phases of the Exploratory Content Analysis (Adapted from Bardin, 2009)

Table 14 shows the synthesis of the analysis content carried out regarding the revision of the literature in the Journal *Assessment and Evaluation in Higher Education*.

Table 14. Review of the literature

<b>1<sup>st</sup> Phase</b> Pre-Analysis	Organise and select the articles from the AEHE from 2006 until 2013	
<b>2<sup>nd</sup> Phase</b> Material exploration	<i>Analysis Unit</i>	Assessment methods
		Teaching
		Learning
	<i>Enumeration</i>	
<b>3<sup>rd</sup> Phase</b> Treatment of the results	<i>Categorisation</i>	Assessment methods Modes of assessment Assessment related to a given teaching and learning method
	Literature review on assessment	

In the phase of *pre-analysis* the material was organised as well as the hypotheses formulation aiming at making operational and systematise the initial ideas. In this phase the following steps were taken into account: the initial reading; the choice of documents; the formulation of hypotheses and objectives; and finally the preparation of the material. In the phase of *material exploration*, the systematic application of the decisions was carried out. In the last phase, *treatment of the results*, inferences were purposed and interpretations were made regarding the initial objectives. Furthermore, “the results obtained, the systematic confrontation with the material and the kind of inferences achieved can serve as a basis for further analysis around new theoretical dimensions” (Bardin, 2009, p. 128).

#### 4.7.2. Quantitative Data

The quantitative data analysis is widely used method in social sciences and it “is a powerful form” (Cohen et al., 2008, p. 501) of large-scale research. The quantitative analysis is characterised by the mathematical analysis of quantitative numerical data (Aliaga & Gunderson, 2002; Muijs, 2011) to explain a given phenomenon. The quantitative data analysis was used to analyse questionnaires to answers some questions within the context of this research.

The Statistical Package for the Social Sciences (SPSS) is, one of the most widely software used in social sciences research (Byrman, 2008; Babbie et al., 2015). In this research the IBM Statistical Package for the Social Sciences (SPSS) Statistics, v.22 was used to analyse the quantitative data. Different procedures were used such as: *descriptive statistics* through the analysis of means, standards deviations and correlation between variables; one way ANOVA, T-test and Post-hoc

multiple comparisons. The analysis of variance through the One-way ANOVA as “a parametric statistical test for determining whether the means of two or more groups on a single dependent variable significantly differ from each other by chance” (Cramer, 2003, p. 240) allows to test differences between groups. The t-test is used to discover if there are significant differences between the means of two groups (Cohen et al. 2008; Black, 1999). In other words, the t-test give “the statistical significance of a partial regression of a coefficient” (Cramer, 2003, p. 80) comparing means of dependent variables (Muijs, 2011). The post-hoc multiple comparisons test also allows knowing which specific means differed from others (Weinberg & Abramowitz, 2002; Muijs, 2011).

#### 4.7.3. Reliability and Validity of the Research

The rigour in the research process is a key feature. According to Byrman (2008, p. 31) “the most prominent criteria for the evaluation of social research are reliability and validity”. The *reliability* concerns if the results of a given study are repeatable regarding the consistency of measures. *Stability* (little variation in the re-administration of a measure to a group); *internal reliability* (if indicators are consistent) and *inter-observer consistency* (subjective judgment) are three key factors when a measure is reliable (Byrman, 2008). According to Black (1999, p. 195), “reliability is an indicator of the consistency between two measures”, i.e., is the verification of the replicability of the conclusions of a study (Coutinho, 2011). The validity concerns the quality of the results regarding the truth, accuracy, consistency and integrity (Coutinho, 2011; Byrman, 2008). Shadish, Cook, and Campbell (2002) distinguishes validity as internal and external. The internal validity is based on the correspondence between observations, measurements and the reality investigated. The external validity is based on the generalisation of the results. However, earlier literature shows some criticisms related to the questions of validity (Shadish et al., 2002) and reliability (LeCompte & Goetz, 1982). The question of the reliability and validity on qualitative research is difficult to observe, due to size samples and methods or techniques applied by qualitative researchers (LeCompte & Goetz, 1982). Guba and Lincoln (1994) propose an alternative criteria for evaluating qualitative research: the *trustworthiness* and *authenticity*. As Byrman (2008, p. 398) states, “there is a considerable unease about the simple application of the reliability and validity criteria associated with quantitative researcher to qualitative research”. Therefore, to prevent extraneous variables that can compromise the quality and accuracy of the

research, Black (1999) highlights the importance of 1) the validation of the instrument with experts; 2) the pilot study and; 3) coding the data taking into account a coding guide with explanations especially if the research is carried out in a team.

#### **4.8. Ethical Considerations**

Ethics in research can be regarded as

“A result of decisions of weighting up of a myriad of factors in the specific complex social and political situations in which we conduct research. Frequently sets of principles are drawn up to guide our actions in the field as well as protect the rights of the participants in research” (Piper & Simons, 2005, p. 56).

In other perspective, ethics can mean “a set of principles that embody or exemplify what is good or right, or allow us to identify what is bad or wrong” (Hammersley & Traianou, 2012, p. 17). So, the ethical issues aim to protect the individual, the communities and the environments that are under research (Israel & Hay, 2006) and should be taken into account during all phases of the research process (Cohen et al., 2008; Coutinho, 2011; Hammersley & Traianou, 2012). During the research process the researcher can face some ethical dilemmas (Robson, 1993; Cohen et al., 2008) that can compromise the research. Informed consent, confidentiality and anonymity are but few examples and are seen as traditional key aspects to be respected in research (Piper & Simons, 2005). The ethical considerations of this research will be described in this section regarding the access to the context of the research, the informed consent, the confidentiality of the information and the role of the researcher during the different phases of the investigation.

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

As this research was conducted in five Portuguese Public Universities and one Swedish University, a research protocol (see Appendix IV) was written between the researcher and the Presidents, Deans of faculties/schools/institutes. The research protocol was also held between the researcher and director of each selected programme, and between the researcher and each teacher. In this protocol the objectives of the study, the participants, as well as the phases and

data collection procedures. Permission for the study was provided in writing, in each university, in each department, by each director and each teacher. Data collection was done in lecture theatres at the universities with students and in offices with teachers. Ethical considerations such as the informed consent and confidentiality were respected.

#### **4.8.2. Informed Consent**

The Informed consent, as a key aspect of ethical considerations, is essential when individuals participate in the research protecting “the autonomy of participants and providing potential subjects with the information they would need to know in order to make a reasoned judgment about whether or not to participate in the research” (Kimmel, 2007, p. 168). For that reason and in the context of this research, the informed consent was a concern in all stages of research. In the second stage of this research, concerning the questionnaires administered to the students, a previous text was sent by email to the teachers of each curricular unit explaining the context of the study, the objectives, the procedures to the participants, the agency that funded the research project and the contact of the researcher (Appendix V). In the text, it was also explained that the participation of the students to fill in the questionnaire was voluntary. In the questionnaire itself it was explained also the objectives, the confidentiality, the duration of questionnaire completion, as well as the contact of the researcher for further clarifications and for the dissemination of the results. In the lecture theatres the researcher explained again all the information before delivering the questionnaire to the students. Concerning the interviews, the protocol was followed and explained, by sending a text via email to university teachers explaining the context of the study, the objectives, the procedures, the agency that funded the research project and the contact of the researcher. The researcher, before starting the interview, explained again to the teachers the objectives and procedures ensuring the confidentiality of the data. Permission was also sought to record the interview.

In the third phase, in the Swedish context, the same protocol was sent via email to the directors of the programmes explaining the context of the study, the objectives, the procedures, the agency that funded the research project and the contact of the researcher. In the text, it was also explained that the participation of the students to fill in the questionnaire was voluntary. In the Swedish context, the questionnaire was administered online. The objectives, the confidentiality,

the duration of questionnaire completion, as well the contact of the researcher for further clarifications and for the dissemination of the results were explained.

#### **4.8.3. Information confidentiality**

The confidentiality in research is a way of protecting the privacy of participants “although researchers know who has provided the information or are able to identify participants from the information given, they will in no way make the connection known publicly: the boundaries surrounding the shared secret will be protected” (Cohen et al., 2008, p. 65). So, this research, assured the confidentiality of information gathered. Universities participating in this study were not identified, nor the teachers nor the students, ensuring the anonymity of the participants in this research.

#### **4.8.4. Role of the Researcher**

The role of the researcher during the research process must be in accordance with ethical requirements. However, the researcher’s decision “about what is appropriate or inappropriate conduct is to a great extent guided by his or her own personal value system, which is shaped by upbringing, education, and professional training” (Kimmel, 2007, p. 7). Issues such as the researcher *bias* may impute to the process subjectivity “data collection and analysis may be strongly influenced by the assumptions and values of the researcher” (Somekh & Lewin, 2005) and may compromise the quality of research. Moreover, the social researchers during the research process face some ethical issues, being important that there is an ongoing process of reflection and evaluation of the process (Israel & Hay, 2006). These ethical issues in social research “result from conflicting sets of values involving the goals, processes, or outcomes of an investigation” (Kimmel, 2007, p. 6). Therefore, during this research there was a concern and reflection on the research process, in particular in regard to procedures and options taken during the research, as well as the role of the researcher and the role of participants in the research.

#### 4.9. Limitations of the study

In this section some limitations of the study and difficulties experienced during the process are described. The first difficulty concerns to time constraints and availability of participants. Data collection took place in 2012/2013 in order to obtain information from students and teachers. However, to obtain the university teachers' contacts was a hard task to do since the answers were sometimes delayed and in some cases I did not get any response from the participants. Particularly, in some cases, teachers have disclosed no availability to carry out face to face interviews and requested that the interview was to be sent by email. Thus, the options to collect data were adjusted and a questionnaire with open-ended questions was built in an online platform. For the data collection (interviews and surveys) travels were made around the country, and therefore it was complicated to reconcile interviews scheduled for example in northern Portugal and the administration of questionnaires for example in the centre of Portugal in the same day. Furthermore, responses received via email do not meet the expectations in some cases, since it was not possibly to clarify some issues. Finally, in the Swedish context, another limitation emerged, regarding the validity of the data that it may have been affected by how Swedish students interpret the questions and their experience of assessment. Although Portugal and Sweden have similarities concerning the education systems, they have also differences, and the questionnaire was designed based on Portuguese context.



## CHAPTER V

### CONCEPTIONS AND PRACTICES OF ASSESSMENT IN HIGHER EDUCATION: A STUDY OF PORTUGUESE UNIVERSITY TEACHERS



This chapter looks at how Portuguese university teachers look at assessment in Higher Education. It focuses on their conceptions and methods of assessment. Data were collected through face to face interviews and online open-ended questionnaires in five Portuguese Public Universities in different fields of knowledge. In total, 57 teachers participated in this study. Findings are presented according to the emerging categories arising from the data analysis: i) university teachers' conceptions of assessment; ii) most used assessment methods; iii) role of assessment; iv) key moments in which assessment is put into practice. Implications of the findings are discussed.

## **5.1. Introduction**

Assessment in higher education impacts on students' learning in various ways (Ramsden, 1996; Scouller, 1998; Gibbs, 1999; Simms & George, 2014). The ways in which assessment is carried out have implications for students' learning (Segers et al., 2008) and impact on them even before they are assessed (Rowntree, 1987), namely in terms of their approaches to learning (Boud & Falchikov, 2006; Fletcher, Meyer, Anderson, Johnston, & Rees, 2012). The ways in which teachers see assessment influence their assessment practices and how they relate these practices to the teaching and learning process (Samuelowicz & Bain, 2002; Fletcher et al., 2012). Teachers' approaches to teaching are also related to their conceptions of teaching (Trigwell & Prosser, 1996) which will influence, in turn, how they assess students' learning (Watkins, Dahlin, & Ekholm, 2005). Earlier studies show how different conceptions of teaching and learning impact on students' assessment. Prosser and Trigwell (1998) identify two conceptions of teaching and learning: 1) teachers who look at learning as joining of information view teaching as transmission of information to students and are more focused on themselves as teachers; and 2) teachers who see learning as transforming the students' conceptions view teaching as helping, developing and changing these conceptions and, thus, are more student-focused. Samuelowicz and Bain (2002, p. 181) found that "different teachers' orientations result in different assessment practices". Teachers who see the teaching and learning process as reproduction or transmission of knowledge view assessment as students' ability to reproduce the knowledge acquired. In contrast, teachers who see teaching as facilitating learning and

promoting critical thinking view assessment as transformation of knowledge and as an integral part of the learning process (Samuelowicz & Bain, 2002).

This assumption is in line with existing literature. Ramsden (1996), for instance, reports that teachers who see teaching as knowledge transmission see assessment as a separate element of teaching instead of an integrated approach that promotes deep approaches to learning. Postareff and Lindblom-Ylänne (2008) found that teachers who see teaching as construction of knowledge tend to adopt several and different assessment practices rather than just the traditional ones. This may be related to another study by Postareff, Virtanen, Katajavuori, and Lindblom-Ylänne (2012) which indicates that the majority of teachers uses summative assessment and traditional methods and a minority uses formative assessment and a range of different methods.

These different perspectives show how conceptions of teaching and learning may influence teachers' attitudes towards assessment. In fact, teachers' conceptions of assessment may influence their teaching practices (Pajares, 1992; Brown, 2004; Brown, Lake, & Matters, 2011) and students' learning (Marton & Säljö, 1997; Brown & Hirschfeld, 2008).

Remesal (2011) proposed a model about the conceptions of assessment regarding four different dimensions: 1) *learning process*; 2) *teaching process*; 3) *accreditation of learning* and 4) *accountability of the professional teaching activity*. In this study, the term *conceptions of assessment* is used in relation to teachers' views about assessment concerning the dimension of *the learning process*, *the teaching process* and the *accreditation of learning* since they are aligned with the focus of this study.

Although there are studies focusing on teachers' and students' conceptions of assessment and their impact on learning (Fletcher et al., 2012; Brown & Hirschfeld, 2008; Gibbs & Simpson, 2004) more needs to be known about teachers' beliefs related to assessment and their assessment practices, as well as the relationship between their beliefs and the processes of teaching, learning and assessment (Samuelowicz & Bain, 2002). Accordingly, it is important to get to know the ways in which university teachers' look at assessment, because their conceptions of teaching, learning and assessment influence how they teach and how students learn (Thompson, 1992; Brown, 2004).

This study intends to illustrate the conceptions of Portuguese university teachers on the assessment process after the so-called Bologna Process. The reorganisation of higher education systems in Europe has challenged the ways of looking at curricula but also to teaching, learning and assessment (Flores & Veiga Simão, 2007; Veiga Simão, Santos, & Costa, 2003; Flores et

al., 2015). Among the key features of the Bologna Process is the emphasis on a student-centred approach involving new forms of teaching and learning with tutorial support (Leuven / Louvain-la-Neuve Communiqué, 2009) the use of innovative methods that promote participatory learning and the development of critical thinking (Bucharest Communiqué, 2012) and pedagogical innovation on learner-centred learning environments (Yerevan Communiqué, 2015). However, these changes may not occur in all higher education systems in the same way. Therefore, as the context of this study is part of the EAHE, implemented by the Bologna Process, this study may contribute to get to know the university teachers' perceptions of assessment as well as to compare and contrast them with findings obtained in other contexts.

## 5.2. Conceptions of Assessment

Assessment has been investigated in all levels of teaching. It has developed according to different understandings and conceptions such as *assessment as a tool for learning* (Dochy & McDowell, 1997) *as improvement for teaching and learning* (Brown et al., 2011) and *learner-centred assessment* (Webber, 2012) moving beyond the perspective of accreditation and certification. These conceptions focused on the potential benefits that assessment can bring to the learning process (Dochy & McDowell, 1997) in its formative nature (Brown et al., 2011) and in the use of assessment methods that look at student as learner (Webber, 2012). The assessment functions may also determine the learning process. Hadji (1994) suggests that assessment has three main functions, corresponding to three main different goals: the purpose of *certification* associated with *summative assessment*; the purpose of *regulation* associated with *formative assessment* and the purpose of *guidance* associated with *diagnostic or prognostic assessment*. The certification, often seen as the traditional function of the assessment, assures the potential employer that a given student obtained the required training by recognising his/her competencies. However, this provides vague details of the kinds of knowledge and skills acquired by the student and the level of mastery in each one. It only informs about what the student knows in general and if the student reached the goals to pass or to start a profession (Perrenoud, 1999). In addition, this kind of assessment develops hierarchies of excellence, establishing the progression of a cycle of studies and students are usually compared among themselves (Hadji, 1994; Boud, 2000; Fletcher et al., 2012) by obtaining a grade (Perrenoud, 1999). Thus, summative assessment entails a sum of a course, performed at a given time, being an

assessment that measures results achieved by the students (Light & Cox, 2003). Some authors suggest that summative assessment is opposed to formative assessment (Bloom et al., 1971; Light & Cox, 2003) since the goal is to make a very general assessment of the degree in which objectives have been achieved during the course or for any substantial part of it, usually taking place at the end of a period of the year to assign a grade and subsequently a certificate (Brew et al., 2009). In contrast, formative assessment has a pedagogical propose and it is intrinsic to the process of teaching itself (Brown & Knight, 1994; Hadji, 1994). The formative role of assessment is important to improve learning, because it provides students with feedback during the process of learning (Brown et al., 1997). It also enables them to have opportunities to improve (Brown et al., 1995) making it possible for both students and teachers to get to know how learning is developing (Biggs, 2003) essentially its successes and difficulties.

Biggs (2003) makes a clear distinction between the general purposes of these two types of assessment: formative and summative. The author suggests that summative assessment is labelled often as a negative assessment, since it creates surface approaches to learning and the students use less their cognitive skills (less than currently required), which results in a fragmented learning. In regard to formative assessment, the feedback that results from it facilitates learning, promotes the necessary information for deep approaches to learning resulting in a further development of cognitive activities that are appropriate to the level of the proposed task. However, Black and Wiliam (1998) found that formative assessment also entails some weaknesses when it is put into practice in contexts in which there is lack of awareness among teachers about the formative purpose of assessment. The authors also found that teachers value most the grading function than the learning function (Black & Wiliam, 1998).

### **5.3. Assessment Methods in Higher Education**

The assessment methods adopted by university teachers have an important role in the quality of learning (Atkins, 1995; MacLellan, 2004b; Fernandes et al., 2012; Hue, Leung, & Kennedy, 2014; Flores et al., 2015; Pereira et al., 2015). Several factors are influential of the most used assessment methods, either negatively or positively, especially on student learning and may be seen as an incentive for study and for improved performance (Brown & Knight, 1994; Brown et al., 1997; Biggs, 2003; Boud & Falchikov, 2007; Watering et al., 2008;). The ways in which

students look at learning are influenced by the ways in which they perceive assessment tasks (Brown & Knight, 1994; Drew, 2001).

Also, teaching methods must be aligned with assessment methods, taking into account the learning goals in order for teaching to be more effective (Biggs, 2003). While teachers see the objectives of the curriculum as key elements in the teaching and learning process, students look mainly at the ways in which assessment is carried out (Ramsden, 1996; Biggs, 2003). For this reason assessment cannot be seen as the end of the process (Dochy & McDowell, 1997) in so far as students pay attention at it at first and then, based on that, they create a defined representation of the curriculum and activities in which they are to be involved (Meyers & Nulty, 2009). The use of given assessment methods and their adequacy to teaching and learning goals are thus of paramount importance. However, traditional methods frequently used in higher education, such as the exam or written test, while they are effective in some contexts and for given purposes, may not be suitable for all assessment purposes and may encourage reproduction and memorisation (Perrenoud, 1999; Biggs, 2003; Pereira & Flores, 2012). In fact, existing research shows that written tests promote low levels of comprehension (Dochy, Segers, Gijbels, & Struyven, 2007), reproduction of information under pressure and surface approaches to learning (Brown et al., 1997). On the other hand, the so-called alternative assessment methods or learner-centred methods (Webber, 2012), such as portfolios, projects, self- and peer assessment, simulations, collaborative assessment, among others (Struyven et al., 2005; Flores et al., 2015; Pereira et al., 2015) promote collaborative learning, and together with self and peer assessment seem to be more effective regarding deep learning and the development of new skills and professional attitudes. These methods also enable a more effective learning (Birenbaum & Feldman, 1998; Sambell & McDowell, 1998; Tang et al., 1999; Struyven et al., 2005), fostering the development of autonomy, sense of responsibility, and reflection (Sambell & McDowell, 1998) and influencing the ways in which students see their own learning in a more positive way (Sluijsmans et al., 1999). These methods also provide students with feedback about their performance (Brown et al., 1997) and prepare them to workplace situations (Biggs, 2003). Other studies, however, suggest that the non-traditional methods do not always change the perceptions of students nor lead to deep learning (Segers et al., 2008). As such, the different approaches to learning may be influenced by the assessment methods and assessment tasks used (Struyven et al., 2005; Fletcher et al., 2012) but also by the contexts in which they are used. Often, the problem of students having a surface approach to learning has to do with assessment tasks

which relate to teachers' practices and the alignment with the aims of teaching and its environment (Biggs, 2003). Thus, it is important to investigate the conceptions of assessment and the practices used by university teachers in different fields of knowledge.

## 5.4. Method

This study aims to answer to the following questions:

1. How do university teachers look at assessment in Higher Education (HE)?
2. What kinds of assessment methods are used in HE? And why?
3. How do university teachers relate assessment methods and issues of teaching and learning?

### 5.4.1. Participants

The participants in this study are university teachers teaching year 3 in five Portuguese Public Universities. In total 57 teachers participated in the study (see Table 15); 53% are male and 47% are female teachers. Their age ranged between 30 and 68 years old. Most of them (58%) are Assistant Professors and the years of teaching experience in HE ranged between 2 and 44 years. Most of them have 29 years of teaching. Out of 57 teachers 32 teach in *Social Sciences and Humanities*, 10 in *Life and Health Sciences*, 9 in *Natural and Environmental Sciences* and 6 in *Sciences and Engineering*. Out of the 57 teachers 24 were face-to-face interviewed and 33 teachers responded to the questions using the link provided via email. In this study the four scientific fields of research identified at the Portuguese Foundation for Science and Technology were used: *Social Sciences and Humanities* (SSH), *Life and Health Sciences* (LHS), *Natural and Environmental Sciences* (NES) and *Sciences and Engineering* (SE). Different programmes were selected: SSH (Educational Sciences, Basic Education and Economics); LHS (Nursing, Medicine, Pharmacy); NES (Biology, Geology) and SE (Mechanical Engineering, Computers Engineering and Biochemistry) which were operating in the five public universities.



Table 15. Participants in the study

Field of knowledge		F
<b>Social Sciences and Humanities</b>	Educational Sciences	17
	Economics	12
	Basic Education	3
	<b>Total</b>	<b>32</b>
<b>Life and Health Sciences</b>	Nursing	5
	Medicine	4
	Pharmacy	1
	<b>Total</b>	<b>10</b>
<b>Natural and Environmental Sciences</b>	Biology	9
	<b>Total</b>	<b>9</b>
<b>Sciences and Engineering</b>	Mechanical Engineering	4
	Computer Engineering	1
	Biochemistry	1
	<b>Total</b>	<b>6</b>
<b>TOTAL</b>		<b>57</b>

#### 5.4.2. Data collection and analysis

The interviews were collected in 2012/2013, more precisely, between October 2012 and June 2013 in 5 Portuguese Public Universities. In total 57 teachers were interviewed. A research protocol was sent to the Presidents of Faculties and Institutes and to the Presidents of the Pedagogical Council of each Faculty and Institute in order to request permission to conduct the study. After having had permission to carry out the study, the directors of each programme were contacted in order to obtain the email contacts of the teachers who were teaching in the 3rd year of each programme. The interview protocol was validated with teachers teaching in one Public university between March and May 2012. All teachers identified in each of programmes in year 3 were invited to participate in a face-to-face interview. However, due to time constraints some university teachers preferred to participate by sending their responses via email. For this purpose, a link with open-ended questions was created and was sent to them via email. Out of 57 interviews, 24 were performed face-to-face and 33 were received via email. The interviewed teachers on the day and time agreed were voluntarily interviewed. Permission was asked to record the interview. Interviews were transcribed verbatim.

This study is based on the interpretative paradigm which focuses on the interpretation of a phenomenon by understanding the meanings through the experiences of the individuals in a

constantly changing reality (Cohen et al., 2008; Blaikie, 2010). Within this framework, through the use of qualitative methods the researcher have a systematic and integrated idea of the context and the holistic dimension in order to obtain a complex and substantial information (Miles et al., 2014). Therefore, a qualitative research design was adopted as it allowed exploring university teachers' views enabling a deeper understanding of the phenomenon (Silverman, 2013) and its complexity (Miles & Huberman, 1994). The interview was chosen because it enabled a broad retrospective, a projection of the actions, feelings, experiences of individuals and knowledge (Kvale, 1996). Interviews were transcribed verbatim. Content analysis was used to identify emerging categories, enabling a systematic description, through the categorisation of data (Schreier, 2012). Content analysis as a technique to analyse data performs valid inferences, leading to the emergence of what is relevant (Weber, 1990) and answer to research questions (Thomas, 2003).

## 5.5. Findings

Findings are presented according to the emerging categories arising from the data analysis: i) university teachers' conceptions of assessment; ii) most used assessment methods; iii) role of assessment; iv) key moments in which assessment is used.

### 5.5.1. University teachers' conceptions of assessment

The following section describes the findings regarding the conceptions of assessment in terms of *better assessment for students to learn*. Teachers spoke of continuous assessment during the process, formative assessment, and assessment based on active and participatory methods as the kinds of assessment that may help students learn better. Other participants do not point to any kind of assessment method as being better; some of them state that university teachers should use different methods to assess depending on the course or module.

Most of the participants claim that continuous assessment helps the students to learn better

*Together with independent work of the student with individual feedback (P.4 SSH).*

Some of them argue that this kind of assessment brings benefits to learning, namely if it is based

*on a continuous logic that promotes a better quality of learning (P.24 SSH).*

Also, continuous assessment is said to

*Promote critical thinking (P.49 LHS).*

Some university teachers believe that combining continuous assessment with formative assessment is positive for students' learning.

*A continuous assessment, more personalised and adapted to each case, more formative and with possibility of reconstruction of knowledge is better (P.25 SSH).*

However, some of them point to difficulties in putting continuous assessment in practice in universities due to the number of students and heavy workload.

*The ideal is a continuous assessment but it is impossible (P.37 NES).*

*Continuous assessment is the ideal, but there is a problem, it is hard to do continuous assessment in a class with 90 students (P.45 LHS).*

Formative assessment is seen, by some teachers, as important to students' learning.

*The formative assessment is the best assessment form. With formative assessment the students have to face situations, have to share and are always being monitored (P.56 SSH).*

However, like continuous assessment, formative assessment is difficult to be put into practice.

*I have no doubts that formative assessment is the best assessment for students' learning. The entire reproductive model evokes in the students an intellectual detachment, because the students do not participate and are not motivated, so the*

*traditional model is not good... the formative assessment model needs more teachers, more resources, more technology and our country does not have fund for it (P.47 SSH).*

Assessment based on practical and active methods are seen as important for learning and improvement.

*Assessment has to be combined with goals and active methodologies of work, and it is more effective it is the use of active methods (P.22 SSH).*

The importance of the practical context in assessment is also highlighted.

*It is important to promote long-term learning and reasoning. Students will be future doctors and will be facing with questions on a daily basis, they will have to think and reflect, and if we use an assessment methodology that only point to memorisation they will not be prepared. The best assessment method will be the one that is based on practical things and prepare them for the practical context (P.46 LHS).*

Teachers emphasise continuous assessment and formative assessment as the best assessment to help students to learn better because it allows feedback and the reconstruction and regulation of learning. Assessment based on active and participatory methods is also pointed out by the participants. However, a number of constraints hinder the use of these assessments due to the number of students or to the number of teachers or to reasons related to available resources:

*I have introduced new active methods such as PBL before. However, I think that Bologna is not an effective process, because not everybody shares the principles of Bologna, not everyone discusses these changes. I do not see how Bologna can work in classes with 100 students (...) governments that signed this document are not consistent (...) we face reductions in all resources. Education should be individualised because each student is different, and in our public universities this does not exist, we are talking about mass education (P.43 CVS).*

It is also claimed that there is a lack of conditions to put into practice some of the demands of the Bologna Process, such as a student centred-approach, continuous assessment and the skills' development through assessment practices. Furthermore, the Bologna Process “has followed different paces, across and within countries, and the coexistence of the old and new systems in some countries has most likely favoured the emergence of controversy regarding its implementation in higher education institutions, students and labour markets” (Portela, Sá, Alexandre, & Cardoso, 2009, p. 466). These factors may explain, at least in part, some resistance to follow the assumptions of the Bologna Process, particularly with regard to the teaching, learning and assessment process, appearing not to exist a common and shared view of the teaching and assessment practices across the European countries.

### 5.5.2. Most used assessment methods

Findings indicate that 41 out of the 57 teachers interviewed used written tests (see Table 16). Practical work in groups, oral presentations, individual work and reports are also identified by some university teachers. Other assessment methods, although less used, included written reflections, interviews, literature review, reading tasks, etc.

Table 16. Assessment methods most used by the participants

	N	SSH (n=32)	LHS (n=10)	NES (n=9)	SE (n=6)
Tests/Exam	41	18	10	8	5
Practical work in group	18	12	2	3	1
Oral Presentations	15	6	2	4	3
Individual work	10	6	2	2	0
Report	8	3	2	1	2

Written test or exam is one of the most recurring methods. These finding corroborates earlier studies that show that traditional assessment methods are the most used in higher education (MacLellan, 2001; Struyven et al., 2005; Flores et al., 2015). Although the test is the method most used, it is used differently depending on the field knowledge. In LHS all teachers used tests. In NES 8 out of 9 respondents used test such as in the case of SE, in which 5 out of 6 teachers report using written tests. Regarding SSH teachers, 18 out of 32 interviewed teachers mentioned written tests as the most used assessment method. Furthermore, findings show that LHS, NES

and SE used more the test as the preferred method of assessment than their SSH counterparts (only over half of the teachers use it). However, other methods more focused on learner and skills' development are used by teachers as it is the case of practical work in groups that allows collaborative work or oral presentations that encourage students to develop communication skills. Regarding the effectiveness of assessment methods, the participants state that the written test is the more effective assessment method. Other methods are also considered to be as effective methods such as group or individual work, methods based on continuous assessment, project-based work and oral presentations.

The participants point out that written tests require students' effort and they are more efficient than other assessment methods.

*Exams require students to make an individual effort and that can be later seen as beneficial in their professional lives (P.27 SSH).*

*Exams force students to make the information more systematic and they reflect they effort individually (P.19 SSH).*

However, others are critical of using written tests because they promote memorisation rather than understanding.

*If you value memorisation, you choose the summative test, but students study and spend some time and after that they no longer know anything (P.52 SSH).*

*I don't use tests and exams because for me they are episodes of memorisation (P.34 SSH).*

*Methods that foster the memorisation rather than understanding such as tests do not enhance student learning (P.46 LHS).*

On the other hand, teachers claim that the assessment methods used on the basis of a continuous assessment are more effective.

*Continuous assessment through inquiry-based work and project-based work foster a process of more continuous study, more discussion between students and teachers and amongst students promoting the development of soft skills (P.13 SE).*

Formative feedback and systematic monitoring of learning are also the focus of continuous assessment in the participants' perspective.

*The methods that enable continuous assessment are better. They enable the monitoring of individual work and self and peer assessment. Students can become more aware of their learning, overcome shortcomings, receive guidance, and be stimulated in order to feel more comfortable and safe in their own development and progression (P.16 SSH).*

Group work, oral presentations and projects are also pointed out by the participants. Group work is more effective because it promotes the development of communication skills, collaboration and it improves learning.

*Group work is better because it implies more interaction between students and the teacher. It also leads to greater learning experience, not just memorisation and reproduction of knowledge (P.54 SSH).*

Oral presentations and projects are also identified as methods that promote research and self-monitoring of learning.

*Projects and oral presentations of scientific papers are better methods to assess student learning. These methods provide students with opportunities to search for information and to self-regulate their learning (P.26 SE).*

Although tests and exams were identified by teachers as the most effective methods to assess student learning, for some of them this method only promotes memorisation and it is used as a method for assessing large classes (Biggs, 2003; Pereira & Flores, 2012). Students' perceptions regarding traditional assessment methods are also negative because they think they are inadequate and superficial as a tool to measure learning (Struyven et al., 2005). However, it is

recognised that traditional methods may be suitable for certain purposes and in given contexts of teaching and learning (Flores et al., 2015). On the other hand, there is evidence that methods such as group work, oral assessment and practical works have benefits for learning and are significant for students' professional life (Taylor, 1997; MacLallen, 2004). Group work is a good example, since it allows the development of communication skills, group management, dealing with problems (Johnston & Miles, 2004; Almond, 2009), and encouraging students' motivation (Weurlander et al., 2012). However, Flores et al. (2015) study show that when students are assessed through the so-called learner-centred methods the idea of conflict is more associated with assessment than when other (more traditional) assessment methods are used.

### 5.5.3. Role of Assessment

Findings from this study suggest that the participants use *summative* and *formative assessment*, although summative assessment is more used. In teachers' accounts both positive and negative aspects in formative and summative assessment are identified.

Summative assessment is used by most of them because it is an institutional requirement of all Portuguese universities participating in this study.

*I use summative assessment at the end of the semester because the assessment standards of the university require so (P.4 SSH).*

*The final summative assessment is compulsory at my institution (P.26 SE).*

Some teachers agree to use summative assessment since it is efficient and effective and it can act in the end as

*A safeguard for the teacher (P.52 SSH).*

However, most teachers look at summative assessment as an unfair process due to its mandatory and reductionist nature.



*I use summative assessment because I have to. At the end of the day there is to be a grade and in this university all students are measured by a final grade, it is unfair. Sometimes students get 14.4 (out of 20) and will not have 15 and a student with 14.5 gets 15 at the end (P.43 LHS).*

Also, the difficulty of having to translate the entire assessment into a summative grade is reported by the participants.

*I use summative assessment because I am forced to translate everything into a grade, because the university selects people (P.47 SSH).*

*I use summative assessment and in the end the excel programme is in charge, but it is not a fair assessment (P.39 LHS).*

Formative assessment presents multiple benefits to the learning process. The monitoring of learning and the knowledge construction are positive aspects reported by the participants.

*Formative assessment improves knowledge construction process and allows the reformulation of my own performance and students' performance (P.25 SSH).*

*I think formative assessment is important. If I could I wouldn't give grades. For me it is more important to see what the students do, the difficulties they have ... and then having to turn it into numbers is really hard (P.39 LHS).*

Feedback is also a key feature which continually regulates the learning process, and it is recognised by the participants as a tool to improve the learning process.

*I use formative assessment. In every classroom we discussed what they learned and students have contact with what they are learning. We do exercises and I only ask the students what I am capable of assessing, so they feel that all I ask is useful. I think that feedback is crucial, so all I ask I have to have time to look and analyse (P. 50 SSH).*

*The cornerstone and the basic assumption is formative assessment. The grades come after that and result from continuous feedback (P.40 SSH).*

The participants also highlight that formative assessment enables students to develop competencies and to improve their performance.

*I see many advantages in formative assessment, because we cannot see the process as a product; there is also the development of skills and feedback to the students to improve their learning. It is important for them in order to change their behaviours. And there is only learning when there is change of a particular behaviour (P.49 LHS).*

In addition to improve students' performance teachers hold the idea that formative assessment also allows the regulation of teaching and learning process.

*I always use formative assessment. The idea is that the student in the end meets the goals and this requires reformulating the teaching and learning process (P.24 SSH).*

Other benefits were also associated with formative assessment such as encouragement of the critical thinking.

*Formative assessment helps students to understand how they produced the materials, what kinds of mistakes they made and they may incorporate formative feedback in their next work, improving their own working style, intellectual study, learning, improving the methods for learning and developing their skills. For example, when it is noted that a student is more reproductive he/she is encouraged to take a more analytical and critical stance (P. 41 SSH).*

The fairness of formative assessment is also presented in the participants' accounts.

*Formative assessment is fairer and better for the student. Because if the student only performs a test he/she can be in a bad day and something happens and will affect all the work that he/she developed until that moment (P. 46 LHS).*

There was also evidence of formative assessment as the assessment that is more suitable to higher education purposes.

*Formative assessment is the most important. It corresponds to my idea of university and the role of the teacher and his/her work. It corresponds to my idea of ethics and responsibility to the student. It is a way of seeing education (P.47 SSH).*

*I use formative assessment because it is the assessment that best responds to the modernisation of higher education (P.26 SE).*

Although formative assessment is said to have benefits for learning, some participants state that it is not feasible in higher education due to the number of students, lack of resources and available time.

*We are unable to use formative assessment and formative assessment is important. In a lecture hall with 100 students it is something unthinkable (P.45 LHS).*

*I cannot use formative assessment because I have no time and it forces me to do something that I'm not good at, I mean to distribute the interactivity with the students and it is difficult (P.37 NES).*

*In undergraduate education the formative assessment does not make sense, it only makes sense at the master degree level (P.35 SSH).*

These findings are in line with Gibbs and Simpson (2004) who identified constraints that reduce the use of formative assessment in higher education: short courses, consequently less contact hours, increase in the number of examinations and issues related to staff. These constraints inhibit the quality and quantity of feedback given and influence the use of assessment practices. Finally, some participants did not answer if they use or not formative and summative assessment because they did not know what it meant. Findings reveal that they pointed out more positive aspects related to formative assessment rather than to summative assessment (see Figure 18).

In the participants' opinion, the positive aspects of formative assessment are related to the teaching and learning process. These positive aspects reveal a concern with the learning process regarding knowledge, monitoring of learning, skills' development and feedback. Positive aspects are associated with teachers' conceptions on assessment, fairness and the idea of university. With regard to summative assessment, the positive aspects related to the rationality of effectiveness and efficacy of assessment process and as a proof that they can serve as justification if the teacher needs one. The constraints of formative assessment are related to lack of time, large number of the students, heavy workload whereas the constraints of summative assessment are associated with an institutional obligation and its unfairness nature. In general, formative assessment is related to the improvement of learning and requires certain conditions to be implemented in an effective manner. Summative assessment is associated with systematisation of assessment concerning efficacy and effectiveness, and as a teacher's safeguard as well as an institutional requirement.

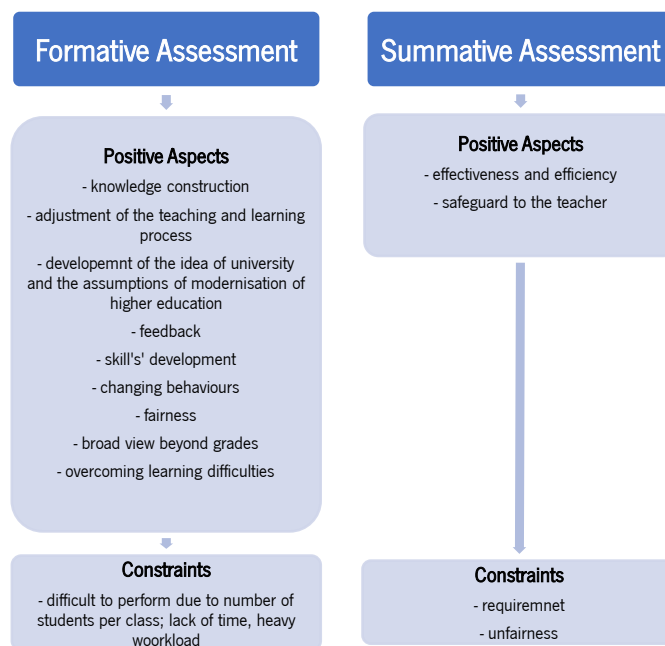


Figure 18. Positive aspects and constraints of summative and formative assessment

Other studies corroborate these findings and show that assessment in higher education serves different purposes (Boud, 1995). MacLellan (2001) found that summative assessment is seen by both teachers and students as the purpose of assessment and synonymous with giving and

receiving marks. The fact of assessment is seen as the purpose of assessment may be related to the summative assessment in some contexts as an institutional requirement. On the other hand, the study by Samuelowicz and Bain (2002) concerning teachers' orientations to assessment practice shows that teachers view the purpose of assessment as support to the students' learning and feedback.

#### 5.5.4. Key moments in which assessment is used

Teachers assess students' learning in three different moments (1) at the end of the course; 2) during the process of teaching; and 3) every time students perform a task.

Most of the teachers assess students' learning during the process of teaching and learning and at the end of the course.

*I assess during the semester, after the delivery of students' work. At the end of the semester after students' perform an exam (P.13 SE).*

*I assess during the semester and at the end. However, I assess during the semester only when there is sufficient topics to be reviewed (P.27 SSH).*

*There are always several moments of assessment during the semester and final examinations must be offered to the students according to the university Regulation (P.26 SE).*

The phase of assessing *during the process* is especially related to continuous assessment.

*As I use continuous assessment, it is being done throughout the semester and at the end there is a more formal self and peer assessment (P.25 SSH).*

*I use formative assessment during the semester and summative assessment at the end with group work (P.22 SSH).*

Other participants state that the assessment is carried out only during the semester and again the idea of a continuous assessment is highlighted. The participants claim that continuous assessment brings benefits for students and it is more effective.

*It makes sense to develop continuous assessment throughout the semester, it fosters students' motivation to come to classes and it is effective and continuous. If they are missing they are not admitted to the exam (P.42 SE).*

*I use continuous assessment. It is the commitment between having a perspective of what will happen and the feasibility of what is possible because to assess all classes is impossible (P.55 SSH).*

However, the participants also explain that there are certain rules that do not allow them to perform the assessment only during the process.

*I assess my students throughout the Curricular Unit. Then there are formal moments due to the constraints that we have (P. 43 LHS).*

*The Pedagogical Council determines the periods of written assessments (test/exam). The remaining assessments occur during the semester (P.8 SSH).*

Some accounts also reveal that the participants assess students' learning every time a student performs a task.

*I always try to provide students with feedback when they perform a task, an activity. Because I believe that this is the most effective way to assess (P.16 SSH).*

*I assess in all classes, whenever they do a task (P.29 SSH).*

From other university teachers' accounts assessment is also carried out only at the end of the course.

*As we have few weeks of classes I only assess at the end (P.45LHS).*

*I assess only at the end of the year (P.30 SSH).*

Also assessment in given moments is reported by the participants.

*The assessment of attitudes is continuous and the assessment of knowledge acquired is done in given moments (P. 48 LHS).*

Some participants explain that they assess all the time.

*I assess all the time to maintain self-learning and self-regulation (P.4 SSH).*

*I assess throughout the semester, but especially over the last month, when the students have assimilated much of the content (P.2 SSH).*

Other university teachers, however, claim that it

*depends on the nature of the Curricular Unit (P.1 SE).*

In the participants' accounts it is clear the idea of the importance of continuous assessment throughout the process with benefits for the learning process. However, when most teachers assess during the semester, they normally use tests and they associate them with university requirements. A number of constraints were also identified in their accounts, namely the imposition of assessment. The idea of assessing only throughout the process of teaching and learning enables greater effectiveness in assessment as it requires students to attend classes. Other participants claim that they assess every time a student performs a task emphasising the importance of timely and continuous feedback. On the other hand, none of participants mentioned assessing at the beginning of the semester or at the beginning of a module. The participants seem to use formative assessment in their practices, however, they do not assess at the beginning of a module or coursework. One might question if they actually use formative

assessment and how they use it and what kind of feedback they provide and when as, although teachers say they use formative assessment, their practices go against it (MacLellan, 2001).

## 5.6. Discussion

This study set out to analyse the conceptions of assessment and assessment methods used in higher education from university teachers' point of view. Data highlight that assessment that can help students to learn better is continuous assessment. The participants view formative assessment as important, although most of them use summative assessment because it is compulsory in higher education institutions. In their perspective, formative assessment improves the learning process, allows the monitoring of learning and feedback, identifies learning difficulties and it is a fairer assessment mode. However, together with continuous assessment, formative assessment is seen as not feasible to implement in higher education due to the number of students per class, lack of resources, heavy workload and lack of time. Given these constraints, teachers resist to use certain forms of assessment such as continuous, formative assessment and the use of participatory methods. On the other hand, summative assessment is seen by university teachers as more efficient and effective, as it can work as a proof of student performance within the institution. However, summative assessment is also regarded by them as compulsory and unfair. Although some participants claim that they use formative assessment, one might question its purpose and effect taking into account the moments of assessment and the nature of the methods that are used.

The participants look at assessment as a continuous process throughout teaching and learning as it brings benefits such as learning monitoring through feedback and students' attendance to classes. Although they state that continuous assessment is important, they also recognise that there must be final formal assessment methods, which are determined by the university, in some cases, and normally it is a written test at the end of the semester, which they see as a formal constraint.

Thus, the participants hold different conceptions of assessment and one might question how continuous and formative assessment is understood. The participants tend to associate more continuous assessment with written tests throughout the semester and less with formative and timely feedback to students.



Some participants see assessment as summative emphasising its effective dimension and reporting its mandatory nature. Other teachers see formative assessment as synonymous with development, learning, knowledge, adjustment and improvement. The divergence of perspectives is associated with the lack of clear institutional policy on assessment practices and previous experiences of the university teachers (McMillan, 2003; Fletcher et al., 2012). As a result, research is needed about how conceptions of assessment can be influenced and enhance the institutional policy (Brown, 2004; Rust, 2007).

The written test is the most used assessment method. Practical work in groups, oral presentations, individual work and reports are also used too but their use is less frequent. Teachers recognise the importance of assessment methods that allow continuous assessment, guidance, monitoring of learning and skills' development. Some of them also recognise that traditional methods promote memorisation rather than knowledge. Although they recognise the importance of learner-centred assessment methods, written tests continue to be the most used method identified by the participants. As Ramsden (1996) states, there is not a method that satisfies all educational goals, therefore diversity and a balance in assessment methods are key issues in order to innovate and improve assessment practices.

## **5.7. Conclusion**

In conclusion, this study provides evidence that there is a contradiction between the assessment practices that the participants claim to be most beneficial to students' learning and those they claim to use in practice. This contradiction between their conceptions of assessment and the practices they claim to use may be explained by different reasons: heavy workload, lack of human and physical resources in higher education contexts and the mandatory use of summative assessment imposed by universities which inhibits the use of practices centred on the learner perpetuating the use of traditional assessment methods. The results of this study may contribute to understand how assessment process is carried out in some contexts within the Portuguese higher education.

This study suggests recommendations for further research. It would be important to understand if the university teachers' conceptions of assessment have direct influence on their assessment practices. It would also be important to understand why teachers' conceptions of assessment are different from those that are put in practice by themselves as well as the perceptions of their

students. Also, further research is needed on university teachers' conceptions of assessment and their relation with students' achievement (Brown & Hirschfeld, 2008).

## CHAPTER VI

# PORTUGUESE UNIVERSITY TEACHERS' PERCEPTIONS ABOUT BOLOGNA PROCESS AND ASSESSMENT PRACTICES



This chapter looks at how Portuguese university teachers look at assessment in Higher Education. It focuses on their perspectives about assessment in higher education after the implementation of the Bologna Process, the connection between assessment with teaching and learning process and the practices of select criteria and methods of assessment. Data were collected through face-to-face interviews and online open-ended questionnaires in five Portuguese Public Universities in different fields of knowledge. In total, 57 teachers participated in this study. Findings are presented according the categories emerged from the data. In particular issues on change in assessment practices, the connection between teaching, learning and assessment as well as difficulties to assessing students' work are analysed. Implications of the findings are discussed.

## 6.1. Introduction

The Bologna Process in Europe has brought about changes in the role of the teacher and the student, in teaching and learning processes and in curriculum and assessment in Higher Education. Within this new framework students are supposed to play a pivotal role in their learning process. The principle underpinning this paradigm shift is, amongst other features, the transition from a system based on the mere transmission of knowledge towards a system based on learning and training, one in which developing both technical and soft skills are of paramount importance (Decree-Law n° 107/2008). This paradigm shift implies that “the learning process is not just or primarily about transfer and restitution of knowledge, but about deeper understanding and critical thinking. The implication for learners is that they are not defined as recipients of a service or customers but rather as active participants with shared responsibility for outcomes” (Sursock & Smidt, 2010, p. 32). This requires more active teaching practices and new forms of assessment more student-centred (Veiga Simão et al., 2003; Flores & Veiga Simão, 2007; Webber & Tschepikow, 2013). The European Association for Quality Assurance in Higher Education reinforces that

“The assessment of students is one of the most important elements of higher education. The outcomes of assessment have a profound effect on students' future careers. It is therefore important that assessment is carried out professionally at all times and takes into account the extensive knowledge which exists about testing and

examination processes. Assessment also provides valuable information for institutions about the effectiveness of teaching and learners' support" (ENQA, 2009, p. 6).

However, many university teachers face a number of challenges which influence the process of assessment, such as the class size, fewer staff, lack of time, pressures from departments for research and publications (Biggs, 2003), the speed of lectures (Light & Cox, 2003) and fewer resources with implications for assessment practices. In this context, the aim of this study is to analyse Portuguese university teachers' perceptions about the assessment process after the implementation of the Bologna Process. This study also seeks to contribute to understand the reality of the Portuguese higher education contexts, particularly, after the Bologna Process.

## **6.2. Assumptions of assessment after the implementation of the Bologna Process**

In most European countries, changes occurred in teaching, learning and assessment process with the implementation of the Bologna Process (Flores & Veiga Simão, 2007; Flores et al., 2015; Veiga Simão, Flores, Barros, Fernandes, & Mesquita, 2015). In addition to the Bologna Declaration (1999), the Leuven/Louvain-la-Neuve Communiqué (2009) stresses the promotion of a learner-centred learning approach in order to develop students' competences for the real life. This assumption was further reaffirmed by the Bucharest Communiqué (2012) and Yerevan Communiqué (2015) suggesting to the use of a learner-centred approach through innovative methods that promote students' participation and the development of critical skills. However, these changes do not occur in a standard form due to different paces of the Bologna process in European countries (Furlong, 2005; Sweeney, 2010; Kehm, 2010; Pereira et al., 2015), leading to "different attitudes and responses of academics" (Sin, 2012, p. 401). In the Portuguese higher education landscape, the paradigm shift begins to be outlined in Decree Law no. 42/2005 which presupposes that

"The student should have an active and central role in his/her learning process regarding contact hours, which can take different forms and methods of teaching, or in assessment, which will be included all activities related to assessment such as contact hours, projects, individual study, field work, etc. Regarding assessment there may be different methods of student assessment such as oral and written essays,

examinations, tests, theses, reports on internships, and fieldwork with continuous assessment, etc”.

Subsequently, the Decree-Law 107/2008 (MCTS, 2008) expresses the obligation of higher education institutions to report the progresses made in relation to the change of the educational paradigm. These changes had brought implications to the assessment process. In this regard The European Association for Quality Assurance in Higher Education, established guidelines emphasising that students should be assessed based on appropriated purposes of formative and summative assessment, through a clear explanation of the assessment methodology, particularly the criteria for marking (European Association for Quality Assurance in Higher Education, 2009). The skills’ development other than technical skills was also highlighted with the implementation of the Bologna Process. However, earlier literature found that not all assessment methods allow the development of such skills (Flores & Veiga Simão, 2007; Tuning, 2007) within this framework a learner-centred assessment emerged as more suitable to meet the Bologna agenda. Based on a learner-centred learning environment a learner centred-assessment puts the student in the centre of the process promoting the active knowledge construction (Webber, 2012; Meyers & Meyers, 2014; Sin, 2015). This approach is based on the use of different methods and modes of assessment such as project, portfolio, self-and peer assessment, simulations, amongst others (Struyven et al., 2005; Flores et al., 2015) that enable the skills’ development such as autonomy, collaborative work and critical thinking (Sambell & McDowell, 1998; Fernandes et al., 2012; Meyers & Meyers, 2014), promoting feedback and the students’ motivation (Huba & Freed, 2000; Gasiewski et al., 2012).

Nevertheless, research is needed on changes of educational practices arising from the Bologna Process (Wihlborg & Teelken, 2014) and on students’ and teachers’ perceptions of assessment and learning and its connection to practice (Fernandes et al., 2012). This study seeks to contribute to understand assessment in higher education, particularly, assessment practices and their relationship with teaching and learning, after the so-called Bologna Process, in the Portuguese context.

### **6.3. Method**

This study aims to answer to the following questions:

1. Have the university teachers changed their assessment practices after the implementation of the Bologna Process? If so, in which ways?
2. What are the main difficulties they face in the assessment process?
3. How do they relate assessment methods to the teaching and learning process?
4. How do they select criteria and assessment methods?

### 6.3.1. Participants

The participants in this study are university teachers teaching year 3 students in 5 Portuguese Public Universities (see Table 17). In total 57 teachers participated in the study; 53% are male and 47% are female teachers. Their age ranged between 30 and 68 years old. Most of them (58%) are Assistant Professors and the years of teaching experience in Higher Education (HE) ranged between 2 and 44 years. Most of them have 29 years of teaching. Out of 57 teachers 32 teach in Social Sciences and Humanities, 10 in Life and Health Sciences, 9 in Natural and Environmental Sciences and 6 in Sciences and Engineering. Out of the 57 teachers 24 were face-to-face interviewed and 33 teachers responded to the questions using the link provided via email.

Table 17. Participants in the study

Field of knowledge		F
<b>Social Sciences and Humanities</b>	Educational Sciences	17
	Economics	12
	Basic Education	3
	<b>Total</b>	<b>32</b>
<b>Life and Health Sciences</b>	Nursing	5
	Medicine	4
	Pharmacy	1
	<b>Total</b>	<b>10</b>
<b>Natural and Environmental Sciences</b>	Biology	9
	<b>Total</b>	<b>9</b>
<b>Sciences and Engineering</b>	Mechanical Engineering	4
	Computer Engineering	1
	Biochemistry	1
	<b>Total</b>	<b>6</b>
<b>TOTAL</b>		<b>57</b>

In this study the four scientific fields of research identified at the Portuguese Foundation for Science and Technology were used: Social Sciences and Humanities (SSH), Life and Health Sciences (LHS), Natural and Environmental Sciences (NES) and Sciences and Engineering (SE). Different programmes were selected in each field: SSH: (Educational Sciences, Basic Education,



Economics and Law); LHS: (Nursing, Medicine, Pharmacy); NES: (Biology, Geology) and SE: (Mechanical Engineering, Computers Engineering, Biochemistry).

### **6.3.2. Data collection and analysis**

Interviews were conducted with university teachers in five Public Universities. Face to face interviews and responses via email were received in 10 out of the 14 programmes selected. The participants were identified in the different departments in each programme. They were invited to participate in a face-to-face interview. Some of them were very busy and preferred to participate by sending their responses via email. For that a link with open-ended questions were created which was sent to them via email. Informed consent and confidentiality was respected in both the interviews and responses sent via email. The interview protocol was designed to obtain data on the following dimensions: changes in assessing student learning after the implementation of the Bologna Process; difficulties associated with assessment in HE, connections between assessment and teaching and learning process and improvements to be made in assessment in HE. The main purpose was to get to know if assessment practices have changed and why. A research protocol was sent to each university and department as well as to the Dean of each Faculty in order to request permission to conduct the study. Data were collected between October 2012 and June 2013 in 5 Portuguese Public Universities. The interview protocol was validated with teachers teaching in one Public university between March and May 2012. A qualitative research design was adopted as it allows exploring university teachers' perspectives enabling a deeper understanding of the phenomenon (Silverman, 2013) and its complexity (Miles & Huberman, 1994). The interview was chosen because it enables a broad retrospective, a projection of the actions, feelings, experiences of individuals and knowledge (Kvale, 1996). Interviews were transcribed verbatim. Content analysis was used to identify emerging categories, enabling a systematic description, through the categorisation of data (Schreier, 2012).

### **6.4. Findings**

Findings are presented according to the emerging categories arising from the data analysis. In this study, the following themes will be explored: perceptions on assessment in higher education as part of the Bologna Process; perceptions on assessment and its relationship with teaching and

learning process; practices and modes of select criteria and methods of assessment; and perceptions and experiences on assessment practices.

#### 6.4.1. Perceptions on assessment in higher education as part of the Bologna Process

Teachers were asked regarding changes in assessment after the implementation of the Bologna Process. Most of participants (see Table 18) claimed that they have changed their assessment practices (n=25). However, other teachers claimed that they did not change the ways in which they assess their students' learning.

Table 18. Changes in the assessment practices after the Bologna Process

	F	SSH (n=32)	LHS (n=10)	NES (n=9)	SE (n=6)
Yes	25	8	6	5	6
No	23	18	3	2	0

Table 18 indicates that all SE teachers claimed that they have changed their assessment practices. However, it is important to note that only 8 SSH teachers indicate that they have changed their practices, in so far as most of them claim that they already used these practices before the implementation of the Bologna Process. Other participants' accounts show that the reasons for changing the assessment practices were related to the attempt to connect assessment to students' future professional setting and to help them to develop soft skills which were considered to be important for their working context, such as autonomy, teamwork, sense of responsibility, etc.

*I want to make them familiar as much as possible with what they will have to do in their future practice and to develop essential skills for their profession (P.20 SSH).*

*In terms of change I have noticed a decrease in the number of assignments throughout the semester and the difficulty of the final exams. With the implementation of e-learning technologies part of the assessment has to be done through electronic platforms, which have advantages for both teachers and students (P.26 SE).*

Other changes related to an increase of practical work outside the classroom in order to foster a greater connection between teaching and their future working context. Also, more attention seems to be given to continuous assessment and feedback in order to foster student engagement and self-regulation of their learning:

*The changes related to a greater emphasis on continuous assessment, which is more effective, the results are better and the students also appreciate that (P.14 NES).*

*I am more concerned about giving continuous feedback to the students (P.49 LHS).*

*The process of monitoring students' work is better, with weekly monitoring meetings. Also, the assessment of the projects is continuous and discussed throughout the semester which enables the confrontation of the dynamics of the group of students (P.1 SE).*

Whilst some university teachers have changed their assessment practices in order to regulate student learning, others claimed that the changes in assessment practices were imposed on them. Other participants also stated that they have not changed their practices due to the lack of time to perform all duties, but they admit that some changes did occur in small classes. They were also sceptical about introducing changes in assessment methods in large classes due to their ineffectiveness:

*The annual curricular units were reduced to a semester, and this has changed the structure and consequently the organisation of working time (P.56 SSH).*

*Yes, in the smaller classes I have tried some changes but in large classes I haven't changed anything (P.6 SE).*

*I have introduced new active methodologies such as project-based assessment. However I do not think the Bologna Process was effective, because many people do not share its principles nor discuss Bologna's changes. I do not know how the tutorials work with classes of 100 students (...) we are facing reduced resources (...) education must be individualised because each student is different. And this does not exist, we are talking about mass education (P.43 LHS).*

Table 18 shows that most teachers of SSH did not change their assessment practices because they already used the so-called learner-centred methods, which stands in sharp contrast to university teachers from other fields of knowledge:

*No, I haven't changed my assessment practices because I already used these methods before Bologna Process (P.29 SSH).*

*I haven't changed anything. I've always used formative and continuous assessment (P.16 SSH).*

*I haven't changed my assessment practices because the methods that I used before the Bologna Process were already in line with the Bologna learner-centred philosophy (P.24 SSH).*

*No, for a long time I have worked with these kinds of methods. I have realised a long time ago that this was the best way to work, although it is very hard and tiring (P.47 SSH).*

*I haven't changed because before the implementation of the Bologna Process I was already in favour of systematic work, continuous assessment, individual and group work inside and outside the classroom (P.41 SSH).*

#### **6.4.2. Difficulties associated with assessment in higher education**

Within the context of mass education in HE, there are difficulties that threaten the effectiveness of assessment in higher education according to a more learner-centred approach. The participants identified the large number of students per class, lack of time and availability for assessment and issues related to the fairness and subjectivity of assessment methods as the main difficulties (see Table 19).

Table 19. Main difficulties in the assessment process

	f	SSH (n=32)	LHS (n=10)	NES (n=9)	SE (n=6)
Large number of students	25	12	4	5	4
Lack of time and availability	14	9	2	2	1
Concerns about fairness of the assessment process	13	4	4	3	2
Subjectivity inherent to assessment process	10	6	3	1	0

The large number of students per class is an issue that arises in university teachers' accounts. This has implications for the choice of the assessment methods, the quality of monitoring, assessing individually student performance and plagiarism (Table 19):

*The high number of students per course and the reduced number of staff make the monitoring of individual students' work more difficult. When assessment is done using examination unfairness may occur. For instance, in group work it is difficult to understand and assess the role of each of the students in the development of the work (P.13 SE).*

*With so many students it is difficult to identify the abilities of each student in the group work and also plagiarism (P.12 SSH).*

*When you are in front of 120 students in a given course, it is tough, I mean, there is no human resources to face the number of students per class (P.42 SE).*

The participants also spoke of the lack of time and availability to assess students the way they wanted to and some of them admit that the pedagogical component is neglected particularly as far as a deeper and fairer monitoring process is concerned. Furthermore, the overemphasis on the research component in HE for evaluation and promotion purposes makes them spend most of their time doing research and less time to the pedagogical component:

*Teachers and students are overloaded with assessment (P.3 SSH).*

*A more participatory assessment methodology requires more time (P.19 SSH).*

*I don't assess the way I want because of the lack of time due to other work demands (P.6 SE).*

*I don't have time to spend in an adequate, fair and deep assessment methodology (P.18 NES).*

*With the Bologna Process there is less time of contact hours with the students in the classroom (P.39 LHS).*

*Time and availability are difficulties in the process, it's complicated. You are under pressure and in general the teaching component is undervalued in detriment to the scientific component such as research and publications (P.38 NES).*

*The paradigm shift that places more emphasis on research rather than on teaching makes it difficult to focus on the pedagogical component (P.53 SSH).*

The participants also point to issues of fairness and subjectivity of assessment as reasons for using given assessment methods which, according to them, are more objective and fairer:

*The word assessment itself is subjective and assessing is a very difficult task (P.49 LHS).*

*In my view there is subjectivity in the criteria even if they are well defined by the teachers (P.25 SSH).*

*In my case, most of the assessment procedures are multiple choice tests because they are more objective and less subjective (P.46 LHS).*

*Subjectivity is a difficulty in assessment. I have to go back to the tests several times because I hate being unfair. I like to reward those who did their work properly and those who devote their time to study (P.53 SSH).*

*Giving a final score to each student requires much deliberation and ethical sense of fairness (P.16 SSH).*

*The need to ensure accuracy and fairness in very large populations of students is very difficult (P.26 SE).*

### 6.4.3. What can be improved in assessment in Higher Education

Regarding what can be improved in the assessment process, teachers point different reasons (see Table 20): the reduction of number of students per class; providing continuous assessment and the individualised student monitoring through active methods; the management of time and lack of availability of teachers that do not allow the necessary and desired time to the assessment process; the prevention of plagiarism; the integration of assessment in the learning process; the lack of maturity of the students and the articulation between the university and the labour market.

Table 20. Suggestions to improve assessment in HE

What can be improved in the assessment process	N	SSH (n=32)	LHS (n=10)	NES (n=9)	SE (n=6)
Reduction of number of students per class	19	10	5	3	1
To provide continuous assessment through active methods and students' monitoring	10	7	2	0	1
Management of time and lack of availability	7	5	1	1	0
Prevent plagiarism	2	1	1	0	0
Discuss assessment with other teachers	1	1	0	0	0
Lack of maturity of the students	1	0	0	1	0
Articulation between university and labour market	1	0	0	0	0

The reduction of the number of students per class is one of the aspects that can be improved in HE with implications for the assessment process. This issue reflected the teacher's action with regard to his/her pedagogical practices both in terms of the applicability of assessment methods and the teaching and learning methods.

*You cannot make an omelette without breaking eggs, you do not want a school where there are more classes without teachers, without appropriate schedules and therefore you cannot have a quality assessment (P.35 SSH).*

*Classes with fewer students are needed (P.32 NES).*

*Reducing classes size and a more detailed monitoring of students' work (P.10 SSH).*

*Reduce the ratio teacher/student (P. 7 LHS).*

*There are some methodologies that we know and that are being implemented but in fact they are only workable if we have a small number of students and we cannot implement it with 90 students. This could be a pathway to centre assessment on the student allowing for a greater supervision (P.44 LHS).*

*There should be fewer students per class. The attendance of the students at classes should be mandatory (P.30 SSH).*

Another aspect to be improved is continuous assessment, providing the students' monitoring through the development of active methods.

*I think that it must be created conditions for teaching through active, dynamic and highly formative methodologies. More than rethinking assessment we need to change pedagogical practices, the training strategy and the pedagogical model of the university. With the new technologies, such as facebook or twitter, that enables a fast answer for all, the students' attention decreases. The lectures for more than two decades were abandoned in European countries. Therefore, our traditional university model is long, transmissive and no longer works because it puts students in a passive and reproductive position. We need to foster autonomy and reflective citizen students (P.47 SSH).*

*Creating conditions for learning through projects with monitoring and continuous assessment of the students (P.1 SE).*

*Continuous assessment should be experienced by teachers in a more individualised way. Promote multimodal forms of assessment designing and discussing in partnership seems a good suggestion (P.31 SSH).*

*More active methods, critical and reflective analysis of the situations are important. Students need to deal with situations in their various components: cognitive, communicative, attitudinal and technical (P.49 LHS).*



*Associating the assessment more with the development of the teaching/learning process and less with the verification of learned content, which does not always translate into acquired and developed skills (P.20 SSH).*

*I would change almost everything. I would give priority to the end of the master classes, which, as you know, are disguised in theoretical-practical classes, and put an end on American tests. An issue that is not pedagogical but epistemological, and that influences decisively assessment is the monolithic view held by many teachers and their lack of culture (P.12 SSH).*

However, teachers also claim that they cannot apply a continuous assessment based on active methods due to some constraints such as lack of valorisation of the pedagogical component:

*Assessment must be appreciated in terms of process and product. I think that formative assessment is the one that requires more attention and can lead to better results but not always is valued, mainly if there are many students to know and to pay attention to (P.22 SSH).*

*The assessment should promote effective learning to enhance the development of the potential of students through continuous assessment. However, for this to happen, the teacher's work conditions are very important. It is not possible to make quality assessment with one or two hundred students per class (P.16 SSH).*

*In order to use active methods there must be human conditions and material resources (P.45 LHS).*

The lack of availability of teachers for pedagogical issues was also claimed by some teachers. This issue is also linked to the need of hiring teaching assistant to help in this task.

*Assigning more time to teachers for pedagogical component (P.2 SSH).*

*It would be desirable, similar to what exists in other countries, which hiring teaching assistants to help in assessment work (P. 9 SSH).*

*Reducing the time spent by the teacher in the assessment process by hiring more teachers (P. 3 SSH).*

A small number of teachers also identified constraints concerning students' attitudes and behaviours such as plagiarism and lack of maturity.

*One of the things to be improved is to prevent the plagiarism (P.5 LHS).*

*The childish behaviour of the students. They have less maturity to be in the classroom and are poorly motivated (P.38 NES).*

The need to share and discuss assessment issues with colleagues to improve the assessment process was also claimed by some participants.

*It is necessary discuss in the teaching group the assessment process. So, the assessment process would not be a process of giving quantitative marks. There should be discussion in groups of teachers and tools should be implemented and open up this education to the university level in general in so far as these assessment issues should be similar (P.50 SSH).*

Teachers were also concerned with the articulation between university and labour market. It is a crucial aspect that can improve the assessment process and the students' learning.

*The university should follow more the labour market and bring the practice in and the reverse, because not all students will be researchers (P.53 SSH).*

#### **6.4.4. Perceptions about assessment and its relationship with teaching and learning process**

Data showed that for the participants assessment practices influence the process of teaching and learning. It is important to notice that almost all participating university teachers in all fields of knowledge agree with this, except 3 teachers that do not agree and 4 teachers that did not respond (questions sent via email) (see Table 21).

Table 21. Assessment practices and their influence on teaching and learning processes

Do assessment practices influence teaching and learning processes?	f	SSH (n=32)	LHS (n=10)	NES (n=9)	SE (n=6)
Yes	50	28	9	8	5
No	3	2	0	1	0

University teachers admit that there are assessment methods that may foster higher or lower student participation (n=15). They also state that students' purpose and motivation are mainly getting the final grades (n=7) and that students regulate their learning through assessment taking into account the quality of feedback received (n=6):

*Students' commitment is greater depending on what is required of them in terms of assessment (P.25 SSH).*

*Assessment should follow the process of teaching and learning, it is through it that the teacher gives feedback and the student will refocus on learning, giving signposts also for improving teachers' performance (P.16 SSH).*

*I believe that assessment should be central to determining the method of teaching, but it doesn't always happen. Sometimes teaching and assessment are often separate processes (P.24 SSH).*

*Unfortunately, students have a tendency to regulate their working methods taking into account the timing of the assignments (P.26 SE).*

*Clearly, there are assessment practices which seem to encourage more students' participation and greater satisfaction in relation to their learning (P.23 SSH).*

University teachers also state that students are mainly encouraged by final grades:

*For example the students prepare themselves for the test in order to have a good score, not to develop skills, but rather to train their immediate memory (P.4 SSH).*

*The purpose of the students is to get approval with the best possible grades. This is their main concern (P.17 SE).*

#### 6.4.5. Teaching practices and assessment methods used

According to the participants, they have changed their teaching practices because of the assessment methods they used (see Table 22).

Table 22. Changes in teaching in the light of assessment methods

	N	SSH (n=32)	LHS (n=10)	NES (n=9)	SE (n=6)
Yes	34	20	6	5	3
No	18	8	4	4	2

Teachers' accounts reveal that they tend to adapt their practices in the light of students' needs and according to their own experience as teachers. It enables to know the different kinds of situations and adjusting to them. Most of the participants claim that teaching practices are related to assessment methods.

*Yes, I have been learning with reflection on my own teaching and assessment experiences (P.25 SSH).*

*I have changed my teaching because assessment gives me important indicators to see if I'm doing well on the teaching and learning process, i.e., if students are actually developing the skills and achieving desired goals (P.16 SSH).*

*Yes, every year I reflect on the learning outcomes and on the aspects that have contributed to them, and then I reformulate my assessment practices (P.23 SSH).*

#### 6.4.6. Practices and modes of select criteria and assessment methods

The assessment criteria more valued by teachers are the appropriation and articulation of the contents; communication skills; participation and attendance to classes; critical and reflective skills and writing skills (see Table 23).

Table 23. Assessment criteria most valued by teachers

Criteria	N	SSH	LHS	NES	SE
		(n=32)	(n=10)	(n=9)	(n=6)
Appropriation and articulation of the contents	33	19	4	6	4
Communication skills	17	14	1	0	2
Participation and assiduity	16	6	7	0	3
Critical and reflective skills	16	12	2	1	1
Writing skills	13	9	2	0	2

Table 23 reveals that the majority of teachers (n = 33) claim the appropriation and adequacy of the contents by the students as the most valued criterion. The field of technical / theoretical contents and its application and integration are highlighted by teachers:

*Internalisation of concepts and their application, therefore properly reflected on learning (P.27 SSH).*

*Application of the contents / taught strategies and goals of the course (...) goals are our lighthouse (P.4 SSH).*

*Personal appropriation of theoretical contributions or ability to integrate the knowledge learned in the analysis of cases and the production of reflections or projects in the field of knowledge (P.33 SSH).*

Participation and attendance to classes are two key factors mentioned by the teachers (n = 16). The attendance to classes demonstrates the student's interest and their participation in classes enables to perceive what they have learned. Sometimes these criteria are highly valued in what concerns the final grade. However, sometimes these criteria have a minor valorisation in the final grade of the student. This criterion was not indicated by any teacher of NES.

*Attendance to classes and demonstration of interest in classes (...) their presence in the classroom is always a very important indicator (P.1 SE).*

*I appreciate attendance to classes and participation (P.39 LHS).*

*There is a table for each student. In every class I have to point as the student participates in class, assess and valued aspects such as attendance to classes and active participation (P.48 LHS).*

*We assessed the relevant participation, behaviour and attendance to classes it is 10% of the final grade (P.46 LHS).*

*Students should attended classes. However the only factor that affects the grade is the work of the group and the test (P.54 SSH).*

Critical and reflective were also considered as criteria to value in the teachers' perspective.

*Ability to design, implementation and evaluating critical situations of teaching and learning (P.20 SSH).*

*Critical competence to present and use the information that was being presented to them (P.24 SSH).*

*I value critical thinking about the action, I value the autonomy and initiative (...) and the acquisition of skills of critical thinking (P.50 SSH).*

*The ability to interpret, analyse and reflect on the above clinical part (P.45 LHS).*

*Ability to contrast empirical data and concepts, models and theories (P.16 SSH).*

*Understanding and remodeling of the knowledge acquired in the course units, integration with previous knowledge (P.21 NES).*

*Reasoning, power of argumentation and connection between different topics (P.11 NES).*

*Ability to learn, translated into results of continuous or summative assessment (P.1 ESE).*

Communication skills (n = 17) and writing skills (n = 13) are also valued by the participants. They considered that these skills are essential to student learning inside and outside the university. However, it is important to note that none of the NES teachers value these two criteria.

*Understanding and oral and written communication skills, because they will need to be competent in these forms of communication regardless of the public whit whom they will work (P.20 SSH).*

*Consistency and coherence of written and oral productions (...) own language and formal rigour (P.33 SSH).*

The participants indicate different reasons based on which they select the assessment methods and criteria: learning goals, characteristics and the learning outcomes of the syllabus (n = 22); prior teaching (n = 13); according to their educational experience (n = 9) and even after discussion with colleagues (n = 9). It is important to note that none of the teachers of LHS pointed out that they select the methods and criteria according to their educational experience, none of the ESE participants indicate that they select the methods and criteria before teaching and none participant from NES pointed that they selected methods from the discussion with colleagues.

Some teachers argued that the assessment methods and criteria are selected based on learning goals, characteristics and learning outcomes of the syllabus.

*First I look at the objectives and contents. Then depending on the number of students per class I try to individualise the criteria in order to be able to monitor each student (P.24 SSH).*

*Depending on the objectives of the discipline, the number of students enrolled and my available time (P.4 SSH).*

*According to the nature of the knowledge to teach, to promote the learning and learning outcomes. These criteria are important in some circumstances, since the contingencies of the teaching process, such as having too many students to evaluate, makes it not always possible to choose completely and consistently the assessment methods, which implies also reformulating some of the criteria (P.33 SSH).*

Teachers also declare that criteria and assessment methods are defined prior to teaching:

*The assessment criteria are pre-defined and presented to students even before the beginning of the classes (P.22 SSH).*

*I set up the criteria at the beginning of the year (P.35 SSH).*

*I must say that I take the methods and negotiate with the students at the beginning of the year (P.56 SSH).*

Other teachers claim that criteria and methods of assessment were selected according to their experience.

*Given my experience as a teacher and supervisor at various levels of education (P.20 SSH).*

*From my reflection about the aims of my work as a teacher and the student feedback over the years (P.16 SSH).*

*By experience of good results in previous years (P.26 SE).*

*Through international experience I have in similar courses (P.10 SSH).*



*Experience gained in previous years and positive results reported with applied methods (P.14 NES).*

*From my own previous experience, the contact I had with situations and other agents and therefore I made my options for what seems more effective to me (P.34 SSH).*

The selection of criteria and assessment methods is sometimes discussed with other teachers'.

*They are defined and discussed in a group of teachers and presented and explained to the students (P.25 SSH).*

*It's a team effort at the beginning of each semester with the team of teachers assuring the fairness of methods and we agree the elements. We negotiate the weighting of criteria and then we have autonomy in the course during the semester (P.50 SSH).*

Most teachers said there is not any kind of negotiation of assessment methods with students. However, some teachers, except teachers in the area of SE, claim that there is negotiation of the methods with students.

*There is no negotiation, usually because I think that assessment is my responsibility and it has to be according to what I think is best and it cannot be limited at students' choices (P.38 NES).*

*The component of negotiation is complicated because syllabus is common to other classes with the same subject and our autonomy is little (P.24 SSH).*

*It is the choice of the teacher. The assessment methods are not negotiated with students (P.27 SSH).*

*I identify them and present them always at the beginning of a course. The negotiation often leads to situations of unfairness (P.26 SE).*

*I say what are the methods are and I give space to negotiation. Normally the students, especially in the first years, are unfamiliar and only when it comes to study they come and ask to change the methods, but everything is planned according to the rules and in general it is not possible to change (P.45 LHS).*

*The assessment methods are defined by myself and presented to students at the beginning of the semester. The only negotiation that can occur is the date of delivery of the work (P.13 SE).*

*Sometimes there is negotiation but at the level of Masters (P.19 SSH).*

*Sometimes I negotiate with the students. My intuition says that it is the best method and they like the idea (P.36 NES).*

#### 6.4.7. Perceptions and experiences on assessment practices

Teachers were asked if assessment should focus on the technical skills (related to the field of knowledge) and on the *soft* skills. The majority of teachers agree that assessment should focus on technical skills but also on soft skills because soft skills promote professionals dynamics and autonomies and also has to do with real life depending on the objectives and nature of the course units. Table 24 shows that all teachers of LHS agree that assessment should focus on soft skills and technical skills.

Table 24. Assessment should focus on the technical skills but also on the soft skills

	N	SSH (n=32)	LHS (n=10)	NES (n=9)	SE (n=6)
Yes	40	23	10	3	4
No	11	6	0	4	1

Participants state that these skills are necessary to the professional future of the students.

*Yes, because there are competencies that are necessary to develop the initial training or even in post-graduation in various areas of higher education, as we train future professionals in the world. Today we need to have such competencies, regardless of the area that students will work on (P.16 SSH).*

*Yes, indeed, the university should train people and people are much more than recipients of knowledge. The role of the university is to make people grow and acquire and apply the knowledge, the ability to work in groups, and being critical (P.55 SSH).*

*Yes, because assessment should address the cognitive, axiological and relational fields (P.22 SSH).*

*Yes, we are training not only in technical issues but training citizens and even the technician is good if he/she able to communicate or transmit a value to his/her team, a certain vision (P.34 SSH).*

Teachers also point that these skills promote dynamic and make connections with real life:

*The university is a place you teach how to think, students have to know how to be autonomous in their work (P.35 SSH).*

*Yes of course, the ability to mobilise knowledge, responsibility, solidarity, teamwork, etc (P.56 SSH).*

*Everyone should develop skills of teamwork, so the assessment should always have an individual and group component (P.25 SSH).*

*For a professional practice soft skills are of great importance (P.13 SE).*

*We live in a global and virtual world in professions that require also soft skills (P.4 SSH).*

The participants also claimed that the selection of methods of assessment and criteria depends on the objectives and nature of the course units.

*In general in Curricular Units that are not geared towards learning projects undertaken by the teams the assessment should focus on the technical skills, it is essentially about technical knowledge. In the case of Curricular Units that work in terms of learning through projects developed by groups of students are of particular importance for example soft skills such as teamwork, performance of roles within the group and leadership capacity (SE P.1).*

*It depends on the goals. If the course is aimed to knowledge objectives then that is what should be assessed (P.24 SSH).*

With regard to what kind of assessment can stimulate students to apply knowledge in real contexts the participants point the practical work; problem solving and projects; simulations; group work and laboratory work.

*Assessment on enabling students to think and reflect on the practical realities, making very clear articulation between university and life contexts, situations, social and future professional field, society and the world they live in (P.47 SSH).*

*An assessment connected with situations, problems with the current and future contexts of intervention (P.41 SSH).*

Teachers declare some benefits in the use of practical work, problem solving, projects and simulations through a continuous assessment regarding the application of knowledge in real contexts.

*The projects to solve real problems in real scenarios is the best type of assessment (P.26 SE)*

*Practical work and projects throughout the semester (P.13 SE).*

*Practical work by applying the concepts learned in class in a context that seeks to connect a real situation (P.27 SSH).*

*The continuous assessment, through the monitoring of real analysis or intervention in real devices, e.g. practical research work (P.16 SSH).*

*Continuous assessment resulting from projects, which can confront students with real contexts and situations (SE P.1).*

*The assessment that meets the empirical work and that involves practical exercises (P.22 SSH).*

*In case the medical situations that simulate medical, clinical and diagnostic cases (P.28 LHS).*

*The whole assessment involving the achievement in simulated or real (field work) situations promotes the transfer of knowledge (P.24 SSH).*

Group work and laboratory work is also appropriated to apply the knowledge in real contexts, according to teachers' accounts.

*Especially the work in groups fosters a practical application of acquired knowledge (P.2 SSH).*

*Laboratory work as possible and also field work because it is an important for the motivation of the students (P.38 NES).*

*Practical and laboratory classes, but these are not mere technical reproduction. Give them a problem and we have a lab at their disposal to respond to the problem. They love it because it is the best educational experience and students enjoying it because they are autonomous (P.37 NES).*

Most of teachers claim that they use self and peer assessment. Teachers use these modes of assessment alone or both. The self-assessment is the most used mode of assessment. Some of the advantages of these modes of assessment such as autonomy, critical thinking and the self-regulation of learning are highlighted in teachers' accounts.

*Self and peer assessment are very relevant and help a fairer assessment (P.22 SSH).*

*I use peer assessment because students have to learn how to assess the others according to given parameters and when the student assesses the other they can better self regulated their work (P.4 SSH).*

*I use self-assessment in oral form. It is important for students to recognise their skills and difficulties. Self-assessment allows an interaction showing to the students their expertise and their failures (P.7 LHS).*

*I often promote self-assessment as it promotes autonomy, control, own knowledge and help to adjust the effort. However, I do not include it in the grading (P.31 SSH).*

*I never use the self-assessment. I prefer peer assessment as it develops critical and supportive atmosphere among students (P.2 SSH).*

*A peer assessment is good to avoid situations within groups and this information helps to confirm impressions that we have (P.55 SSH).*

*Self-assessment reflects what was useful to the students' lives and is critical for teachers to change what is needed in the future. They not like to do peer assessment because they do not like to criticise colleagues (P.52 SSH).*

*Self-assessment makes the student reflect on his/her work and I consider that it is a structural competence also in terms of professional development (P.44 LHS).*

*In peer assessment we are able to identify if there is any problem within the group. On the other hand, we enable the students to discuss among themselves what went right and wrong, and we put the students to think about what could be improved. There are groups that work well but there are others who do not work well (P.42 SE).*

However, some disadvantages such as unfairness, subjectivity and favouring of marking were also highlighted.

*The advantages of these modes of assessment are the possibility of giving voice to the students and providing to teachers a set of information that facilitates the formalisation of his/her own assessment. There will be disadvantages if students are not exempted in their assessments or if there is a concerted action between students with the predetermined order to benefit or harm a colleague (P.1 SE).*

*I use them as a strategy to develop critical analysis skills and communication skills. However, the disadvantage of its use is the negative criticism because it is difficult to express and to listen to (P.24 SSH).*

*One of the negative aspects of self and peer assessment is the inevitable subjectivity (P.12 SSH).*

*The results of the implementation of self and peer assessment were not good, because the students could not distinguish their peers in the peer assessment and in the case of self-assessment they attributed almost always good marks. Before implementing this type of assessment it is necessary to train students (P.18 NES).*

Some teachers also refer that it is only possible to apply these modes of assessment when the classes are small and when they are in accordance with the nature of the curricular unit.

*I only use peer and self-assessment in very specific curricular units as the project (P.27 SSH).*

*I use them when the classes are small. These allow the awareness/responsibility for the assessment process on the part of teachers and students (P.6 SE).*

*I use self and peer assessment when I use portfolios or written reflections. Self-assessment is fundamental in the personal development process of the students; it is part of the self-discovery process. The peer assessment is very important for the development of the team, to develop the ability of observation and critical judgment of all, respect and ethics. However, it has advantages such as having to manage the conflicts that arise in a positive way (P.16 SSH).*

Some teachers do not use self- and peer-assessment. In one hand, they do not consider these modes of assessment useful and they also consider that the act of assessing is exclusively the teachers' job. On the other hand, some teachers refuse to use these modes of assessment due some constraints: ineffectiveness, lack of knowledge of such practices and lack of conditions to put them in practice.

*I do not use it and I do not know what is self and peer assessment (P.3 SSH).*

*I do not use because they are ineffective (P.19 SSH).*

*I do not use. Assessment is my job and I do not want to share it with anyone (P.38 NES).*



*I do not use, no way. Self-assessment needs very good conditions and we do not have them. Peer assessment, for God's sake, is a total mistake. The responsibility to assess is that of the teacher, so it only generates dissatisfaction, competition and manipulation among students. The assessment involves an institutional relationship between the one who knows more and that is legitimate and the one who does not know. This is to place a student to the level of a teacher. It is a very dangerous issue (P.47 SSH).*

*I've never done that in my life and I do not know how it's done (P.36 NES).*

*This is a waste of time (P.54 SSH).*

*I do not use, but I consider it important (P.46 LHS).*

## **6.5. Discussion**

With the Bologna Process in European Universities assessment in higher education has become a key concern. Most of the practical methods or learner-centred assessment (Webber, 2012) emphasise a close approach to professional context enabling the development of soft skills, such as autonomy, collaboration, leadership, and responsibility. According to some of the participants' accounts, their assessment practices have changed after the implementation Bologna Process. These participants claim that they have changed the assessment practices in order to improve the connection between learning and students' future working context, the development of soft skills and the promotion of continuous assessment and feedback in order to better engage students on their learning process. Literature also found that a learner-centred approach promotes active learning, deep learning and students' autonomy and responsibility (Lea et al., 2003). Furthermore, some teachers who have not changed their assessment practices claimed that they have started teaching when the Bologna Process was already in place and others claimed that the programmes in which they teach were already designed according to the assumptions and principles of the Bologna Process. But most of the participating university teachers coming from the Social Sciences and Humanities state that they have not changed their assessment practices because they already used the so-called learner-centred methods before the Bologna Process was implemented, which is in sharp contrast to participants' perspectives

coming from other areas of knowledge (LHS, NES and SE). They also claimed that they were already concerned with continuous and formative assessment, with the use of practical work inside and outside the classroom, and with systematic and collaborative work from the part of the students. On the other hand, all SE teachers, for example, changed their assessment practices. This is in line with earlier empirical work (Lueddeke, 2003; Lindblom-Ylänne, Trigwell, Nevgi, & Ashwin, 2006; Yanowitz & Hahs-Vaughn, 2007; Webber, 2012) which has showed that teachers of soft sciences use more learner-centred assessment compared to teachers from hard sciences. However, university teachers also state that a number of problems still remain, namely the lack of time to perform all tasks required of them and the top-down imposition to change assessment practices according to Bologna principles. They are sceptical about the effects of the changes in real assessment practice. These findings are in line with earlier literature. Veiga and Amaral (2009) found that this paradigm shift in the Portuguese context was seen as positive and beneficial to educational process. However, the study of Sin (2012) found that although Portuguese teachers see Bologna as an opportunity to improve their approaches to teaching, learning and assessment process, they are skeptical regarding the success of the learner-centred approaches. Thus, more needs to be done in terms of developing more active methods and continuous and formative assessment with better feedback in order to promote a more regulated learning process. These issues need to be further clarified and discussed amongst university teachers so that they may analyse the importance of integrating them into their assessment and teaching practices (Webber, 2012). It is also important to note that difficulties related to the large number of students per class, the shortage in faculty members, the lack of time and availability for teachers to engage in teaching and assessment due to the pressures to engage in more research and to get their work published are also identified by the participants. The European Association for Quality Assurance in Higher Education (2009) refers that institutions of higher education should ensure material and human resources for support the students' learning according to each programme. However, teachers identified the lack of resources to implement strategies of teaching, learning and assessment in the classroom. For them, there are factors that hinder their effort and investment in teaching. In fact, literature shows that some factors difficult the implementation of a learner-centred approach on higher education. For instance, Sursock and Smidt (2010) point out the teaching workloads present in a large number of European universities that inhibit the use of a learner-centred approach since it requires more hours to be spent on developing new strategies of learning, teaching and assessment; the

policies that favour the research productivity rather the teaching quality; no innovation on the examination's types and no funds to perform new teaching methods. As the authors claim "institutions must find ways to motivate academic staff to spend the time required to design, evaluate and re-design their modules, if necessary, and to assume different roles to those of ex cathedra teachers (...) examinations need to be rethought in the context of teaching innovations" (Sursock & Smidt, 2010, p. 48).

Issues of fairness and subjectivity inherent to the assessment process also emerged from their accounts. These and other aspects are responsible for the frequent use of more traditional practices rather than innovative and learner-centred methods. This study also found that the improvements to be made in the assessment process in higher education are similar to the difficulties pointed out by teachers in the assessment process. Once again teachers report that it is required smaller classes, more time for educational aspects, having the opportunity to provide students with a continuous assessment through learning monitoring and the use of assessment practices centred on the learner. However, issues relating to the connection between the university and the world of work, the integration of assessment and learning, plagiarism and lack of maturity of the students were also aspects in need of improvement in the assessment process in higher education. Figure 19 summarises the changes and no changes in Portuguese Public Institutions of Higher Education after the implementation of the Bologna Process according to the participants.

<b>Assessment in Higher Education after Bologna Process</b>		
<b>Change</b>	<b>No change</b>	<b>Barriers to Change</b>
Linking assessment practices to professional context; Assessment methods student-centred; Monitoring and self-regulation (continuous assessment and feedback)	Entry to teaching at HE after the Bologna Process; Using the student-centred methods before Bologna Process; Courses already designed according to the Bologna Process	Scepticism in relation to change assessment practices; Organisation of the semesters and the working time; Lack of resources; Imposed changes

Figure 19. Changes and no changes in Portuguese Public Institutions of Higher Education after the implementation of the Bologna Process according to the participants

Findings from the study described in this chapter suggest that participants recognise that the assessment methods they put into practice strongly influence the teaching and learning process. In particular, they highlight the promotion (or lack of it) of students' participation and engagement in the activities in the classroom, the emphasis on the outcomes and the lack of valorisation of formative assessment and the role of feedback. In other words, students' participation and perceptions about assessment influence their engagement in the learning process. Earlier empirical studies also corroborate this finding. The studies found that assessment methods influence the process of teaching and learning (Sambell & McDowell, 1998; Tang et al., 1999; Segers et al., 2008). Furthermore, the assessment also influenced the teaching process. Participants of this study claim that they already have to change their teaching practices according to assessment methods used. As assessment leads to learning, it is necessary to change teaching practices to better serve the selected assessment methods. One of the reasons to these changes identified by the teachers is the need to adapt teaching methods to the students' choices of the assessment practices. This fact may be indicative of some sort of flexibility and negotiation of assessment methods between the teacher and the student. However, teachers in this study refer that there is no negotiation of assessment with students. The results found that the appropriation, adequacy and content mastery are clearly the criteria most valued by the teachers. The attendance and participation in classes and the development of soft skills such as communicative skills, critical skills and writing skills were also pointed out by teachers. The setting up of criteria is related to the assessment methods used, and consequently there are skills that only can be developed using certain assessment methods. Not all assessment methods enable the development of soft skills such as learning to think, work collaboratively, communicating and critical thinking. The empirical study by Hodgson, Varsavsky and Matthews (2014) demonstrates that the valued criteria for assessment change according to the assessment methods adopted by teachers. They claim that when students perform a test what is most valued is the scientific knowledge; however when assessed by other assessment methods, such as practical reports, in addition to scientific knowledge the skills of writing and skills of group work are also valued. Also, it was found that teachers selected the assessment methods and the criteria based on learning goals, characteristics and learning outcomes of the programmes. This may indicate that the curricular design of each programme may influence the assessment

methods to be used and valued criteria. Therefore, curriculum design may guide, albeit not explicitly, teachers' actions regarding the choices of methods and assessment criteria.

Teachers emphasise the importance of assessment in contemplating both technical skills and soft skills, as these enable the connection with reality and professional life. This finding is in line with Bologna requirements in so far as "instruments must be developed without obscuring the main goal of equipping all learners with the education and skills they need for their professional and personal development and their role as citizens" (Surssock & Smidt, 2010, p. 32).

The kind of assessment that can stimulate students to apply knowledge in contexts and real situations is a learner-centred assessment. In teachers' opinion, assessment methods such as practical work, problem solving and projects along with continuous assessment are best suited to this purpose. Earlier literature also shows that the assessment centred on the learner, through active methods promotes deep approaches to learning allowing solving real-life problems, and linking university to the professional world (Fernandes et al., 2012). Teachers claim they use self- and peer assessment as these modes of assessment have advantages such as: promoting autonomy, critical thinking, self-regulated learning, fairness, and allow the students to recognise their successes and failures and those of their colleagues and also to support the students in the assessment process. Several studies are in line with this finding (van den Berg et al., 2006; Fitzpatrick, 2006; Lew et al., 2010; Patton, 2012) recognising these modes of assessment as beneficial to students' learning. However, some disadvantages were also highlighted by participants such as: subjectivity, unfairness and the fact of students not being coherent when give grades to themselves and to their colleagues. The study by Cassidy (2007) is also in line with this finding. The author found that students are inexperienced to self-assess. Furthermore, these modes of assessment are seen by some teachers as useless, and others refuse to use them.

## **6.6. Conclusion**

Findings from this study point to some conclusions. First, although teachers claim that there have been changes in assessment practices after the Bologna Process in their accounts it is possible to perceive that the practices they consider to be the most suitable to the Bologna principles are not those sometimes those they actually use. This is due to lack of conditions and a number of constraints that currently exist in higher education with regard to the assessment

process, such as large classes, the semester structure, the organisation of working time and lack of availability of teachers for pedagogical issues. Teachers appreciate the characteristics of an assessment centred on the learner, as it allows the development of key skills for the professional world. However, the difficulties in assessing do not allow them to use these methods as they would like to. The same happens concerning continuous assessment through feedback. Even when the changes in the assessment practices are imposed by some universities, teachers are reluctant to use them because of these constraints. So, improvements are required by the participants in the assessment process in higher education in order to allow the use of assessment practices that they consider more appropriate to improve learning and more suitable to higher education purposes. Consequently, there are some tensions between what they want to do and what they can do in the light of the conditions that they face. This study also suggests that assessment influences the teaching and learning process. Through assessment, or depending on the assessment method used, learning and teaching is developed in different ways. Motivation and students' performance, self-regulation of learning and the nature of the skills to be developed are related to the assessment methods used. More needs to be done in this field, particularly in regard to students' and teachers' perceptions of assessment after the implementation of the Bologna Process in different European countries and research on the effectiveness of the learner-centred methods in terms of student learning in different fields of knowledge.

## CHAPTER VII

# PERCEPTIONS OF PORTUGUESE UNDERGRADUATE STUDENTS ABOUT ASSESSMENT: A STUDY IN FIVE PUBLIC UNIVERSITIES





This chapter draws upon a broader piece of research on assessment in higher education. The perceptions of undergraduate students are analysed taking into account the effectiveness and fairness of both traditional and learner-centred assessment methods, as well their influence on the learning process. In total, 624 students participated in this study in five Portuguese Public Universities in different areas of knowledge and programmes. Data were collected through questionnaires. Findings suggest that assessment is seen as more effective and fairer when it is done through the use of learner-centred assessment methods rather than by traditional assessment (e.g. written tests or exams). The students also claim that they devote more time to study when assessment is performed by learner-centred assessment methods than by traditional ones. The effectiveness of the assessment process is also linked to skills' development required in real life and the impact on the quality of learning. The most used assessment methods are the written tests and oral presentations in group. However, differences in the programmes included in this study were identified as well as differences according to gender. Implications of the findings for assessment, teaching and learning process are discussed.

## **7.1. Introduction**

The assessment of the students' learning has been an issue of concern in higher education (Sambell et al., 1997; Black & Wiliam, 1998; Struyven et al., 2005). Different perspectives suggest that a shift in the assessment paradigm has occurred, based on the transition from an instruction paradigm to a learning paradigm (Barr & Tagg, 1995), from a summative 'testing culture' to an integrated 'assessment culture' (Birenbaum, 1997), or, in other words, from a teacher-centred approach to a learner-centred approach (Huba & Freed, 2000; Kahl & Venette, 2010). Higher education contexts have faced a challenge towards a more learner-centred assessment after the implementation of the Bologna Process (Webber, 2012; Meyers & Meyers, 2014; Sin, 2015) which implies that the student is at the centre of the learning process through the active knowledge construction. Overall, in European Universities the policy agenda of the Bologna Process also pointed to the need for a more learner-centred assessment.

Although there are studies on particular assessment methods (Scouller & Prosser, 1994; Birenbaum & Feldman, 1998; Brinke et al., 2010; Turner et al., 2013; Pereira et al., 2015) or studies based on a comparative perspective of different methods (Gleaves et al., 2007; Tian,

2007; Huxham et al., 2012), more studies are needed on the students' perceptions of the traditional and learner-centred assessment methods in different contexts and programmes (Segers et al., 2008; Pereira et al., 2015).

This study seeks to contribute to fill the gap in research on assessment in higher education. It examines the learner-centred and traditional assessment methods through the perceptions of undergraduate students. Issues of effectiveness, fairness and ideas associated with assessment are discussed.

## 7.2. Assessment methods in Higher Education

In contrast to a teacher-centred approach that focuses on teacher and instruction (Kahl & Venette, 2010) and in which students are seen as passive learners (Altay, 2014), a learner-centred approach focuses on the learner who is seen as an active individual and assessment is effective if it enhances motivation and learning (McCombs & Whistler, 1997; Huba & Freed, 2000; Karolich & Ford, 2013). Earlier literature shows that the learner-centred approach emerges from the influence of the humanist perspectives (Bailey & Colley, 2015) and the constructivism theories, which emphasise the active role of the student in the process of learning and assessment (Struyven, Dochy, & Janssens, 2003). The concept of *learner-centred learning* or *student-centred learning* is credited to Hayward in the beginnings of the 1900. Later, other authors such as Dewey, Rogers, Piaget and Knowles also contributed to the development of the concept (Attard et al., 2010).

Back in 1990, a learner-centred approach was also discussed in the American colleges and universities (Webber, 2012) and as a result a special task was designed by the American Psychological Association (APA) which points to an integrated perspective of research and theory regarding the school systems. The task entitled *The Learner-centred Psychological Principles* describes an approach of learner-centred regarding teaching, learning and assessment (APA, 1990; 1997). This framework suggests that learners should have strategic thinking approaches to be capable of problem solving and reflecting on their learning process through feedback and instruction. The tasks provided to the students should promote the intrinsic motivation to learn, should be based on real-world situations and should enhance the learner effort. Assessment should include the phase of diagnostic, process and outcome, as an integral part of the learning process, through feedback and continuous assessment (APA, 1997). A learner-centred

assessment, or *authentic assessment* (Mueller, 2005; Fook & Sidhu, 2010), emerged from current movements that see no longer the traditional assessment as suitable to higher education purposes, since it focuses on factual knowledge. Instead an assessment approach that fosters students' learning and that is centred on the learner is advocated (Webber & Tschepikow, 2013). The current higher education context reflects these assumptions being required that students develop skills other than technical ones, higher-order thinking (Gulikers, Bastiaens, & Kirschner, 2004) and autonomy and motivation to learn (Bailey & Colley, 2015).

An extensive body of research on assessment suggests the influence of the nature of assessment methods (Scouller, 1998; Flores et al., 2015; Pereira et al., 2015) on students' performance (Brown & Knight, 1994; Birenbaum & Feldman, 1998; Sambell & McDowell, 1998; Gibbs, 1999; Light & Cox, 2003; Biggs, 2003; Boud & Falchicov, 2007) and on their approaches to learning (Marton & Säljö, 1997; Scouller, 1997). Although the traditional methods of assessment (paper and pencil test/exam) are widely used in higher education contexts (Sambell et al., 1997; Scouller, 1998; Pereira & Flores, 2012; Lesage, Valcke, & Sabbe, 2013) a growing body of research on assessment shows that the use of these methods may not be suitable for higher education purposes (Goubeaud & Yan, 2004; Wen & Tsai, 2006; Price, Carroll, O'Donovan, & Rust, 2011; Duncan & Buskirk-Cohen, 2011). In addition, the traditional methods of assessment present some gaps concerning the learning process, they do not inform how learning is carried out (Flores et al., 2015), they do not promote the knowledge construction (Struyven et al., 2005) and they encourage surface approaches to learning (Scouller, 1998). However, these methods are suitable to the traditional instruction process that is based on students as passive subjects that receive information and promote memorisation of basic knowledge rather than understanding (Dochy, 2001).

The emergence of different methods and modes of assessment in higher education (Struyven et al., 1995; Sambell et al., 1997) followed an *assessment culture* rather than a *testing culture* (Birenbaum & Dochy, 1996; Birenbaum, 1997). They are characterised by the integration of the assessment, learning and teaching processes (Dochy, 2001; Rust, 2007). Practices such as project work or portfolio are identified (Huba & Freed, 2000; Webber, 2012) as learner-centred assessment methods that enable knowledge construction, skills' development such as autonomy, reflection and collaborative work (Sambell & McDowell, 1998; Meyers & Meyers, 2014), increasing feedback and students' motivation (Huba & Freed, 2000; Gasiewski et al., 2012).

Self- and peer assessment are good examples which meet the purposes of learner-centred assessment. Self-assessment involves the student on the learning process (Orsmond & Merry, 2013) and develops critical thinking skills (Fitzpatrick, 2006). Peer assessment enables students' interaction (van den Berg et al., 2006; Vickerman, 2009) and produces formative feedback (Patton, 2012). As opposed to traditional assessment, the learner-centred assessment promotes the active role of the students and enables them to know how learning occurred (Webber, 2012; Flores et al., 2015). Furthermore, it is increasingly required that university prepares the students for real life, promoting the development of skills that are appropriate to the future professional context. Problem-based learning, as an example of a learner-centred assessment, allows the development of these skills in real-life contexts (Dochy et al., 1999; Boud, 2000). In fact, learner-centred methods are preferred by students who demonstrate deep approaches to learning as they enable practical demonstration of the knowledge (Gijbels & Dochy, 2006). This approach is also related to Shepard's (2000) principles of curriculum, psychological and assessment theory, consisting of promoting challenging tasks, high-order thinking, active learning, self-assessment activities and continuous and formative assessment.

Traditional assessment methods continue to be widely used in higher education contexts (Exeter, Ameratunga, Ratima, Morton, Dickson, Hsu, & Jackson, 2010; Duncan & Buskirk-Cohen, 2011). This is explained in Meyers and Meyers' study (2014) that found that teachers who have larger classes and heavy workload are less likely to use learner-centred assessment methods.

If assessment is to be seen as a tool for learning promoting the engagement of the students in a continuous process that does not end only with a final assessment method (Dochy & McDowell, 1997; Dochy, 2001), thus the learner-centred approach is more suited for these kinds of purposes. Issues such as the effectiveness and fairness of the assessment methods (Sambell et al., 1997; Carvalho, 2013; Flores et al., 2015), their utility, validity and reliability as important criteria for the assessment process to be effective and fair (Sluijsmans & Struyven, 2014) have been discussed in the literature. In general, students show positive attitudes towards assessment if they perceived assessment as fair (Segers, Dochy, & Cascallar, 2003; Struyven et al., 2003) and the assessment effectiveness is reflected in their learning and motivation (Gulikeres et al., 2008). However, more studies are needed in order to compare and contrast students' perceptions in regard to traditional and learner-centred methods in Higher Education.

### 7.3. Method

This study aims to answer to the following questions:

- How do undergraduate students perceive assessment in terms of effectiveness and fairness in regard to traditional and learner-centred methods?
- How do undergraduate students perceive assessment through learner-centred methods and their impact on the quality of learning?
- How do undergraduate students perceive the moments and modes of assessment?
- What kinds of assessment methods are most used? Are there any differences in different programmes?
- What kinds of associations with assessment do undergraduate students? Are there any differences between programmes? Are there any differences between learner-centred methods and traditional methods?
- Are there any significant differences on students' perceptions taking into account the issue of gender?

#### 7.3.1. Participants

In total, 624 undergraduates participated in this study (see Table 25). The undergraduates were in their year 3 in different programmes in different fields of knowledge in five Portuguese Public Universities. Their age ranged between 20 and 40 years old. The mean age was 21.81 years old, with a median of 21. Out of the 624, 405 (65%) are female and 219 (35%) are male. In this study the four scientific fields of research identified at the Portuguese Foundation for Science and Technology were used: *Social Sciences and Humanities* (SSH), *Life and Health Sciences* (LHS), *Natural and Environmental Sciences* (NES) and *Sciences and Engineering* (SE). Different programmes were selected in each field: SSH: (Educational Sciences, Basic Education, Economics and Law); LHS: (Nursing, Medicine, Pharmacy); NES: (Biology) and SE: (Mechanical Engineering).

Table 25. Participants in the study

<b>Field of knowledge</b>	<b>Number of participants</b>	<b>f</b>
<b>Social Sciences and Humanities</b>	Educational Sciences	148
	Economics	29
	Basic Education	40
	Law	49
	<b>Total</b>	<b>266</b>
<b>Life and Health Sciences</b>	Nursing	120
	Medicine	29
	Pharmacy	29
	<b>Total</b>	<b>178</b>
<b>Natural and Environmental Sciences</b>	Biology	48
	<b>Total</b>	<b>48</b>
<b>Sciences and Engineering</b>	Mechanical Engineering	132
	<b>Total</b>	<b>132</b>
	<b>TOTAL</b>	<b>624</b>

### 7.3.2. Data collection

Data were collected through a questionnaire which was administered in the classroom between October 2012 and June 2013 in five Portuguese Public Universities. A research protocol was sent to the Presidents of Faculties/Schools/Institutes and to the Presidents of the Pedagogical Council of each Faculty/School/Institute in order to ask for permission to conduct the study. Directors of the different programmes were contacted in order to obtain the email addresses of the university teachers who were teaching in the year 3 of each programme. The university teachers were contacted by email and asking to provide support for the administration of the questionnaire in their classroom. In other cases the university teachers were asked for supporting this study directly by the director of the programme or by the administrative staff via email. Informed consent was obtained and confidentiality of the data was granted to all participants.

The design of the questionnaire was based on a previous study by Flores et al. (2015) as well as on other studies on assessment (Hadji, 1994; Sambell et al., 1997). The questionnaire was developed to look at the perceptions of the undergraduate students concerning several dimensions of assessment: effectiveness and fairness of assessment methods; modes and moments of assessment; issues of learning and assessment; assessment methods most used and ideas associated with assessment.

The group of questions was organised by scales allowing a single response by students.

In the scale 1, 2, 3 and 4 a five point Likert-scale was used, ranging from 1 = strongly disagree to 5 = strongly agree. In scale 5 a four point Likert-scale was used, ranging from 1 = not at all to 4 = very much and in scale 6 also a four point Likert-scale was used, ranging from 1 = not at all to 4 = always.

Scale 1 assessed the perceived effectiveness/fairness of learner-centred methods compared to traditional methods. It includes 8 items (e.g. 'portfolios, projects and reflections allow a more effective assessment') and 5 are inversed to avoid acquiescence tendency. A higher result means that participants consider that learner-centred methods are seen as more effective and fairer than traditional ones. Reliability analysis through alpha Cronbach's coefficient reveals good indicators (.83).

Scale 2 assessed the perceptions of the impact of the assessment methods in the quality of learning. It includes 5 items (e.g. 'assessment is most effective when it encourages me to apply the knowledge in real contexts / situations) and has a coefficient alpha of .70. A higher result means the recognition of the positive impact of learner-centred assessment methods on student learning.

Scale 3 consists of 7 items (e.g. 'in general, assessment is performed over the semester', or 'in general I am asked to perform self-assessment') and assesses the way in which undergraduate students perceive the moments and modes of assessment. Cronbach alpha of the scale is 0.74. A higher result means that participants consider that the assessment is usually done in several moments and with several methods and modes, including peer assessment.

Scale 4 includes 3 items (e.g. 'usually, I forget most of the subject knowledge studied after the exam / test') and relates to assessment through tests and its perceived impact on learning with a Cronbach's alpha of .66. A higher result means that students consider that being assessed only by tests or exams has a negative impact on the quality of the study process and on their learning.

Scale 5 concerns the methods of assessment; 14 items were presented (e.g. 'tests, examinations' or 'portfolios', 'project work in teams'). A four-point Likert scale was used ranging from 1 = never used to 4 = always used, in order to identify the frequency of the methods in the different programmes. Data were analysed using IBM SPSS software 22.

Scale 6 includes the ideas associated with assessment; 14 concepts were presented such as grades, verification of knowledge, reflection, learning, conflict, unfairness, help and anxiety. Students had to identify the extent to which they associated assessment with these ideas, using 1 = not at all to 4 = very much.

## 7.4. Results

Results will be presented in different phases. Firstly, data are presented according to the six scales: 1) effectiveness / fairness of traditional and learner-centred assessment; 2) positive impact of assessment on the quality of learning; 3) existence and importance of several moments and modes of assessment; 4) assessment through tests and perceived impact on learning 5) assessment methods most used and 6) ideas associated with assessment. Data are also presented concerning differences by gender, programmes, and between learner-centred methods and traditional methods.

In regard to the way in which undergraduate students perceive assessment in terms of effectiveness and fairness in relation to traditional and learner-centred methods, results reveal a mean of 3.27 and a standard deviation of .47, meaning that learner-centred methods are seen as more effective and fairer than tests and exams. The analysis of other quantitative data – statistic mode – enables to detail these results, showing that the majority of participants do not agree (mode 2 - disagree) with the statements that assert that tests are more effective, fairer and that lead to a better quality of the learning process or even that imply more time for study. Thus, regarding effectiveness and fairness of assessment methods, results found that students devote more time to study when the assessment is performed through portfolios, projects or reflections than when they are assessed by tests or exams. Furthermore, portfolios, projects or reflections enable a more effective and fairer assessment process through the students' perceptions. Undergraduate students claim that tests or written examinations do not allow a more effective and fairer assessment process. They do not feel more confident when they are assessed by tests or exams.

In relation to the perceived impact of the kinds of assessment on the quality of learning, participants strongly agree that the kinds of assessment have positive impact (mean- 4.20; SD – 0.46). Statistic mode – 4 – reveals that the majority of participants strongly agree that assessment is most effective when it encourages students to apply the knowledge in real contexts/situations (mode 5 – strongly agree), and when it allows the improvement of technical and scientific skills, and simultaneously soft skills (mode 4 – agree). Assessment is also seen as effective when it contributes to a deeper learning and to the improvement of students' both



technical and soft skills (mode 4 – agree). Assessment through learner-centred methods (e.g. portfolios, projects or reflections) is seen as contributing more to develop new learning (mode 4 – agree).

The analysis of the results of scale 3 (mean - 2.79; SD – 0.69) shows that participants do not recognise the existence of a diversity of modes, including peer assessment. Nevertheless, analysing the results in more detail, in the opinion of the majority students, assessment is (and must be) carried out during the semester and it occurs every time they perform a task (mode 4 – agree). Concerning modes of assessment, the students consider the assessment process fairer when they perform peer and self-assessment. Nevertheless, they consider that, in general, they are not asked to perform self (mode 2 – disagree) - and peer assessment (mode 1- strongly disagree). The undergraduates also claim that the assessment methodology, in general, is not negotiated with them (mode 2- disagree).

The analysis of results of scale 4 reveal the negative impact of assessment based on tests upon the quality of learning (mean- 3.40; SD -.85). Participants consider that being assessed only by tests leads them to easily forget what they studied (mode 4- agree), to only study the contents that will be included in the exam (mode 4 – agree) and to limit their study time to a short period of time before taking the test, instead of studying throughout the semester (mode 4 – agree).

In order to contrast the results of the two groups, defined by gender, independent-samples t-test procedure was carried out in relation to each scale. Levene test does not reject the null hypothesis, allowing us to assume the homogeneity of variances. The analysis of the differences in means of the two groups reveals significant differences in the scales 2 and 3 (see Table 26). These results point to the conclusion that female students see learner-centred assessment methods as having a more positive impact on the quality of learning than their male counterparts ( $p < .05$ ). Female students also highlight more the importance of the existence of several moments and sources of assessment in the learning process ( $p < .01$ ) than male students. There are no differences between male and female concerning perceptions of fairness and effectiveness of learner-centred methods and the idea that an assessment process only through tests or exams has a negative impact on the quality of learning.

Table 26. Perceptions of assessment methods: t-test for equality of means of independent samples by gender

	Female <i>M(SD)</i> N=405	Male <i>M(SD)</i> N=219	<i>T</i> ( <i>d.f.</i> )	<i>P</i>
Perceived effectiveness/fairness of centred learner methods	3.24 (0.48)	3.31 (0.44)	-1.9 (622)	.06
Positive impact of assessment on the quality of learning	4.22 (0.46)	4.14 (0.47)	2.1 (622)	.04
Existence and importance of several moments and modes of assessment	2.88 (0.71)	2.63 (0.62)	4.15 (622)	.001
Assessment by tests: study limited to the phase of tests	3.36 (0.85)	3.48 (0.85)	-1.62 (622)	.10

To study what kinds of assessment methods are most used in higher education, students were asked to rate the frequency of the use of each kind of method in their programme, with a scale from 1 = not at all to 4 = always. Table 27 identifies the frequency and percentage of each of the specified methods as well as the statistical mode.

Table 27. Assessment methods: frequencies and statistical mode (N=624)

	Mode	Frequencies (%)	Frequencies (%)	Frequencies (%)	Frequencies (%)	Frequencies (%)
		1.Never used	2.Sometimes used	3.Used most of the time	4.Always used	Missing
Written tests	4	4 (0.6%)	91 (14.6%)	155 (24.8%)	372 (59.6%)	2 (0.3%)
Group oral presentations in classroom	4	30 (4.8%)	108 (17.3%)	221 (35.4%)	262 (42%)	3 (0.5%)
Group work	3	36 (5.8%)	155 (24.8%)	262 (42%)	166 (26.6%)	5 (0.8%)
Reports done in group	3	64 (10.3%)	131 (21%)	255 (40.9%)	170 (27.2%)	4 (0.6%)
Project work in teams	3	67 (10.7%)	161 (25.8%)	250 (40.1%)	142 (22.8%)	4 (0.6%)
Individual reports	3	87 (13.9%)	206 (33%)	231 (37%)	96 (15.4%)	4 (0.6%)
Individual written reflections	2	127 (20.4%)	223 (35.7%)	166 (26.6%)	104 (16.7%)	4 (0.6%)
Oral tests	2	210 (33.7%)	287 (46%)	86 (13.8%)	39 (6.3%)	2 (0.3%)
Individual project	2	164 (26.3%)	291 (46.6%)	123 (19.7%)	42 (6.7%)	4 (0.6%)
Individual oral presentations in classroom	2	162 (26%)	295 (47.3%)	119 (19.1%)	46 (7.4%)	2 (0.3%)
Individual portfolios	2	240 (38.5%)	243 (38.9%)	110 (17.6%)	28 (4.5%)	3 (0.5%)
Individual work	2	73 (11.7%)	264 (42.3%)	215 (34.5%)	65 (10.4%)	7 (1.1%)
Group essays	2	151 (24.2%)	199 (31.9%)	179 (28.7%)	92 (14.7%)	3 (0.5%)
Portfolios in group	1	258 (41.3%)	245 (39.3%)	94 (15.1%)	26 (4.2)	1 (0.2%)

In the total sample, the most used assessment methods are written tests and oral presentations in group in classroom (statistical mode 4 – always used). The least used methods are portfolios in group (statistical mode 1 – never used).

To better explore the occurrence of different assessment methods in different programmes, the mode, frequency and percentage of each of these methods in each of the 4 programmes was carried out (Tables 28, 29, 30 and 31). In all of the programmes, the most used method is the written test. Oral presentations in group is also one of the most used assessment methods in all of the programmes. The least used method is portfolio in group. The differences refer to group work that is more used in Natural and Environmental Sciences and less used in Sciences and Engineering; the project work in team is more used in Social Sciences and Humanities and in Sciences and Engineering; individual written reflections and individual work is less used in Natural and Environmental Sciences and in Sciences and Engineering and individual reports are more used in Life and Health Sciences and less used in Natural and Environmental Sciences.

Table 28. Assessment methods: frequencies and statistical mode in students of Sciences and Humanities (n=266)

	Mode	Frequencies (%)	Frequencies (%)	Frequencies (%)	Frequencies (%)	Frequencies (%)
		1.Never used	2.Sometimes used	3.Used most of the time	4.Always used	Missing
Written tests	4	3 (1.1%)	79 (29.7%)	82 (30.8%)	101 (38%)	1 (0.4%)
Group oral presentations in classroom	4	16 (6%)	46 (17.3%)	63 (23.7%)	139 (52.3%)	2 (0.8%)
Group work	4	23 (8.6%)	53 (19.9%)	90 (33.8%)	97 (36.5%)	3 (1.1%)
Reports done in group	3	54 (20.3%)	38 (14.3%)	87 (32.7%)	84 (31.6%)	3 (1.1%)
Project work in teams	3	33 (12.4%)	48 (18%)	98 (36.8%)	84 (31.6%)	3 (1.1%)
Individual written reflections	3	57 (21.4%)	71 (26.7%)	75 (28.2%)	60 (22.6%)	3 (1.1%)
Critical reviews of texts in group	3	66 (24.8%)	50 (18.8%)	86 (32.3%)	62 (23.3%)	2 (0.8%)
Individual project	2	90 (33.8%)	114 (42.9%)	40 (15%)	19 (7.1%)	3 (1.1%)
Individual reports	2	56 (21.1%)	87 (32.7%)	80 (30.1%)	40 (15%)	3 (1.1%)
Individual oral presentations in classroom	2	80 (30.1%)	130 (48.9%)	37 (13.9%)	18 (6.8%)	1 (0.4%)
Individual portfolios	2	91 (34.2%)	100 (37.6%)	54 (20.3%)	19 (7.1%)	2 (0.8%)
Individual work	2	36 (13.5%)	110 (41.4%)	76 (28.6%)	40 (15%)	4 (1.5%)
Portfolios in group	1	108 (40.6%)	94 (35.3%)	46 (17.3%)	17 (6.4%)	1 (0.4%)
Oral tests	1	124 (46.6%)	87 (32.7%)	35 (13.2%)	19 (7.1%)	1 (0.4%)

Table 29. Assessment methods: frequencies and statistical mode in students of Life and Health Sciences (n=178)

	Mode	Frequencies (%)	Frequencies (%)	Frequencies (%)	Frequencies (%)	Frequencies (%)
		1.Never used	2.Sometimes used	3.Used most of the time	4.Always used	Missing
Written tests	4	1 (0.6%)	8 (4.5%)	35 (19.7%)	133 (74.7%)	1 (0.6%)
Group oral presentations in classroom	3	5 (2.8%)	16 (9%)	84 (47.2%)	72 (40.4%)	1 (0.6%)
Group work	3	12 (6.7%)	42 (23.6%)	86 (48.3%)	36 (20.2%)	2 (1.1%)
Reports done in group	3	2 (1.1%)	42 (23.6%)	88 (49.4%)	45 (25.3%)	1 (0.6%)
Project work in teams	3	18 (10.1%)	61 (34.3%)	70 (39.3%)	28 (15.7%)	1 (0.6%)
Individual written reflections	3	15 (8.4%)	55 (30.9%)	68 (38.2%)	39 (21.9%)	1 (0.6%)
Individual work	3	20 (11.2%)	67 (37.6%)	68 (38.2%)	21 (11.8%)	2 (1.1%)
Individual reports	3	7 (3.9%)	33 (18.5)	89 (50%)	48 (27%)	1 (0.6%)
Individual project	2	35 (19.7%)	75 (42.1%)	50 (28.1%)	17 (9.6%)	1 (0.6%)
Individual oral presentations in classroom	2	28 (15.7%)	68 (38.2%)	58 (32.6%)	23 (12.9%)	1 (0.6%)
Oral tests	2	28 (15.7%)	106 (59.6%)	29 (16.3%)	14 (7.9%)	1 (0.6%)
Critical reviews of texts in group	2	27 (15.2%)	74 (41.6%)	54 (30.3%)	22 (12.4%)	1 (0.6%)
Individual portfolios	1	69 (38.8%)	61 (34.3%)	39 (21.9%)	8 (4.5%)	1 (0.6%)
Portfolios in group	1	75 (42.1%)	69 (38.8%)	27 (15.2%)	7 (3.9%)	0

Table 30. Assessment methods: frequencies and statistical mode in students of Natural and Environmental Sciences (n=48)

	Mode	Frequencies (%)	Frequencies (%)	Frequencies (%)	Frequencies (%)	Frequencies (%)
		1.Never used	2.Sometimes used	3.Used most of the time	4.Always used	Missing
Written tests	4	0	0	3 (6.3%)	45 (93.7%)	0
Group oral presentations in classroom	4	2 (4.2%)	8 (16.7%)	13 (27.1%)	25 (52.1%)	0
Group work	4	0	6 (12.4%)	21 (43.8%)	21 (43.8%)	0
Reports done in group	4	4 (8.3%)	9 (18.8%)	17 (35.4%)	18 (37.5%)	0
Project work in teams	3	12 (25%)	9 (18.8%)	21 (43.8%)	6 (12.5%)	0
Individual written reflections	2	18 (37.5%)	23 (47.9%)	4 (8.3%)	3 (6.3%)	0
Individual work	2	10 (20.8%)	19 (39.6%)	17 (35.4%)	2 (4.2%)	0
Individual reports	2	17 (35.4%)	18 (37.5%)	11 (22.9%)	2 (4.2%)	0
Individual project	2	9 (18.8%)	24 (50%)	9 (18.8%)	6 (12.5%)	0
Oral tests	2	19 (39.6%)	21 (43.8%)	6 (12.5%)	2 (4.2%)	0
Individual oral presentations in classroom	1	23 (47.9%)	18 (37.5%)	4 (8.3%)	3 (6.3%)	0
Critical reviews of texts in group	1	16 (33.3%)	14 (29.2%)	13 (27.1%)	5 (10.4%)	0
Individual portfolios	1	33 (68.8%)	12 (25%)	3 (6.3%)	0	0
Portfolios in group	1	29 (60.4%)	12 (25%)	7 (14.6%)	0	0

Table 31. Assessment methods: frequencies and statistical mode in students of Sciences and Engineering (n=132)

	Mode	Frequencies (%)	Frequencies (%)	Frequencies (%)	Frequencies (%)	Frequencies (%)
		1.Never used	2.Sometimes used	3.Used most of the time	4.Always used	Missing
Written tests	4	0	4 (3%)	35 (26.5%)	93 (70.5%)	0
Group oral presentations in classroom	3	7 (5.3%)	38 (28.8%)	61 (46.2%)	26 (19.7%)	0
Group work	3	1 (0.8%)	54 (40.9%)	65 (49.2%)	12 (9.1%)	0
Reports done in group	3	4 (3%)	42 (31.8%)	63 (47.7%)	23 (17.4%)	0
Project work in teams	3	4 (3%)	43 (32.6%)	61 (46.2%)	24 (18.2%)	0
Individual written reflections	2	37 (28%)	74 (56.1%)	19 (14.4%)	2 (1.5%)	0
Individual work	2	7 (5.3%)	68 (51.5%)	54 (40.9%)	2 (1.5%)	1 (0.8%)
Individual reports	2	7 (5.3%)	68 (51.5%)	51 (38.6%)	6 (4.5%)	0
Individual project	2	30 (22.7%)	78 (59.1%)	24 (18.2%)	0	0
Individual oral presentations in classroom	2	31 (23.5%)	79 (59.8%)	20 (15.2%)	2 (1.5%)	0
Oral tests	2	39 (29.5%)	73 (55.3%)	16 (12.1%)	4 (3%)	0
Critical reviews of texts in group	2	42 (31.8%)	61 (46.2%)	26 (19.7%)	3 (2.3%)	0
Individual portfolios	2	47 (35.6%)	70 (53%)	14 (10.6%)	1 (0.8%)	0
Portfolios in group	2	46 (34.8%)	70 (53%)	14 (10.6%)	2 (1.5%)	0

To study what kinds of associations with assessment undergraduate students make, 13 concepts were presented such as tests, grades, verification of knowledge, reflection, participation, learning, imposition, unfairness, help, success, fear and anxiety. Students had to identify the extent to which they associated assessment with each of these ideas, using a scale from 1=not at all to 4=very much.

In the total sample (N=624), the most recurring ideas associated with assessment (see Table 32) are neutral (tests or exams and grades), with the mean 3.24 and 3.14, respectively, or positive such as learning (3.15) or verification of knowledge (3.19). In general, positive associations such as success (2.94) or reflection (2.89) have higher means than the negative ones such as unfairness (2.41), conflict (2.08) or imposition (2.41). Nevertheless, the negative associations such as anxiety (3.10) or fear (2.69) have also some of the higher means.

Table 32. Associations to assessment in the total sample: mean, standard deviation and percentages (N=624)

	Mean	SD	1- Not at all	2-A little	3-To some extent	4-Very much	% missing
<b>Neutral associations</b>							
Tests or exams	3.24	0.69	0.5	12.8	47.9	38.3	0.5
Grades	3.14	0.67	0.2	15.9	53.4	30.1	0.4
<b>Positive associations</b>							
Learning	3.15	0.63	0.5	11.9	58.5	28.4	0.7
Verification of knowledge	3.19	0.62	0.5	9.5	59.1	30.1	0.8
Success	2.94	0.59	0.8	17.8	67.1	13.5	0.8
Reflection	2.89	.078	3.5	25.5	48.9	21.6	0.5
Participation	2.66	0.70	3.7	35.1	50.6	9.5	1.1
Help	2.56	0.70	4.6	41.5	45.2	7.7	1
<b>Negative associations</b>							
Anxiety/stress	3.10	0.78	3.4	15.7	48	32.2	0.7
Imposition	2.37	0.80	12.5	45.5	32.9	8.0	1.1
Unfairness	2.41	0.75	7.7	51.3	31.3	8.7	1
Fear	2,69	0.86	6.9	36	37.3	18.6	1.2
Conflict	2.08	0.72	19.4	55.9	20.7	3.2	0.8

To study if the students assessed with traditional methods or learner-centred methods make different associations with the idea of assessment itself, it was conducted a t-test for independent samples. Significant statistical differences were found (see Table 33) in the association with negative ideas (conflict,  $p < .01$  and imposition,  $p < .05$ ), but also with some positive ideas such as reflection, participation or help ( $p < .01$ ), with higher means in the case of students who are assessed through learner-centred methods (such as portfolios or work project), which corroborates earlier empirical work (Flores et al., 2015). The only association in which students assessed by traditional methods have higher means is the neutral association, namely tests or exams.

Table 33. Associations with assessment: differences between groups defined by kinds of assessment methods

	Learner-centred methods (n=169)	Traditional methods (n=188)	t value (355 d.f.)
	Mean (SD)	Mean (SD)	
<b>Associations</b>			
<b>Neutral associations</b>			
Tests or exams	3.07 (0.70)	3.30 (0.68)	3.10**
Grades	3.09 (0.66)	3.11 (0.70)	0.27
<b>Positive associations</b>			
Learning	3.16 (0.63)	3.14 (0.65)	-0.28
Verification of knowledge	3.19 (0.55)	3.20 (0.66)	0.24
Success	2.90 (0.55)	2.87 (0.59)	-0.54
Reflection	3.12 (0.873)	2.74 (0.80)	-4.66**
Participation	2.78 (0.60)	2.49 (0.73)	-3.95**
Help	2.68 (0.70)	2.41 (0.73)	-3.51**
<b>Negative associations</b>			
Anxiety/stress	3.04 (0.82)	3.12 (0.76)	0.96
Imposition	2.46 (0.77)	2.29 (0.83)	-2.08*
Unfairness	2.33 (0.68)	2.49 (0.83)	1.96
Fear	2.62 (0.86)	2.74 (0.85)	1.40
Conflict	2.17 (0.70)	1.98 (0.77)	-2.47**

\*  $p < .05$  \*\*  $p < .01$

When different programmes were compared in terms of the ideas that students associate with assessment, also significant differences were found in the association of assessment (see Table 34 and 35) with the concepts of grades, verification of knowledge, reflection, fear and conflict ( $p < 0.01$ ), participation and anxiety/stress ( $p < 0.1$ ).



Table 34. Mean and standard deviation in associations with assessment methods by field of study

	Social Sciences and Humanities (n=266)	Life and Health Sciences (n=178)	Natural Sciences (n=48)	Sciences and Engineering (n=132)
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
<b>Neutral associations</b>				
Tests or exams	3.22 (0.77)	3.30 (0.65)	3.44 (0.58)	3.14 (0.59)
Grades	3.21 (0.67)	3.11 (0.68)	3.35 (0.60)	2.95 (0.63)
<b>Positive associations</b>				
Learning	3.22 (0.66)	3.11 (0.58)	3.09 (0.67)	3.09 (0.62)
Verification of knowledge	3.29 (.64)	3.18 (0.59)	3.10 (0.56)	3.04 (0.60)
Success	2.94 (0.59)	2.94 (0.57)	3.04 (0.41)	2.89 (0.66)
Reflection	3.08 (0.78)	2.82 (0.71)	2.77 (0.75)	2.64 (0.77)
Participation	2.64 (0.69)	2.76 (0.72)	2.85 (0.68)	2.51 (0.64)
Help	2.59 (0.75)	2.49 (0.65)	2.77 (0.59)	2.53 (0.69)
<b>Negative associations</b>				
Anxiety/stress	3.06 (0.80)	3.25 (0.76)	3.19 (0.61)	2.93 (0.81)
Imposition	2.37 (0.82)	2.39 (0.87)	2.48 (0.74)	2.31 (0.68)
Unfairness	2.30 (0.69)	2.49 (0.80)	2.48 (0.82)	2.52 (0.76)
Fear	2.70 (0.84)	2.92 (0.87)	2.65 (0.79)	2.38 (0.81)
Conflict	2.09 (0.69)	2.20 (0.80)	2.15 (0.65)	1.88 (0.67)

Table 35. One-way ANOVA: Differences in associations with assessment methods by field of study

	F (d.f.)	P
<b>Neutral associations</b>		
Tests or exams	2.86 (3)	.05
Grades	6.22 (3)	.001***
<b>Positive associations</b>		
Learning	1.73 (3)	.16
Verification of knowledge	5.60 (3)	.001***
Success	0.80 (3)	.49
Reflection	11.09 (3)	.001***
Participation	4.83 (3)	.01**
Help	2.29 (3)	0.8
<b>Negative associations</b>		
Anxiety/stress	4.8 (3)	.01**
Imposition	0.60 (3)	.62
Unfairness	3.59 (3)	.05
Fear	10.6 (3)	.001***
Conflict	5.47 (3)	.001***

Post-hoc comparisons reveal that the means of students from the Social Sciences and Humanities in positive associations such as reflection are higher than the means of students of all the other programmes. Students from Social Sciences and Humanities have also higher

means in the verification of knowledge, grades and conflict than means of students from Sciences and Engineering. In regard to negative associations such as anxiety, fear or conflict, students from Life and Health Sciences have higher means than students from Sciences and Engineering, but they also have higher means in a positive association such as participation or neutral association such as grades.

## 7.5. Discussion and Conclusions

This study presents findings from a broader piece of research addressing Portuguese students' perceptions about assessment in five Portuguese public universities. It aims to contribute to the lack of research on the effectiveness and fairness of the non-traditional and learner-centred assessment methods (Pereira et al., 2015; Segers et al., 2008) on different contexts and programmes (Gilles et al., 2011), as well as on issues related to the quality of learning.

Overall, findings show that according to students' perceptions assessment is more effective and fairer when it is performed through learner-centred methods than through traditional methods. This finding is consistent with the study by Flores et al., (2015) which found that students perceive assessment as fairer and more effective when assessed by learner-centred methods than assessed by traditional methods. Regarding effectiveness, also earlier literature corroborates this finding, pointing to an effective pedagogy based on learner-centred assessment (Blumberg, 2009; Zepke & Leach, 2010) with benefits to the learning process (Hu & McCormick, 2012) as well as to getting higher scores (Kahl & Vennete, 2010).

In addition, students recognise that traditional assessment (tests or exams) have a negative impact on the quality of the study process. This suggests that the respondents in this study see benefits of using assessment methods focused on the learner instead of the conventional test or exam. These findings are in line with earlier literature on assessment (Entwistle & Entwistle, 1991; Tang, 1992; Scouller & Prosser, 1994; Sambell et al., 1997; Struyven et al., 2005; Gijbels & Dochy, 2006) that associated with traditional assessment surface approaches to learning and the assessment of low levels of cognitive processing.

Students felt less confident when they are assessed through tests. Assessment methods used by university teachers may have an impact on students' performance and attitudes towards learning and assessment. The Principles of Learner-centred approach (APA, 1997) are in line with this finding, namely the principle of *Motivational and emotional influences on learning* which suggests

that students' beliefs about themselves influence their motivation towards learning. So, if the students felt negative feelings as insecurity or lack of confidence this reduces their motivation and contributes to a poorer performance.

In general, students claim that they devote more time to study when they are assessed by learner-centred methods than traditional methods. These findings indicate that the assessment methods used are of paramount importance to the self-regulation process having an impact on the learning process. The students' effort and the time spent on the learning process depend on the students' approach about a given task. The study by Duncan and Buskirk-Cohen (2011) reveals that students devote more time to study when learner-centred assessment is performed. However, Asikainen et al. (2014) found that the nature of the assessment does not have an impact on the students' approaches to learning and their motivation.

Findings related to assessment through tests and the perceived impact on learning reveal that when students perform a test forget the contents studied, spent less time to study and only study what will be included in the written test and nothing beyond that. Traditional assessment promotes memorisation and for that reason students forget the topics shortly after performing the test as there is no integration of knowledge. The review by Struyven et al. (2005) also explains that traditional examinations are designed for the students only to learn the purpose of assessment rather than to maintain the knowledge acquired.

Findings also indicate that assessment is more effective when it allows the development of both technical and soft skills and when it relates to a real practice in a real context or situation having a positive impact on the quality of learning. If the given tasks are based on real problems and the future professional context is brought into the classroom or taken out of the classroom students are more likely to be engaged in the learning process and developing skills for real life. These findings are broadly in line with the study by Libman (2010) whose research on performance assessment found that students appreciate to learn in classroom through real-life data collected by them, encouraging and involving them in the learning process and experiencing real situations. Also, studies found that learner-centred assessment promotes real-world experiences (Duncan & Buskirk-Cohen, 2011) *authentic* assessment through an active learning requiring the integration of skills to complex problem solving (Goubeaud & Yan, 2004) and encouraging the knowledge construction (Tagg, 2003).

The undergraduates also perceive assessment as more effective when it promotes deep learning. In addition, the development of new learning is associated by the students to a learner-centred

assessment. Research on assessment resonates these findings. Brew et al. (2009) claim that practices of assessment centred on the learner promote deep learning. Segers and Dochy (2001) also found that students have positive perceptions regarding learner-centred assessment as it allows the development of critical thinking and deep learning.

In regard to the moments and modes of assessment, the students consider that the assessment is carried out during the semester and every time they perform a task. This goes beyond a mere final assessment. There appears to be an assessment throughout the process. Despite this, it is not possible to say whether this assessment is effectively continuous or even summative or formative. Findings also show that there is no negotiation of the assessment methodology between students and teachers.

In general, the students state that self- and peer assessment are practices seldom used but they also recognise that these modes will lead to a fairer assessment. This may be explained by the nature of these modes of assessment, since they allow giving voice to students, involving them in the process and taking the role of judges to themselves and colleagues. However, other studies are at least in part contrary to these findings. Carvalho (2013) and McConlogue (2012) found that students perceive peer-assessment as an unfair process.

Also, students associated more neutral ideas with assessment such as tests or exams and grades. In fact, this result shows that when the term assessment arises there is an immediate association with tests and grades. In general, the positive ideas were more associated with assessment than negative ideas, although some negative ideas such as anxiety and fear present higher means. On the one hand, results found that students who are assessed through learner-centred methods present higher means on negative ideas such as conflict and imposition than students who are assessed through traditional methods. This finding is in line with the study by Flores et al. (2015), in which conflict emerges as a key feature associated with assessment by students assessed through learner-centred methods. On the other hand, some positive ideas such as reflection and participation or help were indicated as most associated to assessment by the students assessed through learner-centred methods than by those assessed through traditional methods. The students who are assessed through traditional methods associated neutral ideas such as the test or exam with assessment. A link may exist between the type of the method used and the association that students make to assessment. Recent research found that undergraduate students who perform learner-centred assessment are more likely to have positive attitudes and behaviours regarding assessment (Meyers & Meyers, 2014). Also, Duncan and

Buskirk-Cohen (2011) found, for example, that students who perform a project consider the assessment task more enjoyable allowing them to see the assessment as a process instead of a product.

This study found differences regarding ideas associated with assessment and areas of knowledge. The students in the programme from Social Sciences and Humanities associated more positive ideas to assessment than the students from the other programmes. However, neutral and negative ideas such as grades and conflict are more associated by students from Social Sciences and Humanities than by students from Sciences and Engineering.

It is possible to highlight that negative ideas such as anxiety or fear are more associated with assessment by the students who are doing Life and Health Sciences than students who are doing Sciences and Engineering. These differences may result from the assessment methods used in each area, which may influence the attitude of the student towards assessment.

The written test and the oral presentations in group are the methods of assessment most used and the portfolio in group is the method less used. Differences emerged between areas of knowledge. The group work is more used in Natural and Environmental Sciences and less used in Sciences and Engineering. The individual written reflections and individual work is less used in the areas outlined above than in other areas. The individual reports are more used in Life and Health Sciences and less used in Natural and Environmental Sciences. The project in teams is more used in Social Sciences and Humanities and less used in Sciences and Engineering. Earlier studies also show that learner-centred assessment is more used in soft disciplines (art and humanities) than in hard disciplines (sciences) (Yanowitz & Hahs-Vaughn, 2007; Webber, 2012). Goubeaud and Yan (2004) show that short-answers and multiple choice tests are more used in sciences such as Physics and Chemistry than assessments that provide feedback, such written work or peer evaluation. Goubeaud (2010) also found that teachers in Education used a great variety of assessment and instructional practices that are learner-centred than other faculty. Furthermore, studies show that university teachers in soft sciences are more centred on learning than university teachers in hard sciences. In hard sciences they want to assess mainly the factual knowledge and therefore use more traditional assessment such as the written test (Lindblom-Ylaine et al., 2006; Lueddeke, 2003).

In general, the results from this study also reveal differences by gender. It was possible to conclude that female students see learner-centred assessment as having a more positive impact on the quality of learning than their male counterparts. The study by Adams, Thomas, and King

(2000) can be related to this finding. Regarding the role of assessment, the authors found that males consider the purpose of assessment is to receive an assessment mark while females consider the purpose of assessment to receive feedback on their performance.

Female also state, more than their male counterparts, the importance of the existence of several moments and sources of assessment in the learning process. There are no gender differences on the perceptions about the limitations of the assessment through tests or exams and about the effectiveness and fairness of the learner-centred methods.

Findings of this research provide some implications. It was possible to find that in general students identify positive aspects to learner-centred assessment and negative aspects to traditional assessment. On the one hand, learner-centred assessment promotes an effective and fairer assessment, a positive impact on learning process and connections with the real world in the classroom context through the students' perceptions. On the other hand, it is assigned to traditional assessment a less effective and fairer process, surface approaches to learning, insecurity to perform the tasks not encouraging of self-regulated learning. This study points to the impact of the nature of assessment methods on the learning process. The issue raised by the study by Webber and Tschepikow (2013) is in line with this. Although the learner-centred assessment is claimed by experts as a suitable assessment approach to higher education contexts, it is not possible to know to what extent this approach is employed in the classroom. This study shows that positive aspects are attached by students to learner-centred assessment in the detriment to traditional assessment. However, the traditional test is still seen as the most used method to assess students' learning.

More needs to be done regarding the effectiveness of learner-centred methods during the learning process in order to enable self-regulation and motivation. If students are assessed in a summative way the process of validity, utility and reliability may be reductionist for the purposes of a learner-centred assessment. Other issues related to the nature of the learner-centred assessment were highlighted, in so far as, in some cases, it promotes collaborative work. Although new methods of assessment based on a learner-centred assessment have been used in higher education contexts research on their effectiveness needs to be further investigated (Segers et al. 2008). Further research is also needed on the specific features of the learner-centred assessment as well on the factors that influence the use of this kind of assessment (Meyers & Meyers, 2014). Also, studies on the students' and university teachers perceptions about

assessment in different levels (graduate and undergraduate) and in different areas of knowledge are needed.





## CHAPTER VIII

### STUDENTS' PERCEPTIONS OF ASSESSMENT: A COMPARATIVE ANALYSIS BETWEEN PORTUGAL AND SWEDEN

This chapter aims at investigating student perceptions about assessment, especially the ways in which it is put into practice. Data were collected through questionnaires in different programmes in Portugal and Sweden. In total 173 students from Portugal and 72 from Sweden participated in the study. Findings showed that students had similar ideas about assessment, such as verification of knowledge and learning, tests and grades. Their experiences of assessment methods used varied in the two countries, which can partly be explained by differences in national education systems. A learner-oriented perspective is prominent in the use of assessment methods, but at the same time student influence in assessment is perceived as low in both countries. Implications of the findings are analysed, namely issues regarding a learner-oriented perspective and the effectiveness, influence, trust, times and methods of assessment.

## 8.1. Introduction

Understanding the assessment process, including the concepts and methods used, is essential to educational practice. In recent years new trends on assessment have emerged from an integrated perspective of the teaching, learning and assessment process (Rust, 2007). In contrast to summative assessment, which can be perceived as mainly using assessment to certify student achievement (Boud & Falchikov, 2006; Hernández, 2012), formative assessment supports and monitors the students' learning, providing continuous feedback during the process (Yorke, 2003; Weurlander et al., 2012), and informing them about their performance (Boud, 1990; Brown & Knight, 1994; Brew et al., 2009). These trends have introduced new methods of assessment (Brew et al., 2009) and more participatory practices, such as self, peer, and co-assessment (Dochy et al., 1999).

A review of research in higher education after the introduction of the Bologna Process (Bologna Declaration, 1999) showed that there is increased interest in learner-oriented assessment (Pereira et al., 2015). One aspect of this orientation can be seen in students' perceptions about learning and assessment. Students' perceptions of the learning environment (Entwistle, 1991; Lizzio & Wilson, 2013) and assessment methods influence the ways in which students learn (Entwistle & Entwistle, 1991; Ramsden, 1996; Lizzio & Wilson, 2013) and their approaches to learning (Marton & Säljö, 1997).

Although assessment has been the focus of several studies, there is still a lack of research about the use of assessment practices across different institutions and countries in a comparative

perspective (Gilles et al., 2011; Fletcher et al., 2012). One reason for lack of studies can be related to the challenges, such as difficulties in reaching consensus in a research team (Teichler, 2014). Despite the challenges, in response to this apparent lack of research about methods of assessment, the aim of this study is to carry out a comparative analysis between Portugal and Sweden concerning student perceptions and experiences of assessment. The following questions are addressed:

- 1) What issues emerge concerning assessment in the Portuguese and Swedish educational systems?
- 2) Which main differences can be traced while comparing students in the Portuguese and Swedish educational systems?
- 3) What implications of the results are there for assessment in higher education?

## **8.2. Earlier Studies on Assessment**

Existing literature reveals that assessment has an important impact on student learning (Scouller, 1998; Biggs, 2003), as assessment and learning are interconnected (Scouller, 1998; Light & Cox, 2003). Gibbs and Simpson (2004) found that assessment, not teaching, is what influences students most in the entire learning process, and contrary to what might be expected, assessment takes up the majority of teaching time.

Earlier studies found that how students perceive the nature of the assessment tasks used influences the assessment process and their own learning (Sambell & McDowell, 1998), sometimes experiencing negative feelings towards assessment such as stress and anxiety that reduces their academic performance (Craddock & Mathias, 2009). Further, assessment can lead to different reactions and feelings. When Race (1995) asked a group of students about their perceptions about one-time examination versus continuous assessment the results showed a mixture of emotions and feelings, either negative or positive, concerning these assessment methods. The positive aspects relating to the examination reveal issues associated with a feeling of accomplishment such as relief, triumph, and getting it over with quickly. However, the negative aspects of fear, panic, stress and nervousness are related to feelings of insecurity, indecision, and fear of failure.

The positive aspects related to continuous assessment show more emotions related to learning, such as relationship with the task and learning material, and best opportunity to search for information/research. The negative aspects highlighted in the continuous assessment are more related to time management and inconvenience, since continuous assessment is a longer, more arduous assessment process. Boud (1995) also found that a majority of students have experienced negative situations and feelings with regard to assessment, multiple times and at different levels of education. Student perceptions and feelings about assessment, whether positive or negative, can be related to different assessment methods. Perceptions of the fairness and effectiveness of assessment are also important issues (Sambell et al., 1997). Gilles et al. (2011) state that students expect that the assessment tasks used by teachers will be fair.

The assessment methods used by teachers in higher education are important pedagogical tools, since the chosen method influences student learning to a large extent. Several authors (Sambell et al., 1997; Birenbaum & Feldman, 1998; Struyven et al., 2005) argue that the use of different assessment methods leads to and determines different approaches to learning. Other studies are focused on student preferences for different assessment methods (Sambell et al., 1997; Birenbaum & Feldman, 1998; Sambell & McDowell, 1998; Weurlander et al., 2012); the same assessment method has different meanings for each student (Sambell & McDowell, 1998), and students' motivation can be affected by several methods of assessment designed by different teachers (Weurlander et al., 2012). Empirical studies show that students with high academic confidence and good skills prefer essays. On the contrary, students with low academic confidence and poor skills prefer multiple choice tests (Birenbaum & Feldman, 1998). Incidentally, essays lead to a deep approach to learning and multiple choice tests lead to a surface approach to learning (Entwistle & Entwistle, 1991). On the one hand, students perceive traditional assessment (such as written tests) as negative to the learning process, since for example when a student takes an exam at a specific time there are different factors that determine the performance of the student, such as stress, anxiety or even feeling sick that day. On the other hand, students perceive new methods of assessment such as projects, portfolios, simulations, among others (Flores et al., 2015) as positive because they are consistent and based on effort (Sambell et al., 1997). Furthermore, these methods develop critical thinking and deep approaches to learning (Segers & Dochy, 2001).

The emergence of non-traditional methods of assessment in higher education has produced several conceptions of assessment, such as "Learner-Centred Assessment." In this conception,

the focus is on the student and the scope is to create learning environments that enable students to construct their own knowledge, in contrast to a more traditional design that focuses on transferring knowledge (Webber, 2012). Learner-Centred Assessment is also considered by Webber (2012) an appropriate approach that increases value to higher education pedagogy, contrary to traditional assessment. Accordingly, earlier literature shows that a learner-centred assessment is perceived by students as fairer and more effective (Flores et al., 2015), promoting real-world experiences (Duncan & Buskirk-Cohen, 2011), problem solving (Goubeaud & Yan, 2004), deep approaches to learning (Brew, Riley, & Walta, 2009) and involving students on the learning process promoting feedback (Huba & Freed, 2000). However, these innovative and non-traditional assessment methods should be aligned with innovative teaching methods (Nieweg, 2004).

Self and peer assessment are important in a feedback process in order to regulate the learning process. Self-assessment is responsible for developing good skills of autonomy and responsibility in students (Lew et al., 2009), producing feedback that allows students to understand the development of their learning (Mok et al., 2006; Lew et al., 2009) and preparing them for their professional life (Taras, 2010). Self-assessment also encourages students to be active and to engage in their own performance process, allowing reflection and evaluation of their own work (Paris & Paris, 2001). Peer assessment allows student engagement and produces formative and timely feedback (Vickerman, 2009). Furthermore, peer assessment encourages collaborative work, deep thinking, reflection (Segers & Dochy, 2001), and the development of transferrable skills (McGarr & Clifford, 2013). The quality of learning is improved using methods such as peer assessment in higher education (McDowell & Mowl, 1996). To sum up, self and peer assessment are to be preferred in higher education, since these methods enhance learning and develop student assessment skills (Norrie, 2003). These methods can also develop evaluative “expertise” (Carless, 2015), promote “assessment literacy” (Price et al., 2012) for students, and enhance learning.

The studies described above highlight some of the ongoing issues concerning assessment. In summary, assessment is not a new idea, especially not in education. On the other hand, the context is constantly changing and from using assessment for sorting and controlling, assessment now is more often used in both a formative and summative way. Differences are also found in who is carrying out the assessment, such as the teacher, peers, or students themselves. Apart from the distinction between formative and summative assessment, there are different

methods of assessment. Traditional methods like tests and non-traditional methods like portfolios are both used. In addition to the use of assessment and its methods, a research area is students' feelings towards different kinds of assessment as they affect both assessment in itself and the learning situation. The assessment methods used and student perception are also influenced and framed by national education systems. In the next section the context for higher education in Portugal and Sweden is briefly presented.

### **8.3. Portuguese and Swedish Higher Education System**

At the higher education level both Portugal and Sweden have adopted the Bologna Process (Bologna Declaration, 1999). In these countries higher education is organised as a structure of three cycles: bachelor, master's, and doctorate. The first corresponds to undergraduate education and the second and third cycle to postgraduate education in the majority of the programmes. Higher education in Portugal is regulated by the Ministry of Education and Science and in Sweden by the Ministry of Education and Research.

In the Portuguese context, the teacher's role is to adopt functions of guidance and support. It should also be noted that in the Decree Law no. 42/2005, which is underlined in this new perspective, the student should play an active and central role in his/her learning process regarding contact hours, which can take different forms and methods of teaching, or in assessment, in which all activities related to assessment such as contact hours, projects, individual study, field work, etc are to be included. Regarding assessment there may be different methods of student assessment such as oral and written essays, examinations, tests, theses, reports on internships, and fieldwork with continuous assessment, etc.

As an example of a semester in a professional study programme in a Portuguese university, like the Basic Education Programme, the students have to participate in six courses consisting of five ECTS, for a total of 30 ECTS per semester. The plan of courses is decided in advance. The plan for the Basic Education Programme is accredited by A3ES (Agency for Assessment and Accreditation of Higher Education, 2013). After getting the accreditation the departments offering the programme develop the course plan in detail. The course plan consists of the content of the course, learning goals, assessment, and bibliography. In the section about assessment there is a presentation of when assessment should be carried out during the course, forms it may assume, and on what grounds the assessment is made. During a five-ECTS curricular unit teachers

normally two or more different assessment methods to assess student learning may be used. These might include a test, oral presentations, group work, practical work, portfolios, reports, experimental work, projects, etc. Although the assessment methods should be defined in advance by teachers there is flexibility in relation to changing the assessment methods, dates, and weights of assessment.

In Sweden it is the teacher's responsibility to choose the methods as well as the materials. It is expected that students will play an active role, in the laboratory as well as in the seminars. A course may have one or more examinations such as a written examination, oral examination, seminar, thesis, laboratory work, project, reports, essay, etc. However, the examinations can be performed either in groups or individually according to instructions. Assessment is done taking into consideration three basic principles in order to ensure that operations are conducted in a legally sound manner: the principle of predictability, the principle of legality, and the principle of equality/objectivity. Each course has a syllabus and should include a curriculum course level, number of credits, goals, specific entry requirements, and procedures for assessing student performance. In addition there is a study plan document where the work process is further described. The information in the study plan may only be complementary and not replace the curriculum in any way (Swedish Higher Education Authority, 2015).

As an example of a semester in a training programme in a Swedish university, such as the Initial Teacher Programme, the students can participate in three courses consisting of 7.5, 7.5 and 15 ECTS, for a total of 30 ECTS per semester. All three courses have a course plan which is decided in advance. The education plan for the Initial Teacher Programme (with specified courses) is decided when the university applies to the Swedish Higher Education Authority to get permission to offer the programme. A course consists of the content of the course, learning goals, assessment and bibliography. In the section about assessment there is a presentation of when assessment should be carried out during the course, forms for this to be put into place, and on what grounds the assessment is carried out. During a 7.5 ECTS course it is common that the students have one assignment which they present orally and then hand in a short written report, comprising 1.5 ECTS, and at the end of the course they hand in a written report, comprising 6 ECTS, 7.5 ECTS in total. The teachers and the students cannot negotiate about the assessment time, method or grounds for assessment in the current course plan, but they can add additional formative assessment during the course (Eurydice, 2015; Mälardalen University, 2015a, b, c).

After the course the students assess the course and thereby they can influence the next course and its assessment methods, etc.

#### 8.4. Method

This study is part of a broader piece of research about assessment from different perspectives, such as a literature review (Pereira et al., 2015) and university teachers' and students' perceptions of assessment. The findings presented in this study are part of the results from questionnaires to students in Portugal and Sweden. The overarching questions of this study are as follows:

- 1) What issues emerge concerning assessment in the Portuguese and Swedish educational systems?
- 2) Which main differences can be traced while comparing students in the Portuguese and Swedish educational systems?
- 3) What implications of the results are there for assessment in higher education?

##### 8.4.1. Participants

In Portugal, 173 third-year students from different programmes in one public university participate. In Sweden, 72 third-year Swedish students in professional studies in one public university answered the questionnaire. In total, 245 students participated (Table 36): 57% were female and 43% male participants in Portugal and 85% female and 15% male participants in Sweden. The mean age was 20 years in Portugal, and 21 years in Sweden.

Table 36. Participants in the study

University P	University S	Total
1) Nursing	1) Nursing	
2) Engineering	2) Engineering	
3) Educational Sciences	3) Educational Sciences	
173	72	245



#### **8.4.2. Data collection**

Data were obtained through the administration of a survey to the university students in both countries. Ethical considerations, such as information to the students about the context of the study, that the aim was research, and that the answers were confidential was followed in both countries. In Portugal and in Sweden ethical issues were brought up in an accompanying written text in the questionnaire.

In Portugal data were collected between October 2012 and June 2013 in one university. After obtaining the authorisation to conduct the study from the Presidents of Faculties/Schools/Institutes and from the Presidents of the Pedagogical Council of each Faculty/School/Institute, acceptance was obtained from directors of the different programmes.

A face-to-face questionnaire was administered by the researcher in Portugal to students attending the third year of the courses.

The study was undertaken during a shorter period in Sweden, for a few months in 2014, and therefore a choice was made to conduct an electronic questionnaire. This option was related to time constraints, since the time was too short to administer the questionnaire face-to-face in the Swedish university. The web questionnaire was designed in Quick Search. The e-mail addresses for the students were obtained from administrators for each programme, after acceptance from responsible people for the different programmes.

#### **8.4.3. The questionnaire and analysis**

The Portuguese survey was designed based on earlier studies (Pereira & Flores, 2012; Flores et al., 2015), and the basic design continued when the survey was carried out in Sweden. As validity check (Lewis-Beck, Bryman, & Liao, 2004), the questionnaire was sent to a representative from a student association to check that the questions were formulated in a way that was appropriate and relevant for students in Sweden. Minor changes were made, e.g. the word “report” in the Portuguese version was changed to “paper” in the Swedish version.

The questionnaire included three scales with closed-ended questions. The first scale focused on ideas about assessment; statements were formulated and students had to identify the extent to which they associated assessment with these ideas, using 1=not at all to 4=very much. The second scale related to methods and modes of assessment where the students were asked to

identify the frequency of the methods using a scale ranging from 1=not at all to 4=frequently used. The third scale related to perception of fairness, effectiveness, trust and influence, ranged from 1=strongly disagree to 5=strongly agree. To analyse the differences the data was transferred to SPSS and a descriptive statistical procedure was undertaken.

#### **8.4.4. Limitations**

The validity of the data can be affected by how the students interpreted the questions and their experience of assessment. Even though the countries have similarities in their education systems, there are also differences. Further, what is written at a policy level is not always carried out in the classroom. The answers are based on students' perceptions and there is no ambition to claim that the results can be generalised. Another limitation is related to the application of the questionnaire, considering that in Portugal the questionnaire was administered face-to-face and in Sweden it was applied electronically. This may have affected the participation rate of the students in the research.

#### **8.5. Findings**

This section starts with ideas associated with assessment and is followed by experiences of methods and modes of assessment. It continues with ideas associated with assessment and ends with perceptions of assessment. Each question is presented and the most frequent answers are described. This made it easier to find the main tendencies in the answers.

##### **8.5.1. Ideas associated with assessment**

In a comparative perspective (Table 37), for most Portuguese and Swedish students, the ideas most associated with assessment are in general similar. Although Portuguese students associated more to assessment the tests/exams and the Swedish students associated more to assessment the verification of knowledge, other ideas such as grades and learning have similar percentages. However, for Portuguese students fear, injustice and help are associated by most students with assessment, whereas Swedish students associate these ideas less with assessment. Negotiation is the idea least associated with assessment by both student groups.

Table 37. Ideas associated with assessment

Portuguese Students		Swedish Students	
	(fairly and very much)%		(fairly and very much)%
Tests/exams	86,7%	Verification of knowledge	90%
Verification of knowledge	83,8%	Learning	87%
Grades	81,5%	Tests/exams	84%
Anxiety/stress	81,5%	Grades	83%
Learning	81%	Reflection	82%
Success	75,7%	Participation	75%
Reflection	65,9%	Success	74%
Participation	58,4%	Anxiety/stress	73%
Injustice	56,1%	Help	48%
Fear	54,9%	Imposition	45%
Imposition	53,2%	Injustice	36%
Help	52%	Fear	36%
Conflict	34,1%	Conflict	36%
Negotiation	22%	Negotiation	35%

### 8.5.2. Methods and Modes of Assessment Used

In a comparative perspective (Table 38), it is possible to state that both groups of students consider tests the method most used by teachers to assess them. However, most Portuguese students also identified oral presentations in group, group and individual reports, group and individual practical or experimental work, projects and individual and group written reflections. The Swedish students, in turn, also identified group or individually written papers, oral presentations in group and individual and group written reflections. However, it should be noted that the Portuguese questionnaire had group and individual reports as an option, and did not have group or individually written papers as an option. In contrast, the Swedish questionnaire did not have group or individual reports as an option and had group or individually written papers as an option. In a Swedish context the students perceive that they are asked to perform self-assessment to a higher degree than their Portuguese counterparts. The methods least used by teachers were individual and group portfolio, individual project, individual oral presentations, and oral tests and oral examinations by both student groups. Among the least used methods, in contrast to Portuguese students, the Swedish students consider group or individual practical or experimental work and group project as methods less used. Both groups identify peer assessment as a less-often used mode of assessment.

Table 38. Methods and modes of assessment used

Portuguese Students		Swedish Students	
	(fairly and frequently used)%		(fairly and frequently used)%
Tests	90,2%	Tests	98%
Oral presentations in group	89,1%	Written individual papers	84%
Reports in group	83,8%	Written papers in group	69%
Individual reports	74%	Oral presentations in group	66%
Project in group	67%	Individual written reflections	56%
Practical or experimental work in group	65,3%	Group written reflections	50%
Individual written reflections	59,5%	Oral tests and oral examinations	48%
Practical or experimental work individual	52,6%	Practical or experimental work in group	42%
Group written reflections	48%	The students are asked to perform self-assessment	37%
Individual oral presentations	28,9%	Practical or experimental work individual	36%
Individual project	26,6%	Project in group	35%
Individual portfolio	23,7%	Individual Project	26%
Oral tests and oral examinations	22%	Individual oral presentations	21%
The students are asked to perform self-assessment	19,6%	Portfolios in group	15%
Portfolios in group	17,9%	Individual portfolio	14%
The students are asked to perform peer assessment	17,9%	The students are asked to perform peer assessment	12%

### 8.5.3. Fairness of Assessment

In a comparative perspective (Table 39), regarding assessment fairness there are some differences between the two groups. Both groups state that assessment is fairer when teachers use at least two different assessment methods and when it is done individually even if it promotes teamwork. The difference occurs when the Portuguese group rank students performing self-assessment high, while it is ranked lower by the Swedish students. On the other hand the Swedish students rank the fairness of assessment when there is self and peer assessment lower than the Portuguese group. Both student groups agree in ranking peer assessment lower. However, although it is the lowest percentage in both cases, in the Portuguese case 40, 4% of students agree and strongly agree that assessment is fairer when there is peer assessment and in the Swedish context only 4% agree and strongly agree with this item.

Table 39. Assessment fairness

Portuguese Students		Swedish Students	
	(agree and strongly agree)%		(agree and strongly agree)%
Assessment is fairer when teachers use at least two different assessment methods	72,3%	Assessment is fairer when it is done individually even if it promotes teamwork	70%
Assessment is fairer when the students perform a self-assessment	68,8%	Assessment is fairer when teachers use at least two different assessment methods	65%
Assessment is fairer when it is done individually even if it promotes teamwork	68,7%	Assessment is fairer when it includes tests or examinations	50%
Assessment is fairer when there is self- and peer assessment	53,7%	Assessment is fairer when the students perform a self-assessment	43%
Assessment is fairer when it includes tests or examinations	49,8%	Portfolios, projects or reflections allow a fairer assessment	39%
Tests or examinations allow a fairer assessment	48%	Tests or examinations allow a fairer assessment	34%
Portfolios, projects or reflections allow a fairer assessment	40,4%	Assessment is fairer when there is self- and peer assessment	15%
Assessment is fairer when there is peer assessment	40,4%	Assessment is fairer when there is peer assessment	4%

#### 8.5.4. Effectiveness of Assessment

In a comparative perspective (Table 40), Portuguese students ranked higher assessment as more effective when it encourages applying knowledge in real contexts and Swedish students ranked assessment highest as allowing them to improve technical or scientific skills. Both students groups also agree and strongly agree that assessment contributes to the deepening of learning, allowing them to develop technical and soft skills simultaneously. The difference is that the Portuguese students were in greater agreement in their ranking of these items than the Swedish students. As for the total group, both Portuguese and Swedish students considered tests the least effective method.

Table 40. Assessment effectiveness

	Portuguese students		Swedish students
	(agree and strongly agree)%		(agree and strongly agree)%
Assessment is more effective when it encourages applying knowledge in real contexts	97,7%	Assessment is more effective when it allows improvement of technical or scientific skills	86%
Assessment is more effective when it allows improvement of technical or scientific skills	96%	Assessment is more effective when it contributes to the deepening of learning	80%
Assessment is more effective when it contributes to the deepening of learning	94,8%	Assessment is more effective when it encourages applying knowledge in real contexts	76%
Assessment is more effective when it allows simultaneous improvement of technical and soft skills	89%	Assessment is more effective when it allows simultaneous improvement of technical and soft skills	62%
Portfolios, projects or reflections allow a more effective assessment	44,5%	Portfolios, projects or reflections allow a more effective assessment	41%
Tests allow a more effective assessment	40,4%	Tests allow a more effective assessment	30%

### 8.5.5. Trust and Assessment

In a comparative perspective (Table 41), both student groups agree or strongly agree that they felt more confident when they were assessed by a method requiring active participation in the task, even though there is more than 10% difference. Portuguese students agreed to a higher degree that they felt confident with assessment methods other than tests, compared to the Swedish students. The lowest ranking concerned tests, that is, both groups have less trust in tests.

Table 41. Trust and assessment

Portuguese Students		Swedish Students	
	(agree and strongly agree)%		(agree and strongly agree)%
The students felt more confident when they are assessed by assessment methods that actively participated in the tasks	78,1%	The students felt more confident when they are assessed by assessment methods that actively participated in the tasks	63%
The students felt more confident when they are assessed by a method that is not tests or exams	45,7%	The students felt more confident when they are assessed by a method that is not tests or exams	38%
The students felt more confident when they are assessed by tests	34,7%	The students felt more confident when they are assessed by tests	29%

### 8.5.6. Influence and Time for Assessment

In a comparative perspective (Table 42), both student groups agree or strongly agree that it is up to the teacher to decide the assessment methods. When the assessment is carried out there are differences between the two groups. Whereas in the Portuguese context assessment is perceived to take place throughout the semester, including every time the student performs a task, in the Swedish context assessment is perceived to take place at the end of the semester and to a lower degree every time the student performs a task.

Table 42. Influence and time for assessment

Portuguese Students		Swedish Students	
	(agree and strongly agree)%		(agree and strongly agree)%
The assessment methodology of the course is decided only by the teacher	80,9%	The assessment methodology of the course is decided only by the teacher	62%
The assessment takes place throughout the semester	44,5%	The assessment takes place at the end of the semester	61%
The assessment takes place every time the students perform a task	44,5%	The assessment takes place every time the students perform a task	37%
The assessment takes place at the end of the semester	43,4%	The assessment takes place throughout the semester	32%
The assessment methodology of the course was negotiated and discussed with the students	16,8%	The assessment methodology of the course was negotiated and discussed with the students	2%

### 8.5.7. Differences between programmes in Portugal

Differences were also found regarding the knowledge area in both countries. In the Portuguese context differences emerge regarding the ideas associated with assessment, the assessment methods used, fairness, effectiveness and trust in assessment. The students who attend the Engineering programme associated most with assessment the verification of knowledge, test and learning; the students who attend Nursing programme associated most with assessment the tests, learning and anxiety/stress; and the students who attend Educational Sciences programme associated most with assessment the verification of knowledge, grades and anxiety/stress (see Table 43). Anxiety/stress as a negative idea is higher in Nursing and Educational Sciences programmes and learning as a positive idea is higher in Engineering and Nursing programmes. The idea of conflict is ranked in a higher level by students who attend Nursing programme than students in Engineering and Educational Sciences programmes. The ideas less associated with assessment are conflict and negotiation in Engineering and Educational Sciences programmes and conflict and help in Nursing programme.

Table 43. Ideas associated with assessment between programmes

Ideas associated with assessment	Engineering (fairly and very much%)	Nursing (fairly and very much%)	Educational Sciences (fairly and very much%)
Tests/exams	86,6%	88,1%	83,4%
Verification of knowledge	86,6%	81,6%	93,3%
Grades	74,6%	82,9%	93,3%
Anxiety/stress	74,6%	85,6%	86,6%
Learning	80,6%	86,8%	66,7%
Success	68,6%	82,9%	73,3%
Reflection	52,2%	73,7%	76,7%
Participation	55,2%	60,5%	60%
Injustice	52,2%	59,2%	56,7%
Fear	34,4%	68,9%	66,7%
Imposition	49,3%	57,9%	50%
Help	55,3%	46%	60%
Conflict	20,9%	47,3%	30%
Negotiation	23,9%	17,2%	30%

Regarding assessment methods students who attend the Engineering programme consider the oral presentations in group the method most used; the students who attend the Nursing programme consider the tests the method most used; and all the students who attend Educational Sciences programme consider the individual reflections the method most used to



assess them (see table 44). The use of the project in group is higher in Engineering and in Educational Sciences than in Nursing. The use of tests is lower in Educational Sciences than in Nursing and Engineering. The individual project is most used in Engineering than in Educational Sciences and Nursing programmes. The portfolios, individual and in group, are also most used in Educational Sciences programme than in other programmes. The least used methods are the individual presentations and portfolios in Engineering programme, the portfolio, individual and in group, in Nursing and the individual oral presentations and oral tests in Educational Sciences. Also, few students consider that are asked to perform self and peer assessment in the three programmes.

Table 44. Methods and modes of assessment used between programmes

<b>Assessment methods</b>	<b>Engineering (fairly and frequently used%)</b>	<b>Nursing (fairly and frequently used%)</b>	<b>Educational Sciences (fairly and frequently used%)</b>
Tests	87%	98,7%	53,3%
Oral presentations in group	89,5%	85,5%	96,7%
Reports in group	86,6%	82,9%	80%
Individual reports	55,3%	89,5%	76,6%
Project in group	86,5%	39,5%	93,3%
Practical or experimental work in group	70,1%	53,9%	83,3%
Individual written reflections	23,9%	75%	100%
Practical or experimental work individual	53,7%	47,4%	63,4%
Group written reflections	34,4%	54%	63,3%
Individual oral presentations	16,4%	38,2%	33,3%
Individual project	70,7%	34,2%	36,6%
Individual portfolio	16,4%	19,7%	50%
Oral tests and oral examinations	23,9%	27,6%	36,6%
The students are asked to perform self-assessment	7,5%	27,7%	26,7%
Portfolios in group	16,4%	3,9%	53,3%
The students are asked to perform peer assessment	32,9%	7,9%	10%

Regarding the assessment fairness, the majority of the students attending Educational Sciences programme consider that portfolios, projects or reflections and peer assessment allow a fairer assessment, in contrast to the opinion of students attending programmes of Engineering and Nursing (see table 45). Also, most of the students attending Engineering and Nursing consider that assessment is fairer when it includes tests, in contrast to the opinion of the students attending Educational Sciences.

Table 45. Assessment fairness between programmes

Assessment Fairness	Engineering	Nursing	Educational Sciences
	(agree and strongly agree %)	(agree and strongly agree %)	(agree and strongly agree %)
Assessment is fairer when it includes tests or examinations	55,2%	56,6%	20%
Tests or examinations allow a fairer assessment	52,2%	56,6%	16,7%
Portfolios, projects or reflections allow a fairer assessment	35,8%	35,5%	63,3%
Assessment is fairer when there is peer assessment	32,9%	42,1%	53,4%

This research also found that most students attending Educational Sciences have the opinion that portfolios, projects or reflections allow a more effective assessment, in contrast to other programmes (see table 46). Moreover, the students attending Engineering and Nursing ranked highest that tests allow a more effective assessment than the students attending Educational Sciences.

Table 46. Assessment effectiveness between programmes

Assessment Effectiveness	Engineering	Nursing	Educational Sciences
	(agree and strongly agree %)	(agree and strongly agree %)	(agree and strongly agree %)
Portfolios, projects or reflections allow a more effective assessment	41,7%	38,1%	66,7%
Tests allow a more effective assessment	44,8%	44,7%	20%

Regarding trust and assessment findings show that students attending Educational Sciences felt more confident when they are assessed by a method that is not test or exam (see table 47). Also, the students attending Engineering and Nursing felt more confident when they are assessed through tests than students attending Educational Sciences.

Table 47. Trust and assessment between programmes

Trust and Assessment	Engineering (agree and strongly agree %)	Nursing (agree and strongly agree %)	Educational Sciences (agree and strongly agree %)
The students felt more confident when they are assessed by a method that is not tests or exams	40,3%	36,9%	80%
The students felt more confident when they are assessed by tests	38,8%	39,5%	13,3%

### 8.5.8. Differences between programmes in Sweden

In the Swedish context, some differences emerged between Nursing and Educational Sciences programmes regarding ideas associated with assessment, assessment methods, fairness and effectiveness of assessment. The ideas most associated with assessment by students attending Nursing programme are verification of knowledge, reflection and learning (see Table 48). On the other hand, all of the students attending Educational Sciences programme associated with assessment anxiety, followed by tests and grades. Also, the students from Educational Sciences ranked higher fear than students attending the Nursing programme.

Table 48. Ideas associated with assessment between programmes

Ideas associated with assessment	Nursing (fairly and very much %)	Educational Sciences (fairly and very much %)
Tests/exams	81,6%	90,9%
Verification of knowledge	92,5%	75%
Grades	80,5%	80%
Anxiety/stress	69,3%	100%
Learning	89,7%	75%
Success	78,3%	50%
Reflection	92,1%	58,4%
Participation	84,2%	66,6%
Injustice	32,4%	58,3%
Fear	27%	75%
Imposition	43,2%	41,7%
Help	41,7%	50%
Conflict	35,1%	41,7%
Negotiation	37,8%	25%

Regarding assessment methods all the students attending Nursing programme ranked the tests the method most used, followed by paper in group and individual (see Table 49). The students attending the Educational Sciences programme ranked the tests, the individual presentations and the paper individual the most used methods. Also, students from Nursing programme consider the oral presentations in group and portfolio in group the least method used and the students attending Educational Sciences programme identify the portfolio in group and individual the less methods used. The students from Nursing programme have higher means in paper in group than students attending Educational Sciences. None of the students from Educational Sciences are asked to perform peer assessment.

Table 49. Methods and modes of assessment used between programmes

Assessment methods	Nursing (fairly and frequently used%)	Educational Sciences (fairly and frequently used%)
Tests	100%	90,9%
Oral presentations in group	16,2%	25%
Paper in group	69,4%	14,2%
Paper individual	68,4%	71,4%
Project in group	36,1%	8,3%
Practical or experimental work in group	41,7%	25%
Individual written reflections	64,9%	16,7%
Practical or experimental work individual	48,6%	25%
Group written reflections	64,9%	41,7%
Individual oral presentations	57,9%	83,3%
Individual Project	39,4%	8,3%
Individual portfolio	22,2%	0%
Oral tests and oral examinations	45,9%	62,7%
The students are asked to perform self-assessment	37,6%	40%
Portfolios in group	19,5%	0%
The students are asked to perform peer assessment	13,3%	0%

Regarding the assessment fairness some differences emerged between the two programmes (see Table 50). Nursing students ranked in a higher level the assessment fairness when it includes tests or examinations. Also, most of the students attending Educational Sciences ranked highest the fact of portfolios, projects and reflections allowing a fairer assessment.

Table 50. Assessment fairness between programmes

Assessment Fairness	Nursing	Educational Sciences
	(agree and strongly agree %)	(agree and strongly agree %)
Assessment is fairer when it includes tests or examinations	52,9%	25%
Portfolios, projects or reflections allow a fairer assessment	37,5%	50%

In regard to assessment effectiveness and in contrast to the Educational Sciences students, most of Nursing students agree and strongly agree that tests allow a more effective assessment (see Table 51).

Table 51. Assessment effectiveness between programmes

Assessment Effectiveness	Nursing	Educational Sciences
	(agree and strongly agree %)	(agree and strongly agree %)
Tests allow a more effective assessment	61,2%	25%

## 8.6. Discussion and Conclusions

The ideas most associated with assessment are, in general, related to four main aspects: assessment itself; learning; positive ideas; and negative ideas. Flores et al. (2015) also found that students associated positive, negative, and neutral ideas with assessment. Learning is associated with assessment as a positive issue; unfairness, fear and conflict as negative; and tests, examinations and grades as neutral. However, positive and neutral ideas are associated more with assessment than negative ones, with the exception of anxiety. These results show how significant the process of assessment itself is from the student perspective. In fact, Biggs (2003) explained that students' perceptions of assessment will affect their involvement in the learning process. He asserts that while in the assessment process cycle, teachers first see the objectives, learning outcomes and learning activities and only then look at assessment, students see assessment first of all and only afterwards look at learning activities and the outcomes. This may explain why assessment influences how students learn.

From a student perspective the assessment method most often used is the written test or exam. Besides the test, the assessment methods most used are those that promote teamwork such as oral presentations in groups, practical work in groups, and projects in groups. These are methods which have expanded (Sambell et al., 1997) over the years. There are methods that promote work in groups follow the economic and social norms which mandate that education systems form a citizen who is “autonomous, who is a self-regulated learner, capable of communicating and cooperating with others” (Birenbaum, 1996:4). Furthermore, these methods allow “the integration of assessment, teaching and learning” (Sambell et al., 1997, p. 352).

Whatever the method, the students reported both negative and positive feelings regarding assessment. Negative feelings were reported as anxiety, stress, and fear. Earlier studies (Race, 1995; Craddock & Mathias, 2009) indicated that these negative feelings influence and reduce the academic performance of students. From this study, there is evidence that students feel more confident when being assessed through methods in which they participate actively in the tasks and feel less confident when they are assessed through a test. These findings may be related to the levels of stress and anxiety that students are exposed to when taking a test. When they are assessed by methods in which they participate actively in the tasks the students do not have the pressure of memorisation, or as limited a time to do the task as when they perform a test.

One of the alternative assessment modes, self and peer assessment, resulted in answers which show both positive and negative perceptions among students and also a difference in experience. In a comparative perspective, most of the Portuguese students consider that assessment is fairer when there is self and peer assessment. On the contrary, the Swedish students do not consider assessment fairer when there is self and peer assessment. These results demonstrate that Swedish students had less positive experience with the fairness of these assessment practices. The less positive result from the Swedish students can be understood considering the relationship between students which, depending on the proximity, can benefit some to the detriment of others and therefore result in an unfair process. Students can assess peers on the basis of friendship and when students self-assess they may also overestimate their work, leading to an unfair process.

On the other hand, Portuguese students are seldom asked to perform self-assessment by teachers, less than the Swedish students, and they are not used to the possibility of autonomy and responsibility (Lew et al., 2009), and the chance to support collaborative work (Segers &

Dochy, 2001). In accordance with an individual perspective, for the assessment process to be fair, students recognise that teachers should use at least two different assessment methods. However, in this particular case, the perceptions of both groups of students may be influenced by the structure of the credit system of each course in each programme. Accordingly, some of the programmes selected in the Portuguese and Swedish context have different credit structures. For instance, the Portuguese courses are typically of 5 credits each, resulting on a total of 30 credits and it is expressed by the Portuguese higher education system to be used at least two assessment methods regardless of the course credits. In the Swedish context, the credit values are approximately between 7.5 and 15 credits, resulting in a total of 30 credits being also common the use of two assessment methods as the assignment and the written report. Therefore, these differences in credit structure may influence students' perceptions in both countries. Also, for the assessment process to be fair students recognise the importance of an individual assessment even if the work is performed in groups. Thus, the individual assessment allows for the contribution of each student to the group work, individualising and distinguishing the work and the effort of each student.

Students state that the assessments are only decided by the teachers and not discussed with them. In general, considering these results it is possible to see that there is little negotiation about assessment and moments of assessment. The negotiation of assessment is an important aspect as it motivates the students and they feel responsible and part of the process. Despite this finding, most of Portuguese and Swedish students associated with assessment the idea of participation. Students say they do not participate in the negotiation of assessment nor on their self assessment nor in the assessment of colleagues. Thus, this finding may reveal some tensions in their perceptions.

For most students, assessment takes place during the semester. However, in a comparative perspective between Swedish and Portuguese students, most of the Swedish students consider that assessment takes place at the end of the semester, while most of the Portuguese students consider that assessment takes place throughout the semester. Continuous assessment during the semester benefits learning and promotes a more regulated, fairer and effective assessment. From the results it appears that self and peer assessment are less commonly used.

The emerging differences by programmes in both countries reveal that students associated with assessment different ideas, different methods to assess them are used and the effectiveness, fairness and trust of assessment has variations depending on the knowledge area. In the

Portuguese context the students attending Nursing and Educational Sciences ranked in higher level negative ideas such as anxiety/stress than students attending Engineering. Also, the idea of conflict is ranked in a higher level by students who attend Nursing programme than other programmes. The students attending Educational Sciences see assessment as fairer and effective when projects, portfolios and reflections are used being these methods the most used in this area. In contrast, students attending Engineering and Nursing programmes ranked in a higher level that assessment is fairer and effective when tests are used being these methods the most used to assess them by teachers in this areas. However, the project in group is most used in Engineering and in Educational Sciences than in Nursing.

In the Swedish context, the students attending Educational Sciences associated with assessment more negative ideas such as anxiety/stress and fear than students who attend Nursing who associated more with assessment positive ideas such as reflection and learning. The methods most used in Educational Sciences programme are methods that are performed individually than in Nursing programme. However, the test is the method most used in both programmes. On one hand, the students' attending the Educational Sciences see assessment as fairer when it includes portfolios, projects and reflections. On the other hand, the students attending Nursing see assessment as fairer and effective when it includes tests.

Overall, the Educational Sciences programme presents more differences regarding assessment methods used and perceptions of fairness and the effectiveness of methods than in other programmes. Furthermore, the students attending the programme of Educational Sciences associated most negative ideas with assessment. There are some studies regarding the differences between the assessment methods and knowledge areas (Lueddeke, 2003; Goubeaud & Yan, 2004; Lindblom-Ylanne et al., 2006; Yanowitz & Hahs-Vaughn, 2007; Goubeaud, 2010; Webber, 2012). However, this study suggests further research on fairness and effectiveness of assessment and ideas associated with assessment taking into account the knowledge areas.

In a comparative perspective, both Portugal and Sweden have signed the Bologna Declaration (1999), but also continued to have a national design for higher education. The results show that there are minor differences, for example in the methods used, time of assessment, and who is carrying out the assessment. It can be an effect of the education system and its need to have a safe legal status. At the same time there seems to be room for agency concerning the professionals, but less in relation to the students. Their influence seems to be low in both countries. As earlier studies have emphasised, the need for active students and the need for



them to show an interest in assessment literacy, needs to be explored further, which might be related to the use of self and peer assessment. Teachers are not always using these modes of assessment and the students do not always seem to “trust” these methods. This indicates that they need to be further developed and validated. The implications for assessment in higher education are that national autonomy for education and professionals in higher education is maintained, and that it is possible to further develop learner-oriented assessment. The modes of self and peer assessment in particular seem to be an issue to discuss in the future. Particularly, it would be important to understand why these modes of assessment are not often used in higher education settings and to what extent this might influence the assessment process and enhance students’ learning.



**CHAPTER IX**

**EFFECTIVENESS AND RELEVANCE OF FEEDBACK IN HIGHER  
EDUCATION: A STUDY OF UNDERGRADUATE STUDENTS**



This chapter focuses on students' perceptions of the effectiveness and relevance of feedback in regard to assessment methods and self-regulation of learning. In total, 605 undergraduates participated in the study at five Portuguese public universities. Data were collected through questionnaires. Results revealed that feedback is perceived as more relevant, effective and in a more positive way by students who are assessed through learner-centred methods than by those assessed through traditional methods. Also, participants who are assessed through learner-centred methods or mixed methods perceived feedback as more effective in all phases of self-regulation learning than students who are assessed through traditional methods. Implications of the findings regarding feedback and assessment in Higher Education are discussed.

### **9.1. Introduction**

A growing body of literature in higher education shows that feedback is a key feature of the assessment process that contributes to enhancing the quality of students' learning (Weaver, 2006; Nicol & Macfarlane-Dick, 2006; Lizzio & Wilson, 2008; Price, Handley, Millar, & O'Donovan, 2010; Evans, 2013) and promoting important changes in the classroom (Gaertner, 2014). The ways in which students look at feedback and the learning environment in which feedback occurs influence the impact of assessment on learning (William, 2011). Effective feedback on assessment is considered to be an important tool to improve learning (Hounsell, McCune, Hounsell, & Litjens, 2008) and needs to be recognised and understood by students and teachers (Orsmond, Merry, & Reiling, 2005). If feedback is to be effective it must be timely, relevant (Ramsden, 1996) and suitable to the context (Knight & Yorke, 2003). Earlier studies show that the effectiveness of feedback may be compromised by different factors: modularisation and semesterisation of the courses (Gibbs, 1999); fewer tasks (Boud & Molloy, 2013); the university policies that aim essentially to measure the achievements of the students instead of a continuous improvement of students' learning (Price et al., 2011) or the workload and the assessment practices used by the staff (Weaver, 2006). The new trends on assessment emphasise the use of practices centred on the learner, based on diverse forms of assessment (Heywood, 2000; Pereira et al., 2015) and continuous feedback (Rust, O'Donovan, & Price, 2005), enabling self-regulation of learning (Hattie & Timperley, 2007). The self-regulation of learning promotes an effective learning and motivates students to use feedback in order to

regulate and improve their work (Orsmond, Maw, Park, Gomez, & Crook, 2013). For that reason, the assessment tasks should be developed in order to enable effective and sustainable feedback (Carless, Salter, Yang, & Lam, 2011). Nevertheless, more empirical work is needed regarding students' perceptions of feedback and their impact on teaching and learning (Poulos & Mahony, 2008) and regarding the feedback used and their impact within the context of traditional and learner-centred methods of assessment (Flores et al., 2015) and regarding the usefulness of the feedback (Small & Attree, 2015). The purpose of this study is to explore students' perceptions of effectiveness and relevance of feedback in relation to different assessment methods and self-regulation of learning.

## **9.2. Feedback and assessment methods in Higher Education**

The methods used to assess students' learning may vary from context to context and within each field of knowledge. However, regardless of their focus, assessment methods influence and determine different approaches to learning (Struyven et al., 2005; Sambell et al., 1997). Earlier empirical studies indicate students' preferences for different assessment methods depending on their nature (Sambell et al., 1997; Birenbaum & Feldman, 1998; Sambell & McDowell, 1998; Weurlander et al., 2012). Sambell et al. (1997) concluded that students prefer other assessment methods rather than the traditional ones because they stimulate learning and understanding, as opposed to traditional ones that promote memorisation. The so-called alternative methods of assessment have emerged in higher education context (Struyven et al., 2005) based on different conceptions such as "Learner-Centred Assessment" (Webber, 2012). Webber (2012) explains that methods centred on the learner such as projects, work in groups or oral presentations foster collaboration and feedback. Other authors also emphasise the need of these assessment methods to be aligned with a formative perspective based on continuous feedback enabling self-regulation of learning (Yorke, 2005; Carless, 2006; Nicol & Macfarlane-Dick, 2006; Espasa & Meneses, 2010; Carless et al., 2011; Flores et al., 2015). Struyven et al. (2005) highlight the advantages of the non-traditional methods as they enhance the quality of learning and understanding instead of memorisation. Existing literature shows that self- and peer assessment stimulate critical thinking and deep approaches to learning (Segers & Dochy, 2001) and that portfolio enables greater involvement of the student and more consistent acquisition of knowledge (Slater, 1996). Furthermore, learner-centred methods are considered to be fairer

regarding learning and assessment (Flores et al., 2015), as they assess skills that are also valued in other contexts (Struyven et al., 2005).

In a classroom environment based on a formative assessment all learning tasks are likely to be assessments that reveal students' learning (Ruiz-Primo, 2011). In this context, receiving feedback is crucial for learning as it influences the ways in which students make sense of it and use it to self-regulate their learning with implications for academic achievement. Accordingly, in higher education contexts a more learner-centred teaching has been advocated with a stronger focus on students (Cornellius-White, 2007). Students are viewed as active constructors of knowledge and managers of their learning process in order to meet the competencies required of them in a given training programme (Huba & Freed, 2000; Meyers & Meyers, 2014). Feedback is, then, of paramount importance as it fosters the communication between the teacher and the students and it is seen as an opportunity to learn and to foster the regulation of the learning process (Poulos & Mahony, 2008; King, Schrod, & Weisel, 2009). However, Hattie and Timperley (2007) are critical of the fact that the assessment practices used provide less feedback than it would be desired. According to the authors, these assessments are designed for accountability purposes rather than feedback purposes.

### **9.3. Feedback and self-regulated learning**

Feedback is seen as a key element in quality teaching in so far as students learn quicker and in a more effective way when they are aware of what they have to learn and to do to improve their learning (Ramsden, 1996; Tunstall & Gipps, 1996; Hounsell, 2003; Carless, 2006). When feedback is linked to the productions of students in order to improve their learning, it is seen as a key strategy for students to do better (Black & Wiliam, 1998; Fernandes, 2005; Santos, 2008). It will have an impact on the future students' performance (Wiliam, 2011) and guide them in order to overcome their mistakes and to learn in a more significant way (Menino & Santos, 2004). However, to provide feedback is not enough if the development of relevant learning strategies and the implication of students in the learning tasks are to be developed (Chu, Jamieson-Noel & Winne, 2000). Other important variables need to be taken into account such as the kinds and nature of feedback, the assessment methods and the guidelines provided to the students to undertake the learning tasks. Students appreciate to receive feedback about their performance and knowledge (O'Donovan, Price, & Rust, 2001; Craddock & Mathias, 2009; Blair, Wyburn-

Powell, Godwin, & Shields, 2014). However, feedback is not always effective (Price, Handley, & O'Donovan, 2008) leading to students' dissatisfaction (Price et al., 2011) which may be related to problems of content and interpretation of feedback (Higgins, Hartley, & Skelton, 2001). Recent literature shows the existing gaps on feedback effectiveness. In a review on assessment feedback, Li and De Luca (2014) found that feedback is not always used by the students. Other studies show that although feedback given to the students may be significant (Jessop & Maleckar, 2014), it is not always synonymous with valued feedback to them (Blair & McGinty, 2013). Crisp (2007) also found that feedback is not fully used by the students, especially if the grade received was satisfactory. However, the study by Small and Attree (2015) found that the feedback given is valued and used by the students even if the grade has been satisfactory (Small & Attree, 2015). The timing of feedback is also an important key feature, since if it is not timely it may become irrelevant to the students (Gibbs & Simpson, 2002). Some of these conditions may lead to an ineffective feedback that fails in terms of learning support (Price et al., 2011). Shute's (2008) review proposes guidelines to feedback effectiveness: i) feedback should focus particularly on the task itself, not on the student, producing answers to improve the students' performance (what, how and why); ii) feedback should not discourage learners or even produce comparisons; and iii) in the time that feedback is given teachers should taken into account the type of learning that is occurring (immediate feedback for hard tasks and delayed feedback for simple tasks). Also Gibbs and Simpson (2002) identified the conditions in which feedback influences learning. Among other conditions it is proposed that feedback should be regular, detailed, on time, relevant, and focused on the learning process and on students' performance. Price et al. (2008) also claim that for feedback to be effective it has to have a clear purpose, clear standards and being helpful for students' professional future.

Meta-analyses (Kluger & DeNisi, 1996; Hattie, Biggs, & Purdie, 1996; Black & Wiliam, 1998; Hattie & Jaeger, 1998; Cornellijs-White, 2007) suggest that feedback plays a key role in students' learning in higher education and may be used to enhance their competences to self-regulate their learning. In fact, while students may see the purpose of the feedback as information to improve, teachers may see firstly feedback as motivating to self-regulation (Nicol & Macfarlane-Dick, 2006; Robinson, Pope, & Holyoak, 2013).

Zimmerman (2000) defined self-regulated learning as the degree to which learners meta-cognitively, motivationally, and behaviorally manage their own learning process. Particularly, learners are meta-cognitively aware and motivationally connected to how they regulate their



learning by actively adapting strategies to develop specific learning tasks. Additionally, Zimmerman (2002) presented the process of regulating one's own learning in three cyclical self-regulatory phases: i) the forethought phase, during which learners set objectives and plan before a task; ii) the performance phase, in which learners monitor and control their performance while they develop the task, and iii) the self-reflection phase, in which learners react to their own outcomes once the learning process is completed. These phases may help clarify learners' repeated efforts to learn in terms of quantitative and qualitative differences (i.e., proactive vs. reactive self-regulators).

In monitoring students' tasks, self-regulated learning is seen as a cyclical process in which feedback of previous tasks may be used by the students to do adjustments in the strategies they adopt, cognitions, affects and behaviours in the current tasks (Bandura, 1993; Zimmerman, 2000). However, the students do not always experience previous tasks that enable them to develop the necessary mechanisms to regulate their behaviour and learning in terms of formative feedback. Providing feedback to students' performance (external feedback) may help them to reflect about their competencies, learning and strategies in order to solve given tasks. This kind of reflection – internal feedback – may be useful for students to adjust to the present task. The internal feedback provides the students with the information about the quality of the cognitive process as well as the nature of the outcomes. Thus, feedback is part of the self-regulated learning process and it is seen as a mechanism that monitors the entire process without which it would be impossible to look at the progress in terms of learning (Butler & Winne, 1995). Feedback is internal or externally generated and helps modeling and changing the attitudes of the students in regard to their learning (Butler & Winne, 1995). Perera, Lee, Win, Perera, and Wijesuriya (2008) suggest that medical students were expecting that feedback would be incorporated in all tasks of teaching from the very beginning of the programme in order to promote their self-regulated learning. The same study concluded that feedback was particularly important to save students with weaker performances. Thus, feedback is no valid in the vacuum, in so far as in order to have an impact it has to be adapted to a given learning context. According to Hattie and Timperley (2007, p. 86), effective feedback implies the answer to the following questions: Where am I going? (What are my goals?); How am I going? (Am I progressing well in the right direction?) and Where to next? (What kinds of activities do I need to do to progress better?). The authors relate these main questions to different feedback dimensions: *feed up*; *feed*

*back and feed forward*. Therefore, when teachers and students search for the answers to these questions the feedback is effective and the learning environment is ideal.

#### **9.4. Methods**

This study aims to answer to the following questions:

1. Are there significant differences in the perception of effectiveness of feedback practices depending on the assessment methods used?
2. Are there significant differences in the perception of the feedback practice being relevant depending on the assessment methods?
3. Which is the relation between the mode and perception of effectiveness of feedback?
4. Which is the relation between the mode and perception of feedback as a relevant practice?
5. Are feedback practices perceived as more effective during the forethought, performance or self-reflection phases in the context of self-regulated learning process?
6. Are feedback practices perceived as more relevant during the forethought, performance or self-reflection phases of self-regulated learning process?
7. Are there any differences in perceived effectiveness of feedback practices in different phases and in the context of different assessment methods?

##### **9.4.1. Participants**

The sample consisted of 605 undergraduate students, including 392 (64.8%) male and 213 (35.2%) female. The participants' mean age is 21.78 (*SD*: 2.79) years. They were enrolled for different programmes in five public universities in Portugal: 48 in Biology (7.9%), 186 in Education (30.8%), 37 in Law (6.1%), 28 in Economics (4.6%), 132 in Mechanic Engineering (21.8%), 118 in Nursing (19.5%), 27 in Pharmacy (4.5%) and 29 in Medicine (4.8%) (see Table 52).

Table 52. Participants in the study

Participants. N= 605				
	Female n (%)	Male n (%)	n	% Total by programme
Biology	36 (6%)	12 (2%)	48	7.9 %
Education	172 (28.4%)	14 (2.3%)	186	30.8 %
Law	28 (4.6%)	9 (1.5%)	37	6.1 %
Economics	11 (1.8%)	17 (2.8%)	28	4.6 %
Mechanic Engineering	9 (1.5%)	123 (20.3%)	132	21.8 %
Nursing	102 (16.9%)	16 (2.6%)	118	19.5 %
Pharmacy	22 (3.6%)	5 (0.8%)	27	4.5 %
Medicine	12 (2%)	17 (2.8%)	29	4.8 %
<b>% Total by gender</b>	<b>392 (64.8%)</b>	<b>213 (35.2%)</b>	<b>605</b>	<b>100 %</b>

#### 9.4.2. Data collection and analysis

This study is part of a wider study (Flores et al., 2015) focusing on assessment in higher education. Following the approval of the study by the Ethics Committee a face-to-face survey was administered to all 605 3<sup>rd</sup> year undergraduate students. One researcher collected the questionnaires in a lecture theatre in all of the five universities. Confidentiality was guaranteed and informed consent obtained. To gather data a questionnaire was used “*Feedback practices*”. It was developed for the Portuguese context and it was based on existing relevant literature (e.g. Butler & Winne, 1995; Zimmerman, 2000; Poulos & Mahony, 2008; Flores et al., 2015). It consists of a total of 20 items. These items focus on perceptions, modes and phases of feedback practices. Students would have to give their answers using the 5-point scale, ranging from 1=“Strongly disagree” to 5=“Totally agree”. Some items are reversed in order to avoid the acquiescence tendency. The questionnaire measured the perception of feedback as a relevant practice (6 items. e.g., i.12.”*I felt it was an information I should value*” (Cronbach’s alpha: .76); The adequacy/constructive mode of the feedback practices (5 items: e.g., i.11.” *It made clear to me the positive and the negative aspects of my work*” (Cronbach’s alpha: .64); The perception of effectiveness of feedback practices (3 items. e.g., i.10.”*It helped me to compare my real performance with my ideal performance*”(Cronbach alpha: .48); and the phases of self-regulated learning when feedback is predominant and perceived as helpful in the beginning (forethought phase), during the learning process (performance phase) or at the end (self-reflection phase) (6 items. e.g. i1 “*It helped me, during the semester, to see if the way I was working would help me to achieve the goals I set up*”. (Cronbach’s alpha: .87). The phases of self-regulation of learning were

based on phases presented in Zimmerman work's (2002): the forethought phase; the performance phase and self-reflective phase.

A second questionnaire is related to methods of assessment, traditional methods (e.g. tests, examinations) and learner-centred methods (e.g. portfolios, project work in teams). Students were asked to indicate the frequency of the methods in the different programmes. For each method, students would say if the different assessment methods were not at all or seldom used (1) or if they were usually or always used (2). Methods included written tests, group oral presentations in classroom, group work, reports done in group, project work in teams, individual assignments, individual reports, individual written reflections, oral tests, individual project work, individual oral presentations in classroom, individual portfolios, individual critical reviews of texts, critical reviews of texts in group, portfolios in group, group essays and individual essays. Based on the answers of this questionnaire and of previous research on assessment methods (e.g., Flores et al., 2015), a committee of four educational psychologists defined three types of assessment methods based on the more discriminative items among the methods: traditional assessment methods (when written tests, oral tests or exams are usually or always used and individual portfolios, or portfolios in group or project work in teams or reports done in group are seldom or never used), learner-centred assessment methods (when individual portfolios, portfolios in group, reports done in group, project work in teams are usually or always used and written tests, oral tests or exams are seldom or never used) and a mix of assessment methods (the remain cases, when this dichotomy between traditional and learner-centred methods is not so sharp).

To answer the research questions, data were processed with IBM SPSS Statistics, v. 22. Data were analysed with one-way ANOVAs to test differences between groups and with descriptive statistics, such as mean, standard deviations and correlations between variables.

## **9.5. Results**

The following results provide evidence on assessment, feedback and self-regulation of learning from students' perceptions. The results are organised under themes that were identified during the analysis. The first theme focuses on assessment methods and the effectiveness and relevance of feedback. The second theme is related to modes and perceptions of feedback. The third theme concerns students' perceptions of feedback in relation to phases of self-regulation of

the learning process. The four theme corresponds to the effectiveness of feedback concerning the assessment methods throughout the phases of self-regulation learning.

### 9.5.1. Assessment methods and perceptions of effectiveness and relevance of feedback

A one-way ANOVA was performed to analyse differences in perceptions of feedback between groups defined by assessment methods (questions 1 and 2). Results reveal that feedback is perceived as a more relevant and effective practice by students assessed through learner-centred methods and through mixed methods than by students assessed through traditional methods ( $p < .001$ ) (see Table 53 and Table 54).

Table 53. Perceptions of feedback: Mean and Standard deviation by assessment methods

	Traditional methods (n=186)	Learner-centred methods (n=168)	Mixed methods (n=251)
Perception of effectiveness of feedback	3.07 (.53)	3.28 (.60)	3.22 (.61)
Perception of feedback as a relevant practice	3.23 (.60)	3.51 (.57)	3.39 (.56)

Table 54. One-way ANOVA: differences in perceptions of feedback in groups defined by assessment methods

	F (2 d.f.)	P
Perception of effectiveness of feedback	5.92	.003**
Perception of feedback as a relevant practice	10.69	.0001**

\*  $p < .05$  \*\* $p < .01$

### 9.5.2. Modes and perceptions of feedback

In order to investigate the relationships between the modes and the perceptions of feedback by the students (questions 3 and 4), Pearson correlations between the two variables were calculated (see Table 55).

Table 55. Correlations between the modes and perceptions of feedback (N=605)

	Form of feedback
Perception of effectiveness of feedback	.65**
Perception of feedback as a relevant practice	.70**

\* p<.05 \*\*p<.01

A more positive mode of feedback (with special attention to positive aspects and suggestions of ways to enhance students' performance) is positively and significantly (p<.01) related to the perception of effectiveness and to the perception of feedback as being a relevant practice.

### 9.5.3. Perceptions of feedback in relation to phases of self-regulation of the learning process

A one-way ANOVA was performed to analyse differences in the perceptions of effectiveness and relevance of feedback when feedback is given in different phases of self-regulation of learning (questions 5 and 6). Data obtained enable to identify significant differences between groups (see Table 56). As seen in table 56, the perception of feedback as being an effective (p<.05) and relevant practice (p<.01) is significantly higher when feedback is given during the performance phase of self-regulation of learning process than when it is given at the beginning or at the end (see Table 56 and 57).

Table 56. One-way ANOVA: differences in perceptions of feedback in groups defined by the phase of self-regulation process when feedback is predominant

	F (3 d.f.)	P
Perception of effectiveness of feedback	2.75	.04*
Perception of feedback as a relevant practice	5.03	.01**

\* p<.05 \*\*p<.01

Table 57. Perceptions of feedback: Mean and Standard deviation by phase when feedback is predominant

	Frequent feedback in forethought phase (n=99)	Frequent feedback in the performance phase (n=102)	Frequent feedback in the self-reflection phase (n=121)
Perception of effectiveness of feedback	3.09 (.54)	3.20 (.62)	3.11 (.61)
Perception of feedback as a relevant practice	3.29 (.53)	3.44 (.60)	3.23 (.67)

#### 9.5.4. Effectiveness of feedback in relation to different assessment methods throughout the phases of self-regulation learning

The question 7 aimed to explore if there are differences in perceived effectiveness of feedback practices given in different phases when considering traditional, learner-centred and mixed assessment methods. ANOVA results, including post-hoc Scheffé tests, reveal that feedback is seen as less effective in traditional assessment methods than in mixed or learner-centred methods in all phases of the self-regulation of learning process ( $p < .05$  in forethought phase and  $p < .01$  in performance or self-reflection). Additionally, in learner-centred methods, the mean of perceived effectiveness of the feedback given during the performance phase of the learning process is also significantly higher than the mean of perceived effectiveness of the feedback given in mixed methods ( $p < .05$ ). As mentioned above, in the forethought and in the self-reflection phase of the self-regulation process, perceived effectiveness of the feedback given in learner-centred methods is significantly higher ( $p < .01$ ) than perceived effectiveness of the feedback given in traditional assessment methods. However, in these phases, there are no significant differences in perceived effectiveness of the feedback given, between learner-centred and mixed assessment methods (see Table 58 and 59).

Table 58. Effectiveness of giving feedback in different phases: Mean and Standard deviation by assessment methods

	Traditional methods (n=186)	Learner-centred methods (n=168)	Mixed methods (n=251)
Effectiveness of giving feedback at the forethought phase	2.96 (.87)	3.24 (.78)	3.12 (.82)
Effectiveness of giving feedback at the performance phase	2.89 (.87)	3.42 (.83)	3.18 (.84)
Effectiveness of giving feedback at the self-reflection phase	2.91 (.91)	3.35 (.77)	3.20 (.81)

Table 59. One-way ANOVA: differences in perceived effectiveness of giving feedback in different phases in groups defined by assessment methods

	<b>F (2 d.f.)</b>	<b>P</b>
Effectiveness of giving feedback at the forethought phase	5.52	.004**
Effectiveness of giving feedback at the performance phase	16.97	.0001**
Effectiveness of giving feedback at the self-reflection phase	13.04	.0001**

\* p<.05 \*\*p<.01

## 9.6. Discussion and Conclusions

This study sets out to investigate the effectiveness and relevance of feedback within the context of Higher Education. Earlier research highlights that the effectiveness of feedback represents a quality feedback that is valued as a part of the learning process by the students (Ferguson, 2011). The feedback should also be understood in an integrated approach along with the assessment process and the curriculum (Boud & Molloy, 2013) being aligned with criteria, standards and learning goals (Ferguson, 2011). More importantly, teachers' and students' conceptions of assessment need to be shared otherwise; feedback may not be suitable (Nicol & Macfarlane Dick, 2006).

Findings from this study suggest that feedback is perceived as more relevant and effective by students assessed by learner-centred methods and by mixed methods than traditional ones. In fact, existing literature shows that the learner centred methods are systematic and continuous methods that enable negotiation, collaboration and interaction between teachers and students (Flores et al., 2015). Earlier literature reveals that assessment tests or examinations provide less formative feedback than other methods, but they continue to be frequently used in higher education (Blair et al., 2014). Brown (2007) suggests that the problem may not lie in the method itself but in the lack of feedback provided when they are applicable. Hattie and Timperley (2007) also found that the tasks given to the students may increase their effort and their engagement if those are more challenging and be indicative of different experiences, leading to an effective feedback and reducing the gap between existing and desired understandings. In their perspective, the assessment test fails in the transmission of feedback information that helps students and teachers to know how their performance is going. Perhaps, by the nature and



features of learner-centred methods the feedback is likely to be more relevant and effective. However, Price et al. (2010) found that students as judges do not always recognise the effectiveness and benefits of feedback. Orsmond et al. (2005) suggest that feedback should follow the entire learning process and not only the end of the process. Also, Lea and Stierer (2000) found that feedback of a written work is not always given until the module is completed. The study by Lea and Stierer (2000) and Orsmond et al. (2005) may be related to the findings from this study, if it is considered that the traditional methods (written tests) are more likely to produce feedback at the end of the process and the learner-centred methods during the entire process. Furthermore, this may influence students' perceptions regarding the effectiveness and relevance of feedback. Therefore, the design of the assessment methods should be directed to a continuous engagement of the student and adapted to the feedback process (Orsmond et al., 2013), encouraging active, autonomous and responsible learners (Flores et al., 2015). Also, self- and peer assessment enhance students' ability to use feedback (Orsmond et al., 2013).

As for the modes and perceptions of feedback special attention to positive aspects of feedback and the suggestions of ways to enhance students' performance is clearly related to the perception of effectiveness and relevance of feedback practices. Feedback is perceived by undergraduate students as more effective and relevant when it is used in a more positive way. Also, feedback is perceived in a more positive way when learner-centred methods are used. The literature suggests the importance of self-regulation of learning, namely its contribution to monitor how the students' work is being developed. The self-regulation of learning and the feedback are closely related. When students receive feedback and use it they are regulating their own learning and identify what must be improved in their work (Orsmond et al., 2013). Furthermore, good feedback is proposed by Nicol and Macfarlane- Dick (2006) as a tool that helps students to self-correct their problems. Findings related to the perceptions of feedback in relation to phases of self-regulation of the learning process show that when feedback is given during the performance phase of self-regulation of the learning process, students perceive feedback practices as more effective and relevant than when it is given at the beginning or at the end of the learning process. Again, these findings are corroborated by earlier studies which show that feedback should be provided during the process (Lea & Stierer, 2000; Orsmond et al., 2005), enabling better self-regulation of learning (Gibbs & Simpson, 2004). Studies explain that teachers use feedback in a summative way (Orrel, 2006; Beaumont, O'Doherty, & Shannon, 2011; Carless et al., 2011) as

a way to justify the marks (Price et al., 2010; Li & De Luca, 2014) not being suitable to help students to overcome the gaps between the current and desired performance (Blair et al., 2014). Beaumont et al. (2011) found that students perceived quality feedback when it does not only produce a summative judgment of their work; instead it produces dialogue that stimulates students' improvement. The study by Havnes, Smith, Dysthe, and Ludvigsen (2012) found that feedback without grades is seldom found, existing evidence points out that students prefer to be assessed by peer-assessment and feedback instead of marks (Scaife & Wellington, 2010). Nicol, Thomson, and Breslin (2014) also state that a peer review of feedback brings benefits for students' learning, evaluating and regulating their own and peers' work, being reflective learners through the evaluative judgment. However, the Quality Assurance Agency for Higher Education (2007) notes that the contexts of higher education are mainly summatives, leading to a reduction in formative assessment practices and, consequently, less effective feedback.

Regarding the effectiveness of feedback in relation to different assessment methods throughout all phases of self-regulation learning, when traditional assessment methods are used, feedback is seen, by students, as less effective than in cases where mixed or learner-centred methods are used. During the performance phase of the learning process, perceived effectiveness of the feedback given when learner-centred methods are used is also higher than when mixed methods are used. During the forethought and the self-reflection phase of the self-regulation process, the perceived effectiveness of the feedback given in learner-centred methods continues to be higher than perceived effectiveness of the feedback given in traditional assessment methods but there are no differences when assessment is based on mixed methods. The students who regulate their learning are more likely to be effective students (Butler & Wine, 1995) and are more likely to be motivated to improve their learning (Zimmerman, 2002). Nicol and Macfarlane Dick (2006) state that teachers should look at assessment practices and relate them to the self-regulation model and the seven principles suggest by them to allow the identification of its weaknesses. For example, the tests or examinations are known as terminal and summative assessments, therefore when feedback is given (if given) the students do not have opportunities to put into practice the feedback received to a future performance (Blair et al., 2014). This implies that students are unable to engage in the phase of self-reflection (feed forward) of self-regulation of learning. Findings of this research found that students see feedback as more effective and relevant during the performance phase than the forethought and self-reflection phase. It should be noted that assessment methods centred on students' learning seem to be methods more

suitable to an effective and relevant feedback and to a more effective feedback in all phases of self-regulation learning to the detriment of the traditional methods.

This research suggests that teachers should use learner-centred methods and should avoid traditional exams (at least as a single method to assess students' learning) due to their characteristics of narrow and summative nature that prevent self-regulated learning in all phases and the effectiveness of feedback. Further research is needed focusing on understanding which differences exist in given feedback through oral or written modes in traditional and learner-centred methods. Also, more needs to be done regarding all phases of self-regulation of learning and the effectiveness and mode of feedback within the context of the use of traditional and learner-centred methods as well as students and university teachers' understandings of feedback in practice.



## Conclusions and Implications

In this section, the main conclusions and implications of this research will be presented. Through the reflection and the problematisation of the findings, and according to the theoretical framework underpinning this study seeks to respond to the research questions.

This study was set out to explore the assessment process in higher education, as well as issues related to teaching and learning process through the perceptions of university teachers and undergraduate students. The study has also sought to contribute to improving the quality of teaching, learning and assessment processes in higher education.

A study in 5 Portuguese public universities and later in a Swedish university was done.

Firstly, from a review on assessment, this study found that recent research, after the implementation of the Bologna Process, focuses on assessment practices other than the written test, in accordance with a learner-centred assessment. The use and effects of a diversity of assessment methods in higher education have been investigated, particularly those pointing to the so-called alternative methods.

The perceptions of students and teachers, as key participants in the educational process, have enabled to know the aspects related to the assessment process and its implications for learning and teaching in different knowledge areas.

In general, it is possible to conclude that the assessment process in higher education is influenced by different external and internal factors.

As far as the political, economical and social factors are concerned, there is a strong influence in the assessment process, mainly due to the national and supra-national policies, such as the Bologna Process, which involved both positive and negative changes in higher education systems. University teachers from 5 Portuguese public universities identified as positive features the paradigm shift to a learner-centred assessment and greater concern in regard to pedagogical issues. This kind of approach is appreciated by them in so far as it enables the articulation between university and the labour market, continuous and formative assessment, feedback, support for students, monitoring of learning and fairer assessment.

However, it is interesting to note that university teachers consider, for instance, self- and peer assessment as practices that may be unfair. This fact may be indicative that there are gaps in the design of some assessment methods centred on learner and may jeopardise the formative

process. Contrary to learner-centred assessment, university teachers conceive traditional assessment has having negative effects, leading to memorisation and representing few gains with regard to students' learning.

Literature shows that, in fact, a learner-centred assessment is fairer as it respects the differences of institutions, teachers and students, it goes beyond a "one size fits all solution". It is an ongoing reflexive process that recognises the different experiences, background knowledge, learning styles, needs and interests of the students giving them opportunity to get involved in the learning process enabling critical thinking and problem solving (Attard et al., 2010). This has implications for professional development of university teachers as this type of approach has effects on their performance either on teaching and on assessing. Veiga Simão and Flores (2010) found that that this type of approach promotes the collaboration and sharing between teachers and students enabling self-reflection, sharing ideas and decision making regarding teaching, learning and assessment. Also, Attard et al. (2010) suggest that teaching staff can take advantage of a learner-centred approach as much as the students. In general, teachers can benefit from a more interesting role, solutions to tackling massification and diversity, continuous self-improvement, increased motivation, and professional development for Academia. Although it was not the aim of this study it would have been helpful to listen the teachers in relation to their professional development through environments that promote a learner-centred approach.

This research also found that most of university teachers claim they have changed their practices and methods of assessment after the implementation of the Bologna Process. However, the written test based on a summative assessment is the most used method to assess. A contradiction exists between teachers' conceptions of assessment and the assessment methods they use. In other words, university teachers do not use certain methods and practices of assessment that they consider to be better for students. Some reasons for this were identified, for instance, lack of resources (material and human resources); the teacher/student ratio; heavy workload; lack of time to the assessment process (spending more time doing research because it is more valued at the assessment performance); and institutional constraints. In fact, the implementation of a learner-centred assessment requires other conditions than simply making a final assessment of paper and pen in the classroom. This type of assessment requires few students per class so that there is an effective monitoring and continuous feedback and the use of innovative and technological materials as well more time available. This lack of homogeneity of the opportunities, resources and the organisation of teaching and curricula is perhaps one of the

weakest links brought by Bologna. The human and material resources available in higher education systems are not the same in all European contexts of higher education. Earlier literature suggests that teachers are resistant to using learner-centred assessment (Blumberg, 2009). Attard et al. (2010, p. 57) claim that teachers are resistant to using learner-centred practices due to “a higher interest in research than in teaching, an excessively high workload or the lack of realisation of the need for upgrading their pedagogic skills, among other reasons”. Combined with this, the crisis that begins in 2010 in the Euro-zone has brought economic difficulties and implications to the development of the Bologna Process (Scott, 2012). The university teachers, although they perceived a continuous and formative assessment as the best way to assess, also claimed that the assessment must be summative, as an institutional requisite in Portuguese universities. All these factors may lead to some shortcomings at the *macro*, *meso* and *micro* levels of analysis. First, the Bologna Process, at the *macro* level, should ensure the homogenisation of resources and curricula producing political directives that are possible to perform in all member states. Second, the universities, at the *meso* level, should ensure teachers’ autonomy to assess students’ learning, not imposing modes of assessment and releasing time for teachers to devote to the pedagogical dimension. The criteria to assess teachers’ work should emphasise not only research but also the pedagogical aspects. Lastly, teachers, at the *micro* level should use different methods to assess, monitor the students’ learning and provide them continuous feedback. Therefore, it is possible to conclude that university teachers are limited in their autonomy as teachers, either due to the lack of conditions, commitments, or institutional impositions that inhibit them from using more learner-centred assessment practices.

This research, although it has involved the students’ perceptions of assessment methods focused on a learner-centred assessment and traditional assessment, has not focused on their views about Bologna Process, in which they play a central role including more hours for autonomous work, tutorials, and other aspects that could give us clues on what they would like to see improved.

The fact that assessment influences the teaching and learning process is also recognised by university teachers. In general, they claim that regardless of the assessment methods they will have an impact on the learning and teaching process. This research found that assessment has effects on the students’ participation and motivation and on their regulation of the learning process. Regarding teaching, teachers already changed their teaching practices because of the

assessment methods they used. Earlier literature also corroborated this finding (Brown & Knight, 1994; Birenbaum & Feldman, 1998; Sambell & McDowell, 1998; Scouller, 1998; Biggs, 2003; Boud & Falchicov, 2007). For instance, the study by Barrio, Escamillaa, Garcíaa, Fernández, and Garcíaa (2015) found recently that if teachers use continuous assessment, the students' performance and the learning outcomes improve as well the skills' development. They conclude that assessment may increase or inhibit students' motivation and the assessment results. Other authors state that "if you want to change student learning then change the methods of assessment" (Brown et al., 1997, p. 8) or "if we wish to discover the truth about an educational system, we must look to its assessment procedures" (Rowntree, 1987, p. 1). Thus, as assessment is a cornerstone in the educational process their integration and alignment with the process of teaching and learning is imperative. It is required that all the programmes should be based on the principles of *constructive alignment* between the learning outcomes/objectives, teaching and assessment promoting the optimisation of the quality of learning (Biggs, 1999; 2003). Teaching and assessment aspects are set in order to enhance high level learning. Biggs (1999) suggests that the Problem-based learning (PBL) is probably a purest example of an aligned system. On one hand the student constructs meaning through relevant learning activities and, on the other hand teacher aligns the teaching and assessment methods to learning activities. In this research teachers point that they adapt teaching methods to the students' choices of the assessment practices. This may be indicative of a constructive alignment or some sort of flexibility and negotiation of assessment methods between teacher and student. Due to this fact, it also would have been interesting to explore in more detail the university teachers' perceptions in relation to teaching, which strategies they use and how they are operationalised in order to see if they adopt practices of alignment between teaching and assessment. Also, other authors explore the relationship between assessment and the learning process. The social-constructivist model of the assessment process proposed by Rust et al. (2005) suggests a desirable practice based on the interrelation between staff and students. Aspects related to active engagement, feedback, marking and criteria are highlighted in order to establish a dynamic cycle. Therefore, in an optimal scenario, university teachers, in order to enhance learning, should avoid the use of a single method to assess, should use formative tasks, should assess during all the learning process, should adjust teaching strategies to the assessment process, and should send signals regarding the students' performance at the assessment process.



Both undergraduate students and teachers perceived a learner-centred assessment as more positive than a traditional one. They claim that a learner-centred assessment is fairer, more effective, promotes the development of new learning, connects the university to real world contexts and provides a positive impact on the quality of the learning process. Furthermore, when assessed by learner-centred methods the students spend more time to study. These results are in line with earlier literature (Sambell & McDowell, 1998; Shepard, 2000; Goubeaud & Yan, 2004; Myers & Myers, 2014; Flores et al., 2015) that highlights these benefits of an assessment centred on the learner. In contrast, the traditional assessment is perceived by undergraduate students as less effective, less fair, promoting surface approaches to learning and having a negative impact on the quality of learning. When the students are assessed through traditional methods spend less time to study, only focusing on the contents and not beyond that and forgetting the contents not long after performing an assessment test. Literature corroborates this finding. Although widely used in higher education contexts (Exeter et al., 2010; Duncan & Buskirk-Cohen, 2011) the traditional assessment it is the promoter of many shortcomings in the educational process (Scouller, 1998; Perrenoud, 1999; Struyven et al., 2005; Wen & Tsai, 2006; Price et al., 2011). Therefore, it may be possible to conclude that a learner-centred assessment, is in students' perceptions, more positive to their learning process, regarding self-regulation of learning, students' performance and their approaches to learning. This is broadly in line with literature on assessment. Huba and Freed (2000) argue that a learner-centred assessment respect students' different learning styles, involves students' on the learning process, promotes adequate time on task and feedback to students. This research also shows that traditional assessment raises less confidence in undergraduate students than learner-centred assessment. Boud and Falchikov (2007) corroborated this finding and they suggest that traditional assessment provided negative experiences and students' lack of control. Driscoll and Wood (2007, p. 12) argue that "students who feel confident about their learning are the most successful". Thus, students' perceptions on assessment will influence the learning process in relation to their approaches, the time they spend studying, their performance, motivation and their feelings. Such as university teachers, the undergraduate students agree that assessment influence the learning process.

This research found that the ideas that students associate with assessment are related to assessment methods used in different areas of knowledge. In general, most of the students associated the test/exam and grades with assessment. In fact, when it comes to assessment the

idea of test or examination is identified. Probably, this finding is not much discussed in the literature since it is an aspect of common sense. However, this finding shows that the traditional assessment remains rooted and strong in educational systems. The participants in this study, both university teachers and undergraduate students, state that the tests and examinations are the assessment methods most used in these higher education contexts, so one thing is related to another. Maybe if the methods most used were learner-centred the ideas that students associated to assessment would be different. As this research shows the positive ideas of reflection, participation and help are more associated by the students who perform learner-centred assessment than students who perform traditional assessment. However, some negative ideas such as conflict and imposition are more associated by students who perform learner-centred assessment than traditional assessment. This fact is interesting and it would be useful to understand why these negative aspects are more related to the learner-centred assessment than traditional assessment. The earlier study by Flores et al. (2015) also found that the idea of conflict is more related to learner-centred assessment. In an broad perspective, with exception of anxiety and fear, students associated more positive ideas to assessment than negative ones. Furthermore, it is also interesting to note that students consider learner-centred assessment fairer. Findings show that the idea of unfairness is less associated to assessment but the average is higher in traditional methods than in learner-centred methods.

Regarding the area of knowledge this research found that students who attend programmes on Social Sciences and Humanities associated more positive ideas with assessment than students from all other areas (LHS, NES, SE). Interestingly, students who attend SSH programmes are also those who perform more often assessment methods centred on the learner as is the case for example of projects in group. Thus, it is possible to say that students who attend Social Sciences and Humanities programs are those who perform more learner-centred methods and see assessment more positively. In fact, emotions influence students' motivation for cognitive process (Piaget, 1981). Although there is lack of research on emotions and assessment in higher education (Falchikov & Boud, 2007), the work by Pekrun, Goetz, Titz, and Perry (2002) shows that even the negative ideas and emotions associated with assessment can bring benefits to the modes of information progression. The authors found that the academic emotions are strongly related to learning strategies, students' motivations, self-regulation, cognitive resources and students' personality. Moreover, as this research has demonstrated, the academic emotions are also related to assessment methods used and the knowledge area. Students who are assessed

through learner-centred assessment present a different pattern of ideas than students who are assessed through traditional assessment. The same happens with students who attended SSH programmes that present a different pattern of emotions and ideas than students who attended other programmes.

The fact that undergraduate students perceive assessment as effective when it allows the development of technical and soft skills and when it is related with real practices in real contexts was also found. Furthermore, in their opinion assessment is effective when promotes deep learning. These arguments point by undergraduate students are in line with the essence of a learner-centred assessment, as referred earlier by experts on the field (Dochy et al., 1999; Boud, 2000; Goubeaud & Yan, 2004; Fernandes et al., 2012; Duncan & Buskirk-Cohen, 2011). Therefore, in addition to the impact that assessment has on teaching and learning, it also impacts the future life of the students, because through it certain type of skills required in professional contexts are developed and improved. Accordingly, when students enter into the labour market they can put into practice all these skills developed through the assessment methods. For example, when a student performs a project team he/she will develop skills' of communication and collaboration as well managing emotions. When the student performs a test or exam such skills are not developed.

In the undergraduate students' opinion as teachers the test is the most used method of assessment and the portfolio in group is the method less used. Although the test is the assessment method most used in all areas and all programmes, differences were found regarding other methods of assessment used and the knowledge area. Also, gender differences were found in this research. Female participants see the learner-centred assessment as a more positive with impact on learning than their male counterparts.

This research also found that feedback is a key element on the learning process and it is perceived as more relevant, effective and in a more positive way by students assessed through learner-centred assessment than students who are assessed through traditional assessment. Furthermore, when feedback is given during the performance phase of self-regulation of the learning process students perceive feedback as more effective and relevant than in the beginning or at end of the process. In the students' opinion feedback is seen as less effective when traditional assessment is used than mixed methods or learner-centred assessment. Feedback is perceived differently depending on which phase is given and what kinds of the assessment methods are used. According to the results, when feedback is used in traditional methods, as the

assessment test, it is as effective as in learner-centred methods. However, when feedback is used in learner-centred assessment, it is perceived more positively, because this kind of assessment is based on a more continuous, regulated and formative assessment. The traditional methods, due to their summative nature do not provide often feedback. These findings are also in line with previous research on feedback (Scaife & Wellington, 2010; Beaumont et al., 2011; Nicol et al., 2014; Flores et al., 2015). The type of assessment used will influence the feedback given and consequently will influence student learning gains and his/her performance. It would be interesting that this study had addressed feedback regarding the effectiveness, relevance and the different stages of self-regulation with different areas of knowledge covered in this study. This issue would be important to explore in further studies.

The research carried out in the Swedish context enabled to found minor changes between the two systems of higher education, regarding students' perceptions of assessment. Both countries, Portugal and Sweden, had signed the Bologna Declaration and followed the changes along with the majority of the European countries. Regarding assessment, differences related to methods of assessment used, times of assessment and who carried out the assessment were found. Concerning methods of assessment the difference is based on the reports that are more frequently used by Portuguese teachers to assess and the papers that are more frequently used by Swedish teachers to assess. Another difference is related to moments for assessment. In Portugal the assessment takes place throughout the semester and in Sweden takes place at the end of the semester. This finding may be indicative that Swedish teachers use more summative assessment, as assessment only happens at the end of the semester. Although in the Portuguese context summative assessment is an institutional requirement, most of the Portuguese teachers also assess throughout the semester. This may be indicative of a more continuous assessment. However, in a learner-centred environment assessment should occur at the beginning, during, and end of the process being a "hallmark of learner-centred programmes" (Cullen, Harris, & Hill, 2012, p. 130). The other difference between the two countries is related to the fairness of self- and peer assessment. On the one hand, Portuguese students consider the assessment fair when there is self- and peer assessment. On the other hand, Swedish students do not consider the assessment fairer when there is self- and peer assessment. In general, it is possible to conclude that minor differences in the perceptions of the students of both countries emerged. However, the literature shows that while Portugal and Sweden are countries with similar characteristics such as the population and size, the educational structures of higher

education differ, either in relation to traditions in education either in regard to educational levels of the population (Stiwne & Alves, 2010). Due to time constraints, this research did not study the perceptions of Swedish university teachers, in selected programmes, regarding assessment. It would have been helpful to understand if the teachers' perceptions of assessment would be different from Swedish students.

Overall, from this research a number of conclusions may be made.

The Bologna Process has brought about changes in teachers' conceptions of assessment but not in their practices. External factors that are beyond teachers hinder them to put into practice a learner-centred assessment. Furthermore, there are difficulties in the assessment process and improvements should be made so that they can conduct their teacher role effectively.

Failures are related to traditional assessment in the participants' point of view. However these methods can be used simultaneously with other methods more learner-centred. University teachers and undergraduate students view the learner-centred assessment as fairer, more effective and beneficial for learning. However, the most commonly used assessment practices are the traditional ones.

Assessment influences the process of teaching, learning and students' performance on the professional future. Also, the assessment methods used influence the feedback given to students and their self regulation of learning.

The Social Sciences and Humanities is the area that uses most learner-centred methods to assess and students in this area associate more positive ideas to assessment. Also, teachers who teach in the Social Sciences and Humanities programmes already used methods of assessment centred on learner before the Bologna Process.

This study suggests recommendations for further research. Research is needed on the influence of the teachers' conceptions of assessment on their assessment practices. It would also be important to understand in which way institutional practices can influence teachers practices and conceptions of assessment. In a broad perspective, research is also needed regarding the students' and teachers' perceptions of assessment after the implementation of the Bologna Process in different European countries and in a comparative perspective. This study also suggests the need of research on changes on the assessment methods after the implementation of the Bologna Process in higher education. At a more specific level, this research also suggests looking at other higher education institutions, national and international, to see if the teachers from Social Sciences and Humanities also did not change their assessment practices with the

implementation of Bologna. The professional development and the issue of assessment emerge from this research. Thus, this research suggests that it is important to consider if the assessment learner-centred practices contribute more to the professional development of teachers than the traditional assessment. Studies are also needed on the relationship between teaching and assessment and the effect on each other. Other questions also emerged. How do teaching strategies influence the assessment? Do teachers make an alignment of these two dimensions of the educational process? It would be important to get answers in this regard, not just on the dimension of perceptions but empirical studies involving methods such as observation of practices.

Research on the effectiveness of the learner-centred assessment in terms of student learning in different levels and fields of knowledge and in different countries is needed. Further research is also needed on specific features of the learner-centred assessment as well on the factors that influence the use of this approach. Findings from this study also point to the need for research on understanding which differences exist in given feedback through oral or written modes in traditional and learner-centred methods. Also, research regarding all phases of self-regulation of learning and the effectiveness and mode of feedback within the context of the use of traditional and learner-centred methods as well as students and university teachers' understandings of feedback in practice is needed. This study also suggests that other issues related to students' monitoring and tutoring in the field of assessment need to be clarified and investigated. The issue of the ideas associated with assessment needs to be investigated further, particularly, the relation between ideas of assessment and traditional and learner-centred assessment. Lastly, the issue of the learner-centred assessment being more used in programmes of Social Sciences and Humanities need to be deepened and compared between institutions of higher education.

The results of this study show that there is still research to be done in the field of evaluation in higher education. However, this research was important not only to raise new research questions in the field of assessment but also to contribute to new knowledge in the field in higher education. Thus this research contributes to the improvement of assessment in higher education and to the quality of learning through the deconstruction of beliefs and practices of university teachers and students.

Finally, research on assessment continually arises, from the earlier times to the present day. Although it stresses that attention should be given to the assessment process as it is a crucial

part of the educational process, more needs to be done to improve teaching, learning and assessment in Higher Education.





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## APPENDICES



## Appendix I. Interview Protocol – University teachers

<b>Guião de Entrevista</b>		
<p>Objetivos Gerais:</p> <ul style="list-style-type: none"> <li>• Compreender as perceções dos docentes do Ensino Superior acerca da avaliação das aprendizagens;</li> <li>• Analisar modos de operacionalização da avaliação por parte dos docentes no contexto pós- Bolonha;</li> <li>• Identificar práticas de avaliação das aprendizagens mais utilizados no ensino superior;</li> <li>• Conhecer potencialidades e dificuldades na operacionalização da avaliação das aprendizagens ao nível do ensino superior;</li> <li>• Compreender a relação entre avaliação e aprendizagem na perspetiva dos docentes;</li> <li>• Analisar as implicações das abordagens e modos de operacionalização da avaliação em termos de ensino e de aprendizagem.</li> </ul>		
<b>Designação dos Blocos</b>	<b>Objetivos Específicos</b>	<b>Formulário de perguntas</b>
<p><b>I</b></p> <p><b>Caraterização pessoal e profissional do docente</b></p>	<p>Obter dados relativos ao contexto pessoal e profissional do docente</p>	<ul style="list-style-type: none"> <li>• Sexo?</li> <li>• Idade?</li> <li>• Universidade em que Leciona?</li> <li>• Que curso (s) leciona?</li> <li>• Que ano (s) leciona?</li> <li>• Categoria profissional</li> <li>• Tempo de serviço em geral</li> <li>• Tempo de serviço no Ensino Superior nesta universidade</li> <li>• Que formação tem?</li> <li>• Em que área?</li> <li>• Já teve formação Pedagógica? Em que áreas?</li> </ul>
<p><b>II</b></p> <p><b>Métodos de avaliação</b></p>	<p>Recolher elementos sobre o modo como o docente caracteriza as suas práticas e contextos</p>	<ul style="list-style-type: none"> <li>• Quais são os métodos de avaliação que mais utiliza?</li> <li>• Porquê?</li> <li>• Que métodos de avaliação considera serem mais eficazes e mais justos?</li> <li>• Porquê?</li> <li>• Quais são os critérios/ parâmetros que mais valoriza na avaliação dos alunos?</li> <li>• Porquê?</li> <li>• Como define ou escolhe os métodos e critérios de avaliação?</li> <li>• Costuma identificá-los ou negocea com os alunos?</li> <li>• Alterou as suas práticas/métodos de avaliação após a</li> </ul>

		<p>implementação do Processo de Bolonha? Porquê?</p> <ul style="list-style-type: none"> <li>• O que alterou?</li> <li>• Quais são as principais dificuldades no processo de avaliação?</li> <li>• Na sua opinião o que poderia ser melhorado ao nível da avaliação no ensino superior?</li> </ul>
<p><b>III</b></p> <p><b>Relação</b> <b>Avaliação/Ensino/Aprendizagem</b> <b>e Competências adquiridas</b></p>	<p>Obter dados relativos às perceções do docente sobre a relação Avaliação/Ensino/Aprendizagem</p> <p>Obter dados relativos às perceções e práticas dos docentes em relação às competências adquiridas pelos alunos</p>	<ul style="list-style-type: none"> <li>• Considera que as práticas de avaliação utilizadas influenciam o processo de ensino e de aprendizagem? Em que medida?</li> <li>• Na sua opinião quais são os métodos de avaliação que potenciam mais a aprendizagem dos alunos? Porquê?</li> <li>• Dos métodos que utiliza, e tendo em conta a sua experiência enquanto professor, quais são os métodos de avaliação mais eficazes em termos de ensino e de aprendizagem? Porquê?</li> <li>• Já alterou as suas práticas ou metodologias de ensino em função dos métodos de avaliação que tem utilizado? Porquê?</li> <li>• Na sua opinião, e tendo em conta a sua experiência, que tipo de avaliação poderá ajudar os alunos a aprender melhor?</li> <li>• E que tipo de avaliação poderá estimular os alunos a aplicarem o conhecimento em contextos/situações reais? Porquê?</li> <li>• Considera que a avaliação deve incidir sobre as competências técnicas (por ex: domínio dos conhecimentos) mas também as competências transversais (por ex: trabalho em equipa, competências de liderança)? Porquê?</li> </ul>

<p style="text-align: center;"><b>IV</b></p> <p style="text-align: center;"><b>Modalidades e Funções de avaliação</b></p>	<p>Obter dados relativos às percepções e práticas dos docentes sobre a modalidades e funções de avaliação</p> <p>Recolher elementos relativos às percepções dos docentes sobre as funções da avaliação e sobre o modo como o docente caracteriza as suas práticas em relação às mesmas</p> <p>Observações e comentários</p>	<ul style="list-style-type: none"> <li>• Costuma utilizar a auto avaliação?</li> <li>• E a heteroavaliação? Como as concretiza? (ficha escrita, oralmente, etc.) Porquê?</li> <li>• Na sua opinião quais são as vantagens da auto e da hetero avaliação? E os inconvenientes?</li> <li>• Em geral, em que momento avalia as aprendizagens dos alunos, no início do semestre, durante o semestre, no fim do semestre, ou sempre que o aluno realiza uma tarefa? Porquê?</li> <li>• Costuma utilizar a avaliação formativa? Porquê?</li> <li>• E a avaliação sumativa? Quando?</li> <li>• Costuma utilizar o feedback? Se sim, como e quando?</li> <li>• Utiliza mais o feedback oral ou escrito?</li> <li>• De acordo com a sua experiencia qual tem sido o feedback mais eficaz ?(oral, escrito, individual, coletivo). Porquê?</li> <li>• Quer acrescentar alguma coisa?</li> </ul>
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Obrigada pela sua participação.



## Appendix II. Interview transcript (example)

### Entrevista presencial #47 – professores universitários

I Caraterização pessoal e profissional do professor universitário
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<b>Sexo?</b>
Masculino.

<b>Idade?</b>
55 anos.

<b>Que curso (s) leciona?</b>
Ciências da Educação.

<b>Que ano (s) leciona?</b>
1° e 3° ano.

<b>Categoria Profissional?</b>
Professor Auxiliar.

<b>Tempo de serviço em geral?</b>
28 anos.

<b>Tempo de serviço no ensino superior nesta universidade?</b>
28 nos.

<b>Que formação tem?</b>
Licenciatura, provas de aptidão e doutoramento.

**Em que área?**

Sociologia.

**Já teve formação Pedagógica? Em que áreas?**

Não, eu tenho autoformação pedagógica, como sou de sociologia fui aprendendo. Há um percurso que teve a ver com a carreira com as provas e depois há uma aprendizagem contínua. Eu faço é ações de formação há quase 30 anos.

## II

### Métodos de avaliação

**Quais são os métodos de avaliação que mais utiliza? Porquê?**

Trabalho há muitos anos com o trabalho de grupo. É um trabalho com pesquisa empírica, criativo, apelativo com temas importantes, o meu trabalho é muito prático, é uma sociologia prática ligada à atualidade e a temas interessantes. A outra componente normalmente é uma revisão crítica, os alunos escolhem textos que forneço e às vezes são pequenos ensaios presenciais que respondem numa aula. O trabalho que desenvolvo é muito próximo dos alunos com muita investigação, pequenas pesquisas empíricas. Uma avaliação contínua, métodos ativos muito baseados na interação, comunicação, diálogo com os alunos numa lógica, pedagógica ligada à autonomia. Faço apresentações em grupo para apresentar o trabalho.

**Que métodos de avaliação considera serem mais eficazes e mais justos? Porquê?**

Os métodos de avaliação, bem nunca coloquei a questão da eficácia, eu coloco a questão do valor formativo, digamos do interesse pedagógico, porque a avaliação é secundária e tem de ser o mais justa possível em função do esforço, motivação e envolvimento dos alunos. Dou mais peso à componente individual. Eu já faço isto há muitos anos com turmas enormes mesmo antes de Bolonha. Praticamente acabei com as aulas teóricas, agora são muito didáticas e de diálogo e conversa. Nas minhas aulas não há papel, envolvem música, fotografia, filmes e power points. Por ano oriento uns 40 trabalhos assim ou mais, a questão da eficácia é a eficácia formativa, estes trabalhos mexem com os alunos. A universidade não tem que dar uma formação muito profunda mas sensibilizar, dar pistas, mostrar e abrir caminho para a autonomia, para eles construírem. O método clássico, expositivo, esse sim é ineficaz e mesmo do ponto de vista comunicacional já não funciona porque estamos perante uma geração que tem uma atitude diferente relativamente ao discurso prolongado. São eficazes no sentido se avaliação for coerente com a estratégia pedagógica e formativa e dar conta de maneira justa de todo o processo de ensino e aprendizagem, envolvendo professores e alunos. Embora a avaliação tenha uma componente subjetiva a maior parte é objetiva porque vemos e conseguimos diferenciar. Eu tenho uma interação muito próxima dos alunos e trabalho muito com eles a motivação.



**Quais são os critérios/ parâmetros que mais valoriza na avaliação dos alunos? Porquê?**

A participação, por exemplo. Todos os critérios são discutidos e negociados com os alunos também. A qualidade da pesquisa, a qualidade dos materiais, a reflexão, etc. No entanto, a ideia da participação é uma fraude, porque a maioria dos meus colegas dizem em reunião que normalmente não conseguem avaliar isso da participação ou não.

**Como define ou escolhe os métodos e critérios de avaliação?**

Os métodos são constantes, só variam os temas de semestre para semestre. Não há reprodução de matérias comigo só construção.

**Costuma identificá-los ou negocea com os alunos?**

Sim negoceo.

**Alterou as suas práticas/métodos de avaliação após a implementação do Processo de Bolonha? Porquê?**

**O que alterou?**

Não, já há muito tempo que trabalho com esses métodos, desde o princípio, percebi desde há muito tempo que essa era a melhor maneira de trabalhar embora dê muito trabalho. Mas isto traz implicações na carreira, eu se não fosse assim a esta hora tinha muitos artigos escritos e livros, isto tem um preço. No meu departamento somos incentivados a não descurar a parte pedagógica mas o que interessa para a carreira são as publicações e eu estou a fazer ao contrário. Este meu trabalho não é reconhecido, mesmo entre os colegas de departamento. A crítica que existe relativamente ao chamado individualismo pedagógico dos professores do básico e secundário também existe na universidade em altíssimo grau. Nós, no departamento, não conhecemos as práticas efetivas dos colegas, não há partilha, só apenas o que está disponibilizado online. Nem há cultura de partilha e conversa entre os colegas, ninguém vem ter comigo para saber que práticas uso. Apesar de termos instituído o Processo de Bolonha a percentagem de professores que trabalha ao contrário do modelo de Bolonha deve ser enormíssima na Universidade. Eu no fundo estou-me a tramar, se calhar sou um utópico e idealista porque tenho muita atenção com as partes pedagógicas, porque nenhum colega me vai perguntar que métodos uso e qual a minha relação com os alunos, mas sim o que tenho publicado o resto não interessa nada, o que interessa é a manutenção do emprego. Tenho que reconhecer que os colegas estão no meio de tensões e pressões porque são avaliados e disso depende o lugar e o emprego na universidade. E depois, lá fora, por exemplo, na Finlândia as coisas são diferentes pois têm no máximo doze alunos por turno, não tem nada a ver com o nosso sistema.

**Quais são as principais dificuldades no processo de avaliação?**

Volume de trabalho, dificuldades operacionais, prazos para fazer avaliação porque se temos muitas turmas e temos um deadline apertado isso é uma dificuldade e pode por em causa a avaliação. E as condições de trabalho também.

**Na sua opinião o que poderia ser melhorado ao nível da avaliação no ensino superior?**

Acho que o que pode ser melhorado é ... penso que deviam na medida do possível criar condições para o ensino de metodologias e pedagogias ativas, dinâmicas e altamente formativas, porque daí há a implicação dos métodos terem de ser coerentes com essa estratégia e orientação. Mais do que avaliação é preciso mudar as práticas pedagógicas, a estratégia formativa e o modelo pedagógico e formativo da universidade. As aulas teóricas expositivas há mais de duas décadas que nos países da Europa foram abandonadas. Bolonha pressupõe que o professor coordene, oriente, acompanhe e se envolva com os alunos. As aulas teóricas têm de ser dadas de outras formas e há colegas que continuam a dar aulas de duas horas de intervalo. E o défice de atenção dos alunos diminui de uma forma cultural, devido às tecnologias, o facebook, o twitter são tudo meios de resposta rápida, curta e incisiva, e o modelo universitário tradicional é longo, expositivo, prolongado, já não funciona pois coloca o aluno numa posição passiva e reprodutiva, é preciso fazer um corte para o cidadão autónomo e reflexivo. O número de aulas por semestre é muito baixo, na minha opinião trabalha-se muito pouco em Portugal em termos de semana e temos limites, e quando aplico este meu método de trabalho de grupo tenho que reservar 4 aulas para debate e torna-se difícil, é uma coisa que poderia ser também melhorada. E outra coisa, os grupos de trabalho são hoje em dia uma frente de combate que fragmentam o trabalho, por vezes dividem-se, por exemplo num grupo de quatro em dois fazem o trabalho para uma unidade curricular e outros dois para outra, isto realmente acontece porque não têm tempo.

**III**

**Relação Avaliação/Ensino/Aprendizagem e Competências adquiridas**

**Considera que as práticas de avaliação utilizadas influenciam o processo de ensino e de aprendizagem?**

**Em que medida?**

Sem dúvida, é o que eu vejo, até pode anular a aprendizagem. Um professor que define logo um modelo expositivo e que faz isso 30 anos ele condiciona a aprendizagem e condiciona tudo. Porque o docente ao fazer isso, ao lecionar tendo como base o ensino tradicional, centra-se nele e protege-se na sua carreira e põe a aprendizagem do aluno para 2º plano. E isso acontece aqui nas Ciências da Educação, que há uma competitividade dos próprios docentes em publicar e a parte pedagógica fica descurada. As outras metodologias sem ser as tradicionais dão muito trabalho a por em prática e por isso muitos professores não o fazem. Os Europeus não conseguiriam trabalhar nas condições que nós trabalhamos tal como os suíços, alemães, noruegueses que trabalham no máximo com 12 alunos, ao contrário do que se faz em Portugal, eles não conseguiriam trabalhar cá.

**Na sua opinião quais são os métodos de avaliação que potenciam mais a aprendizagem dos alunos? Porquê?**

São os métodos ativos como já referi antes.

**Dos métodos que utiliza, e tendo em conta a sua experiência enquanto professor, quais são os métodos de avaliação mais eficazes em termos de ensino e de aprendizagem? Porquê?**

Os mais eficazes são aqueles que são coerentes com uma estratégia de ensino ativo, virado para a autonomia e aprendizagem e não para a seleção e reprodução e para a mera obtenção de vantagens competitivas, ou seja as notas. Aqui há uma luta por notas e não por conhecimento.

**Já alterou as suas práticas ou metodologias de ensino em função dos métodos de avaliação que tem utilizado? Porquê?**

Nunca mudei. Eu tenho uma constância desde sempre, porque resulta sempre bem. O meu método pedagógico é intuitivo e tem a ver com a minha personalidade e funciona bem.

**Na sua opinião, e tendo em conta a sua experiência, que tipo de avaliação poderá ajudar os alunos a aprender melhor?**

Uma avaliação formativa, não tenho dúvidas, como já disse. Todo o modelo expositivo e reprodutivo suscita no aluno um desprendimento intelectual, porque não participa nem está motivado para isso. Portanto, esse modelo tradicional não é o indicado. Mas nas nossas universidades as nossas práticas infelizmente estão muito longe de Bolonha, ou são professores voluntaristas que mesmo sem condições tentam superar as coisas ou então é impossível, porque o modelo de avaliação formativa necessita de mais professores, mais recursos, mais tecnologia e o nosso país não financia isso.

**E que tipo de avaliação poderá estimular os alunos a aplicarem o conhecimento em contextos/situações reais? Porquê?**

Avaliação no sentido de levar os alunos a pensar e a refletir sobre as realidades práticas. Fazer a articulação muito clara entre a universidade e a vida, os contextos, as situações, o futuro campo social e profissional, a sociedade e o mundo em que vivem, essa é que é a verdade. Por isso dou temas aos alunos para realizarem os trabalhos sobre a realidade portuguesa e internacional, temas que vão ser confrontados, portanto ligar a universidade á vida, ao que está lá fora, para obrigá-los a pensar.

**Considera que a avaliação deve incidir sobre as competências técnicas (por ex: domínio dos conhecimentos) mas também as competências transversais (por ex: trabalho em equipa, competências de liderança)? Porquê?**

As competências transversais são muito importantes e faço esse treino com eles, eles trabalham em grupo, dialogam, etc., mas os alunos ao dividirem o trabalho entre eles e ao

fragmentarem o trabalho não adquirem essa competência de se relacionar em grupo e por vezes é difícil contornar. Duvido que esta competência seja treinada a sério mas a responsabilidade não pode ser atribuída ao professor porque eles são maiores e deveriam ser responsáveis. Se eles quisessem nem que fosse por *Skype* arranjavam tempo para fazer os trabalhos em conjunto. E há também cada vez mais casos de fraude e de plágio.

#### IV

#### Modalidades e Funções de avaliação

**Costuma utilizar a auto avaliação? E a heteroavaliação?**

Não nem pensar.

**Na sua opinião quais são as vantagens da auto e da hetero avaliação? E os inconvenientes?**

Profundamente errado, a auto avaliação vale a pena mas precisa de condições muito boas e para ser realista para mim não dá com estas condições. A heteroavaliação por amor de deus é um erro total. A responsabilidade de avaliar é do professor, por isso só gera mau estar entre eles, competição, vingança e manipulação e eles não estão em condições para fazer isso porque se gera um enorme problema. A avaliação implica uma relação institucional entre aquele que sabe mais que é legítimo e o que não sabe, isso é colocar o aluno ao nível do professor, é uma moda e perigosíssima, isso dá cabo de uma turma.

**Em geral, em que momento avalia as aprendizagens dos alunos, no início do semestre, durante o semestre, no fim do semestre, ou sempre que o aluno realiza uma tarefa? Porquê?**

Continua, ao longo do semestre.

**Costuma utilizar a avaliação formativa? Porquê?**

Sim como tenho vindo a dizer é a mais importante. Corresponde à minha ideia de universidade e aquilo que é o trabalho do professor e corresponde à minha ideia de ética e de responsabilidade para com o aluno pois é uma conceção de educação. De outro modo vinha aqui vender umas aulas ou nem precisava de vir cá. O modelo formativo é o mais importante.

**E a avaliação sumativa? Quando?**

Sim porque sou obrigado a traduzir tudo numa nota. Porque a universidade seleciona e distribui.

**Costuma utilizar o feedback? Se sim, como e quando?**

Já utilizo o feedback há muitos anos e é um direito dos alunos. O professor não pode recusar-se. O que acontece hoje é que os alunos não vêm ter com o professor por diversos fatores, e também há uma maior distância entre os professores e alunos mas mais por parte dos alunos.

Utiliza mais o feedback oral ou escrito?

Oral devido ao tipo da minha relação com os alunos.

De acordo com a sua experiência qual tem sido o feedback mais eficaz? (oral, escrito, individual, coletivo). Porquê?

Dou feedback oral á turma e individualmente sempre em diálogo, penso que é o mais importante.



## Appendix III. Questionnaire



Universidade do Minho  
Instituto de Educação

### Questionário sobre Avaliação das Aprendizagens no Ensino Superior

Este questionário insere-se no contexto de um projeto de investigação no âmbito do Doutoramento em Ciências da Educação, especialização em Desenvolvimento Curricular, na Universidade do Minho, financiado pela Fundação para a Ciência e Tecnologia (SFRH/BD/76175/2011) e tem como principal objetivo conhecer as perceções dos alunos do 3º ano do Ensino Superior, a frequentar cursos em várias áreas do saber, sobre a avaliação das aprendizagens. O questionário é anónimo, garantindo-se a confidencialidade dos dados, que servem apenas para efeitos de investigação. A sua colaboração é muito importante.

*O preenchimento do inquérito tem uma duração média de 15 minutos.*

**Por favor, responda a este questionário tendo em conta as unidades curriculares que está a frequentar no 3º ano (ano letivo de 2012/2013).**

Sexo: F  M

Idade:

Curso:

**1. Tendo em conta a sua experiência enquanto aluno/a do ensino superior, por favor indique as ideias que associa à avaliação.**

Utilize a seguinte escala: Nada, Pouco, Bastante, Muito.

	Nada	Pouco	Bastante	Muito
Verificação de conhecimentos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Negociação	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Participação	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Imposição	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Conflito	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sucesso	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Notas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Testes/Exames	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reflexão	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aprendizagem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Injustiça	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ajuda	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ansiedade/ <i>stress</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Receio/medo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outro(s), qual(is)?				

2. Tendo em conta a sua experiência enquanto aluno/a, no ano letivo em curso, por favor indique o grau de frequência com que são utilizados estes métodos de avaliação pelos docentes no curso e ano que está a frequentar.

Utilize a seguinte escala: NU=Nada Utilizados; PU=Pouco Utilizados; BU= Bastante Utilizados; MU=Muito Utilizados.

	NU	PU	BU	MU
Testes/Exames escritos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Testes ou exames orais	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Portefólios coletivos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Portefólios individuais	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trabalhos práticos ou experimentais individuais	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trabalhos práticos ou experimentais em grupo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Projeto realizado individualmente	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Projeto realizado em grupo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Relatórios individuais	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Relatórios em grupo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reflexões escritas individuais	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reflexões escritas em grupo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Apresentações orais individuais	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Apresentações orais em grupo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outro(s), qual(is)?				

3. Assinale o grau de concordância ou discordância em relação às afirmações que se seguem.

Utilize a seguinte escala: DT=Discordo Totalmente; D=Discordo; NCND=Nem Concordo nem Discordo; C=Concordo; CT=Concordo Totalmente.

	DT	D	NCND	C	CT
A avaliação é mais eficaz quando me estimula a aplicar o conhecimento em contextos/situações reais.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A avaliação é mais eficaz quando me permite melhorar as minhas competências técnicas ou científicas (relacionadas com a minha área de conhecimento).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A avaliação é mais eficaz quando me permite melhorar simultaneamente as minhas competências técnicas e transversais (pesquisa e seleção de informação, trabalho em equipa, etc).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A avaliação é mais justa se for feita individualmente mesmo que se promova o trabalho em grupo nas aulas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A avaliação é mais eficaz quando contribui para o aprofundamento das minhas aprendizagens.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A avaliação é mais justa quando inclui testes ou exames escritos.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A avaliação é mais justa quando eu também faço a minha autoavaliação.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A avaliação é mais justa quando inclui avaliação feita pelos pares/colegas (heteroavaliação).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A avaliação é mais justa quando existe quer autoavaliação, quer heteroavaliação.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



	DT	D	NCND	C	CT
Dedico mais horas ao estudo quando a avaliação é realizada através de portefólios, projetos ou reflexões.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Os testes ou exames escritos permitem uma avaliação das aprendizagens mais eficaz.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A avaliação feita com base em portefólios, projetos ou reflexões permitem o desenvolvimento de novas aprendizagens.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A avaliação feita com base em portefólios, projetos ou reflexões permitem que eu desenvolva o pensamento crítico.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Os testes ou exames escritos permitem uma avaliação das aprendizagens mais justa.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A avaliação é mais justa quando os docentes utilizam pelo menos dois métodos de avaliação diferentes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
De um modo geral, a metodologia de avaliação nas Unidades Curriculares do ano que estou a frequentar (3º ano) é decidida somente pelo(s) docente(s).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Os portefólios, projetos ou reflexões permitem uma avaliação das aprendizagens mais justa.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Normalmente, esqueço a maior parte da matéria que estudei depois de fazer o exame/teste.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dedico mais horas ao estudo quando a avaliação é realizada através de testes ou exames.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sinto-me mais confiante quando sou avaliado/a por testes ou exames.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sinto-me mais confiante quando sou avaliado/a por um método de avaliação que não seja o exame ou teste.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sinto-me mais confiante quando sou avaliado/a por métodos de avaliação em que participo ativamente na realização das tarefas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Normalmente, só estudo os conteúdos programáticos que integram as provas de avaliação.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Os portefólios, projetos ou reflexões permitem uma avaliação das aprendizagens mais eficaz.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quando me preparo para um exame só começo a estudar pouco tempo antes da realização da prova e não ao longo do semestre.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quando realizo um projeto ou portefólio vou estudando ao longo do semestre.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Em geral, sou solicitado a realizar uma autoavaliação.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Em geral, costumo participar na avaliação dos meus colegas (heteroavaliação).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
De um modo geral, a avaliação das aprendizagens realiza-se ao longo do semestre.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
De um modo geral, a avaliação das aprendizagens realiza-se somente no final do semestre.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
De um modo geral, a avaliação das aprendizagens ocorre sempre que realizo uma tarefa ou atividade.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
De um modo geral, a metodologia de avaliação nas Unidades Curriculares do ano que estou a frequentar (3º ano) é discutida e negociada com os alunos.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Normalmente, não esqueço a matéria que estudei depois da realização de um trabalho prático, portefólios ou projetos.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## IIª Parte

4. De seguida encontram-se algumas afirmações relativamente ao *feedback* dado pelo professor e à sua relação com a aprendizagem no ensino superior. Considere o conjunto das Unidades curriculares que frequentou/frequenta este ano e registre o seu grau de acordo com cada uma.

Utilize a seguinte escala: DT= Discordo Totalmente; D= Discordo; NCND= Não Concordo nem Discordo; C= Concordo; CT= Concordo Totalmente.

O <i>feedback</i> do(s) professor(es), em geral:	DT	D	NCND	C	CT
Ao longo do semestre, ajudou-me a verificar se a forma como estou a trabalhar me permite atingir os objetivos a que me propus.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Senti que não teve em conta o que fiz.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Desmotivou-me de continuar a trabalhar.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No final do semestre, ajudou-me a repensar os procedimentos face ao estudo.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Deu mais ênfase aos aspetos positivos.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Não teve correspondência com os critérios de avaliação da(s) unidade(s) curricular(es).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Explicitou com clareza, o que eu precisava de fazer para atingir os objetivos.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fez-me sentir que o meu trabalho não teve valor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Foi difícil de compreender.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Permitiu-me comparar o meu desempenho com o desempenho ideal.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Explicitou com clareza, os aspetos mais conseguidos e os menos conseguidos do meu trabalho.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Senti-o como uma informação que devia valorizar.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No final do semestre, ajudou-me a refletir sobre os resultados que obtive.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Deu-me confiança no meu trabalho.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No início do semestre, ajudou-me a definir as metas a atingir no meu desempenho escolar.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Não foi oportuno quando foi dado, já não me permitiu melhorar o meu desempenho.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Permitiu-me efetivamente melhorar o meu desempenho.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No início do semestre, ajudou-me a planear as estratégias a utilizar para atingir as metas a que me propus.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Senti-o como uma crítica construtiva.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ao longo do semestre, ajudou-me a verificar se necessito de reformular as minhas estratégias de aprendizagem.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### 5. O que significa *feedback* para mim?

Diana Pereira

E-mail: [dianapereira@ie.uminho.pt](mailto:dianapereira@ie.uminho.pt)

Se pretender acrescentar algum comentário sobre os temas abordados, por favor, utilize o verso da folha.

Se desejar conhecer os resultados deste estudo, por favor entre em contacto por e-mail.

Muito obrigada pela sua colaboração.

## Appendix IV. Research Protocol

### Protocolo de Investigação

Encontro-me neste momento a realizar um estudo sobre a avaliação das aprendizagens no Ensino Superior no âmbito do Doutoramento em Ciências da Educação, especialidade em Desenvolvimento Curricular, a realizar na Universidade do Minho, no contexto de uma bolsa de doutoramento da Fundação para a Ciência e Tecnologia (SFRH/BD/76175/2011), sob orientação da Professora Doutora Maria Assunção Flores. O objetivo principal deste estudo é compreender e analisar as perceções dos estudantes e dos docentes do Ensino Superior acerca da avaliação das aprendizagens em 5 Universidades Públicas Portuguesas no sentido de contribuir para a melhoria da qualidade dos processos de ensino, aprendizagem e avaliação no ensino superior. Mais especificamente, pretende-se:

- Conhecer as perspetivas e representações dos alunos e dos docentes acerca da avaliação das aprendizagens no ensino superior;
- Identificar as metodologias de avaliação mais utilizadas no ensino superior a partir das perspetivas dos estudantes e dos docentes;
- Conhecer potencialidades e dificuldades na operacionalização da avaliação das aprendizagens ao nível do ensino superior na perspetiva de alunos e docentes;
- Compreender a relação entre avaliação e aprendizagem na perspetiva de estudantes e docentes;
- Analisar as implicações das abordagens e modos de operacionalização da avaliação em termos de ensino e de aprendizagem.

Neste sentido, venho informar e solicitar permissão para realizar este estudo que implica a recolha de dados através de inquérito por questionário (a estudantes do 3º ano) e de entrevistas a docentes (que lecionam no 3º ano). Os cursos envolvidos neste estudo serão Medicina, Enfermagem, Farmácia, Bioquímica, Engenharia Mecânica, Matemática, Geologia, Biologia, Direito, Economia, Ciências da Educação e Educação Básica. Os dados serão confidenciais e serão apenas utilizados para efeitos de investigação.

A investigadora,

Presidente da Faculdade



## Appendix V. E-mail sent to university teachers (example)

Exmo. Sr. Professor Doutor

Chamo-me Diana Pereira e estou a desenvolver um projeto de investigação no âmbito do Doutoramento em Ciências da Educação, especialidade em Desenvolvimento Curricular, na Universidade do Minho, financiado pela FCT (SFRH/BD/76175/2011), e subordinado ao tema “Avaliação no Ensino Superior e Qualidade das Aprendizagens: Crenças, Práticas e Implicações”.

Venho por este meio solicitar a colaboração de V. Ex.cia neste estudo, nomeadamente através da **participação numa entrevista** na qualidade de docente do 3º ano da **Licenciatura X** cuja duração se prevê de 30 minutos. Os dados serão confidenciais e serão apenas utilizados para efeitos de investigação.

Em anexo segue o protocolo de investigação. De referir que participam neste estudo 5 universidades públicas portuguesas em diferentes áreas: Medicina, Enfermagem, Farmácia, Bioquímica, Engenharia Mecânica, Matemática, Geologia, Biologia, Direito, Economia, Ciências da Educação e Educação Básica.

Desde já, apresento-lhe os meus sinceros agradecimentos pela sua disponibilidade e colaboração.

Estou ao dispor para esclarecimentos julgados oportunos.

A investigadora

Diana Pereira