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**INVESTIGATING DIFFERENT TYPES OF
ASSESSMENT IN MASSIVE OPEN ONLINE
COURSES**

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**INSTITUTE OF EDUCATIONAL TECHNOLOGY
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**MASTER OF RESEARCH METHODS
(EDUCATIONAL TECHNOLOGY)
(MRES) DISSERTATION**

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“The roots of education are bitter but the fruit is sweet”

Aristotle

Abstract

The current technological era has largely influenced the development of learning environments. As a result, there are new opportunities for teaching, learning and assessment. The emergence of Massive Open Online Courses (MOOCs) in particular, has attracted the attention of higher education institutions and course designers. MOOCs may provide the opportunity to thousands of students to learn from anywhere and at their convenience. Assessment is a component of the learning environment that drives student learning. However, only a small proportion of existing literature on assessment investigates its use for the enhancement of educational growth as most of the literature is concerned with how to use assessment for purposes of grading and ranking (Rowntree, 1987). Assessment has a double role in learning by both motivating students to study in order to undertake it, but also providing the necessary feedback on their performance so that students can track their learning progress (Rowntree, 1987).

Research in MOOCs is currently growing, focusing on different aspects such as the “questionable course quality, high dropout rate, unavailable course credits, complex copyright, limited hardware and ineffective assessments” (Chen, 2014). Assessment in MOOCs has been mostly investigated from a perspective that is looking at: how the grading load can be diminished by adopting automated techniques, the aims of each technique, and finally new potential approaches that will be able to assess high-level cognition. Summing up, researchers are currently testing tools that will be automatically scoring essays and giving feedback to learners in an effective way (see Balfour, 2013). However, the learners’ voice and standpoint about the different assessment types in the MOOCs context is inconclusive in the current literature and there is need for more research.

This study explores learners’ views on assessment types in Massive Open Online Courses, whether any of these has an impact on their enrolment and completion of a course and in what aspects each type of assessment is effective in supporting their learning experience. Auto-assessment, peer-assessment and self-assessment are the types under investigation as they are frequently used in MOOCs and therefore are the most commonly discussed in literature (see Balfour, 2013, Suen, 2013, Wilkowski et al, 2014). The study draws upon literature on assessment in general and on assessment in MOOCs in particular. The concept of online communities, i.e. the learners that appear in MOOCs will also be discussed in detail.

Online ethnographic approaches are employed to explore the issue in question by using online interviewing and observation methods. Thematic analysis is carried out using a sample of 12 MOOCs participants from online interviews and 13 posts of online observations. The outcome of this qualitative research study reveals that even though participants identify benefits in peer assessment, there is a preference for automated assessment since it is an already known, clear type of assessment for them. Moreover, self-assessment is not popular by participants. Learners’ comments also reveal that a clear guidance for assessment helps them to carry out peer assessment more effectively. Some learners also consider that the combination of assessment types may also have a positive effect on students’ learning as each of them serves a different purpose.

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Chapter 1: Introduction

The current technological era has largely influenced the development of learning environments which provide new opportunities for teaching, learning and assessment. Universities and Colleges have been using online platforms to offer open courses since 2008, especially in North America (Liyanagunawardena et al., 2013). These courses were named as Massive Open Online Courses (MOOCs) in 2008 by Cormier describing Siemens and Downes' "Connectivism and Connective Knowledge" course (Yuan & Powell, 2013). MOOC providers claim that they can offer free access, cutting edge courses that will drive down the cost of university level education and potentially disrupt the existing models of Higher Education (HE) (Yuan & Powell, 2013). However, Yuan & Powell (2013), suggest that the great attention to MOOCs has also raised many concerns and criticisms in educational fora related to issues of sustainability, pedagogy, quality, completion rates as well as the awarding of Higher Education credit for MOOCs. Therefore, there is an ongoing debate with regards to MOOCs and their place in Higher Education.

For all the above reasons, academic research in MOOCs is currently growing, and shows that several challenges need to be addressed by researchers, such as the questionable course quality, the high dropout rate, the unavailable course credits, the complex copyright, the limited hardware and the ineffective assessments (Chen, 2014). From all these challenging topics, the focus of this study was selected to be assessment, which is important for a number of reasons.

Assessment in general, drives student learning (Rowntree, 1987) and it has various purposes. Firstly, assessment works as a motivation factor for students, encouraging them to learn (Rowntree, 1987). Another purpose for assessment is to provide feedback to students related to their performance during assessment exercises, making them learn through their mistakes (Rowntree, 1987). Literature in assessment research in MOOCs has focused on reviewing or testing new potential approaches that will be able to measure high-level cognition (see Suen, 2014; Balfour, 2013). Researchers are testing tools that aim to automatically score essays and give feedback to learners in an effective way (see Balfour, 2013). However, the learners' voice and standpoint about the different assessment types in MOOCs is not prominent in the current literature and further research is required.

Therefore, the aim of this study is to examine learners' views on assessment in Massive Open Online Courses (MOOCs) as this environment is fast growing and MOOCs have become a trend in Higher Education. Since these courses are massive, an issue that occurs is the fact that assessment (British term) or evaluation (American term) is a difficult task because of the huge number of students and the small number of experts available (Wilkowski et al, 2014; Diez et al, 2013; Nguyen et al, 2013; Shah et al, 2013). Researchers' investigations on diverse techniques of assessing students faster and more efficiently are in progress.

Research on published papers from 2013 to 2014 on Google scholar, filtering by key words MOOCs and assessment, showed that there is a considerable number of published studies. In addition, published work filtered by key word "assessment" was investigated via a MOOC research literature browser created by Katy Jordan

(<http://www.katyjordan.com/moocliterature/>). This series of search resulted in 19 papers, discussing the different assessment types in MOOCs. The literature research showed a lack of extensive academic work on the subject. The papers found largely focus on how the grading load will be diminished by adopting automated techniques (see Kulkarni et al., 2014; Balfour, 2013) and will be discussed in detail in Chapter 2. In these papers, auto-assessment, peer-assessment and self- assessment are the types mostly used in MOOCs and therefore, they will be the types investigated in this study.(see Balfour, 2013; Suen, 2014; Wilkowski et al, 2014).

In automated assessment, students are asked to answer multiple choice questions or quizzes and they obtain direct automated feedback with the wrong and right answers. Another type of evaluation is peer assessment. In this type of assessment students usually write an essay and they are subsequently asked to assess another peer's work. A third common assessment type is self-assessment, in which students are asked to assess their own piece of work.

This dissertation is organised as follows. In chapter 2, MOOCs' emergence, their definition and their categorisations are briefly analysed. Furthermore, research conducted so far related to MOOCs is discussed. The study draws upon literature on assessment in general and on assessment in MOOCs in particular. The definition of assessment, its purposes as well as the types of assessment in MOOCs are explored. Apart from the concept of assessment, the concept of online communities, i.e. the learners that appear in MOOCs will also be discussed in detail.

Online ethnographic approaches that were employed in order to answer the research questions are discussed in Chapter 3. Online interviewing and observation methods were used for the data collection procedure and are analysed with reference to existing literature. The thematic analysis that was carried out, using the data collected from the online interviews and posts from the online observations, is explored in the same Chapter. The choice of sample and ethical guidelines and considerations are examined.

The details of demographic information on the participants of this study are provided in Chapter 4. Online synchronous interviews, for which 12 participants were recruited through a Facebook Group of MOOCs and were selected according to their experience with MOOCs, are also discussed. Additionally, in the same Chapter, online observations, that have been employed in order to investigate Facebook posts of groups set up specifically for MOOCs, are analysed. Finally, the themes that emerged from the thematic analysis of interviews and observations are explored in this chapter.

Chapter 5 presents in detail the data analysis of this study, which is subsequently discussed in Chapter 6, along with the limitations and implications for future research. The outcomes of this qualitative research study reveal that even though participants identify benefits in peer assessment, they have a preference for automated assessment because it is a familiar, clear type of assessment for them. Self-assessment is not popular by participants. Learners' comments also reveal that a clear guidance helps them carry out peer assessment more effectively. Some learners also consider that the combination of assessment types may also have a

positive effect on students' learning as each type of them serves a different purpose. A theme that became apparent through this research study was the socio-cultural impact on students' views on assessment, such as expecting to be marked by a superior. This theme may be considered for future research in the context of the global offer of MOOCs.

This research study focuses on how learners cope with these various types of assessment in MOOCs, and to what extent each type of assessment influences enrolment and consequently completion of the course. Additionally, the study examines how effective learners feel each type of assessment is contributing to their learning. The types of assessment investigated are auto-, peer- and self-assessment. The research questions that this study attempts to answer are:

- How do learners view the different types of assessment in MOOCs?
- To what extent does each type of assessment influence enrolment and consequently their completion of a course?
- How effective do they feel each type of assessment is in their learning?

The outcomes of this research study may be beneficial for developers, designers and educational researchers of online courses and MOOCs. Moreover, throughout this study, participants will get the opportunity to reflect on their practices related to courses they have participated in or completed. They will also become familiar with the different types of assessment they have already used during their courses. Finally, they will potentially also benefit from any future MOOCs they will participate in.

Chapter 2: Literature Review

MOOCs is a fast-developing phenomena which attracts continual research and discourse as their numbers grow and they are of interest to the educational community (Clow, 2013). Moreover, it is widely discussed that MOOCs may provide free access, cutting edge courses that will drive down the cost of university level education and potentially disrupt the existing models of Higher Education (Yuan & Powell, 2013). However, there are also several issues that need to be addressed in the context of MOOCs such as the uncertain course quality, the high dropout rate, the unavailable course credits, the complex copyright, the limited hardware and the ineffective assessments (Chen, 2014). In particular, this study will be focusing on assessment in the context of MOOCs.

The aim of this literature review is first to describe the context in which MOOCs operate, to define them, trace their emergence and discern them in their two categories (xMOOCs and cMOOCs). As the study's central focus is assessment and its different types in the MOOCs environment, the definition of assessment and its purposes will be examined as well as the forms that assessment can take (formative or summative). The types of assessment that are commonly used in MOOCs in particular will be reviewed. Moreover, research that has been conducted in MOOCs contexts relating to the types of assessment that are most commonly used will be presented and analysed. This review will also refer to literature about assessment in other (online) learning environments and learners' attitudes towards them. MOOCs settings and other online learning settings have similar means by which assessment is communicated to learners at a distance, but there is need for more research on MOOCs learners' views and perceptions as MOOCs have some distinct characteristics. The concept of online communities, that inform the study, will be also examined. Finally, the research questions that will be investigated will close this chapter in the light of this literature review.

2.1. MOOCs Emergence, Definition and Categorisation

The term MOOC originated in Canada when Cormier and Alexander introduced it to describe an online course on "Connectivism and Connective Knowledge" (McAulay et al., 2010). MOOCs emerged and gained more attention recently in the United States given that many prestigious academic institutions such as Harvard, MIT, Stanford are also offering free online courses in diverse subjects (i.e. Engineering, Humanities etc.) to learners around the world (Lewin, 2012). A definition of a MOOC, according to ELI (2013) that corresponds to the purposes of this study, suggests that a MOOC is a model of educational delivery that is, to varying degrees, massive, open, online, and a course. Its structure resembles that of traditional online higher education courses; students watch lectures or other resources such as videos, read material, participate in online discussions and fora, and complete quizzes and tests on the course material (ELI, 2013). Moreover, MOOCs are usually provided by higher education institutions, often in partnership with platforms ("organizers") i.e. Coursera, FutureLearn, edX, Udacity etc (ELI, 2013).

Courses are offered online for anyone to take, usually for free. Additionally, the designers of these platforms envision a future in which everyone has access to a

world-class education and they aim to inspire learning for life (Coursera & FutureLearn, accessed at 1/06/2014). Thus, MOOCs are open to anyone who is willing to enrol and there are usually no prerequisites. People who enrol in these courses can acquire skills and knowledge in diverse subjects, from their comfort of their homes thanks to their accessibility. For some courses (i.e. in the Coursera platform), there is an option to join the signature track so that a learner earns a verified electronic certificate that is an official recognition from universities and Coursera (Coursera, accessed at 31/07/2014).

Furthermore, with regards to the different categories of MOOCs, the most influential categorisation of MOOC pedagogy is the recently discussed division by Bayne & Ross (2014) into two categories, each of which has a particular pedagogical approach: the connectivist or 'cMOOC' developed by Downes (2008) and Siemens (2005) and the institutionally-focused 'xMOOC' developed by Downes (2012). 'cMOOCs' are driven by principles of pedagogic innovation within a richly networked, disaggregated mode of social learning. They were the first MOOCs, designed to test the principles of 'connectivism', that attempt to explain the nature of learning in highly networked environments (Bayne & Ross, 2014). The MOOCs that this study is focusing on can be defined as xMOOCs. xMOOCs are characterised by a pedagogy short on social contact and overly reliant on a weekly syllabus of video-lecture content and automated assessment (Bayne & Ross, 2014, p.21), such as multiple choice questions and quizzes or other assignments that evaluate if students understood the content (Ahn et al., 2013). In xMOOCs there are also discussion boards for questions and clarifications on information related to the course (Ahn et al., 2013). Additionally, xMOOCs are more massive than cMOOCs (i.e. they involve a large number of students) with a focused content offered through platforms (Bayne & Ross, 2014). The next section considers some of the research that has already been done on MOOCs and its outcomes.

2.2. MOOCs Research

MOOCs research is in continuous progress and can be approached from different angles. This section sets out to analyse some of the research related to who is taking MOOCs, and completion rates of MOOCs where assessment type may play a role.

Researchers from the University of Pennsylvania investigated who takes MOOCs (Christensen et al., 2013) by collecting 35,000 responses from a MOOC in which learners participated in at least one lecture. It was shown that most of the participants were already well educated, male, employed globally, and trying to advance in their jobs. So, although MOOCs were created in order that subgroups or disadvantaged people worldwide could use them, the study by Christensen's et al. (2013) indicated that this is not the case and MOOCs cannot be considered the sole solution for educational development. They indeed reach millions of people around the globe but they reach mostly the already well educated ones, who are technologically literate, and have immediate access to technology (Christensen et al., 2013). However, it is stated that "the MOOC champions predict a technology-fuelled revolution in the distribution and democratization of high-quality education", (Lohr, 2013, accessed 30/7/2014). One of the aims of researchers designing and evaluating MOOCs may also be to understand how the learning experience suits the diverse range of

learners. As this research study is considered from the point of view of learners it is important to consider their background information (demographic details although the sample is quite small).

Jordan (2013), in her quantitative study, created an interactive visualisation of course completion rates and the different assessment types adopted in MOOCs. Data was gathered from 186 MOOCs so far offered by different educational platforms across online news stories and blogs. This visualisation shows that auto-graded courses have the highest completion rates whereas courses with peer-assessment have lower ones. Auto-graded courses are those that are scored automatically by the computer and are usually in the form of Multiple Choice Questions (they are analysed in more detail in 2.5.1). Jordan's (2013) study indicates that assessment type may play a role in completion rates of MOOCs. However, it should be noted here that most of these courses in this visualisation adopt automated techniques of assessment rather than peer assessment techniques. There is also a small number of courses where the type of assessment is unknown.

Completion rate, according to Jordan (2013) is defined as the number of learners who earn a certificate of completion or 'pass' the course, but there was some variation in the data. Jordan (2013) also states that "a concern often raised about MOOCs is that although thousands enrol for courses, a very small proportion actually completes the course". More empirical research is needed, particularly given the widespread use of MOOCs as Milligan et al. (2013) argue, and therefore the current study focuses on to what extent each type of assessment has an impact on learners' enrolment in a course and completion of it. Assessment and its purposes are explored in the next section.

2.3. Assessment

There are several definitions of assessment. A definition by Rowntree (1987) which is in line with this study states that "assessment in education can be thought of as occurring whenever one person, in some kind of interaction, direct or indirect, with another, is conscious of obtaining and interpreting information about the knowledge and understanding, or abilities and attitudes of that other person" (p.4). Chao et al. (2011) consider assessment to be "a process of measuring a person's knowledge, comprehension, capabilities and skills" (p.379). That is to say, assessment is used to gather information about a person's skills and knowledge and measure them, in order to understand what has been learnt or achieved. According to this view, assessment consists of an important dynamic for learners. Crooks (1988) points out that assessment has an important influence on the strategies, motivation and learning outcomes of students. Thus, assessment may contribute to students' planning, encourage them to learn because it motivates them and contributes to their learning enhancement.

Furthermore, assessment can take two forms: assessment for learning (also known as formative assessment described earlier by Scriven, and assessment of learning (also known as summative assessment). Gardner (2012), defines assessment for learning as 'the process of seeking and interpreting evidence for use by learners and their teachers, to identify where the learners are in their learning, where they need to

go and how best to get there' (ARG, 2002). Assessment for learning is therefore used to assist students to take the next steps in their learning. On the other hand, assessment of learning, or summative assessment, is used for reporting achievement after learning has taken place (Gardner 2012). Whitelock (2010) describes summative assessment similarly, describing how it is administered at the end of a learning sequence and is designed to form a judgement about learning which is reported in terms of grades or scores and is underpinned by a set of quality assurance process.

However, recent discussions have shown that a sharp distinction between formative and summative assessment is not useful since the same assessment results can be used in different ways and there are different ways of serving or reporting learning (Gardner, 2012). In any case, 'assessment of any kind should ultimately improve learning' (Gardner et al., 2010 p.31). Rowntree (1987) has earlier discussed the reasons why assessment drives learning (i.e. purposes) and those are analysed in detail in 2.4.

Giving feedback to students is an important part of an assessment. There are studies investigating the effects of feedback in online environments (for instance see Lu & Law, 2011). Relevant research on e-assessment and particularly on the way students engage with moderately sophisticated e-assessment tasks and how they respond to feedback has shown that feedback can be very effective when it is tailored to students' mistakes (Jordan, 2012). Moreover, students are influenced by what they believe the question setter wants them to do (Jordan, 2012). Such observation of students' responses has led to an increased understanding of student behaviour and this in turn can lead to improved assessment items (Jordan, 2012).

Online assessment allows teachers to monitor closely students' online activities and progress, their participation and communication; students can provide anonymous feedback to each other (Lin et al. 2001; Tsai, 2009 in Lu & Law 2011). Moreover, online assessment can save time and provides direct feedback, with better use of resources, the option of recording of activities for future reference, and greater convenience for both instructors and learners (Chao et al., 2011). MOOCs are entirely online and developers mostly employ methods used in online learning environments such as automated assessment and to a lesser extent peer assessment and self-assessment.

2.4. Purposes of Assessment

Rowntree (1987) discussed that the literature of assessment is concerned with how to use it for purposes of grading and ranking rather than to enhance students' educational growth (p.10). Thus, assessment was principally used to measure instead of drive students' learning. Rowntree (1987) then examined the purposes of assessment and identified the following general categories: *Selection by assessment, Maintaining standards, Motivation of students, Feedback to students, Feedback to teacher, Preparation for life*. Among these broad categories, the purposes that enhance students' educational growth and drive their learning are the motivation of students and the feedback given to them. The rest of the assessment purposes may be beneficial to stakeholders or teachers rather than to the students.

In the context of motivation, assessment is used to encourage the student to learn. The motivational purpose of assessment is directed to their needs. However, motivational assessment may be used as a mean of coercion, getting students to do something they wouldn't be inclined to do otherwise, and in this way teachers may benefit rather than the students (Rowntree, 1987). Hence, motivation can be both encouraging and coercive for students.

Feedback on the other hand, has a clear value for students as it may advance their learning goals (Rowntree, 1987). Knowing how students have performed on assessment exercises (i.e. given feedback) is meant to help them learn. "Knowledge of results" is the life-blood of learning (Rowntree, 1987). When students are informed if what they have communicated in an assessment exercise is right or wrong, appropriate or inappropriate, useful or irrelevant to their audience, this enables them to identify strengths and weaknesses and helps in building upon what they do best and improve where weak (Rowntree, 1987).

In order to make the purposes of assessment that enhance students' educational growth more explicit, the purposes are illustrated with examples. For instance, when students are given comments on how they performed on a test or quiz and these comments are personalised to their own work, they can possibly see their weak points and work on those and also get encouraged by positive comments to be motivated to work on their weaknesses. In automated quizzes for example, students are asked to recall information and are given direct feedback and this may encourage students in their learning. Furthermore, it may be motivating when students are given multiple attempts in taking a quiz as this helps them track their progress and again encourage their learning. Another way to stimulate students about assessment may be to provide them with an active role and give them the responsibility to assess the work of others (i.e. through peer assessment) rather than just be a passive receiver of evaluative comments. As Whitelock (2008) suggests, students do not learn through passive receipt of teacher-delivered feedback. Assessment may assist students in becoming autonomous enough to develop their own goals and learning strategies as well as work towards targets and deadlines (Rowntree, 1987).

Assessment drives learning according to Rowntree (1987). Therefore, learning and assessment are connected. In the technological era, learning is changing as new forms of connectivity facilitate collaboration (Whitelock, 2010). For that reason, learning is no longer viewed as an individual process. But as learning is changing, assessment is changing too. Traditional assessment models, based on the student as an isolated individual with limited access to resources, are not appropriate for this new environment that is open, collaborative, cooperative and distributed with access to almost unlimited resources (Fraser, 2014, p.86). The theoretical developments that will assist in taking the assessment agenda forward is the Sociocultural perspective of learning (Whitelock 2010). In this perspective the learner's context and culture are central because learning is a cultural phenomenon that involves a number of social representations rather than just an endeavour which investigates autonomous and self-sustained mental representations of individual learners (Whitelock, 2010). In other words, designers of assessment should also take into account that learning is not an individual process but it happens socially and learners' culture plays an important role. By extension, assessment should take into account this socio-cultural

perspective of learning by introducing mechanisms to help students understand different ways of assessing learning. Students' acceptance of peer assessment may be an example of the socio-cultural perspective of learning as it involves interaction between students from different cultures. Students give feedback to each other during peer assessment and their perceptions of value of this may be influenced by their social and cultural context.

In the next section of this dissertation the different assessment types that are commonly used in MOOC environments are examined.

2.5. Types of Assessment

There is a considerable body of research conducted in online learning settings that relates to the types of assessment that present learners' attitudes or opinions (see for e.g. Chao et al, 2011; Lu & Law, 2011; Nicol, 2007; Alden et al 2014; Jordan, 2012). The environment of MOOCs and other online learning environments have similarities in the ways assessment is communicated to learners at a distance. Both learning environments use technology to assess students' learning and communicate results to learners. However, there is a need for more research on learners' views and perceptions as MOOCs have some distinct characteristics from other formal online learning environments. Therefore, it is also important to study assessment in MOOCs settings, in order to contribute to the research literature.

One of these characteristics in MOOCs is the non- formal nature of the setting. MOOCs have a number of characteristics similar to formal online courses but due to the lack of formal certification and their open nature, learners have the opportunity to focus on different aspects of the course to varying degrees, with far more freedom than is typically available to those online learners taking courses for credit (Eynon et al., 2014). Therefore, the commitment of students to learning may not be as strong as in formal online courses for credit. Additionally, most MOOCs are being offered free of charge for anyone who wishes to participate; with no prerequisites as sometimes required in formal education. Furthermore, there is a lack of support available to learners in MOOCs (Clow, 2013). This is different in formal online education where students are offered support from their tutors and are usually given feedback for their work. Also, with regards to the learner characteristics, the motivations and expectations of people taking the courses are likely to be far more varied in MOOCs than in formal online courses (Eynon et al., 2014). Last and most importantly, MOOCs differ in scale from traditional online courses, the number of learners are higher, ranging to thousands of enrollers (Suen, 2014). Consequently, the assessment methods used in MOOCs may need to be adjusted.

It was also observed in the literature review that most MOOCs use automated assessment, peer assessment and self-assessment. As already discussed earlier in the introduction, 19 papers were found in total discussing the different assessment types in MOOCs. Most of these papers largely focus on what assessment types are for, what they measure and how effectively they do it. Eight papers discuss peer assessment, four discuss automated assessment, three of them discuss self assessment and six of them discuss a combination of the aforementioned types (these papers are listed in Appendix 1) Therefore, auto-, peer- and self- assessment

are the types under investigation, as they are the most commonly used types in MOOCs and thus, they are the most frequent ones discussed in the literature. Literature on different types of assessment regarding the learners' views in the MOOC environment is inconclusive. Therefore, when discussing the types of assessment, the literature from other online learning environments will be also reviewed to explore learners' views as it may be relevant. This happens because of the considerable similarities between MOOCs and other online learning environments in the means assessment is used by learners at a distance.

2.5.1. Automated Assessment

Some MOOCs offer online multiple-choice quizzes that are machine scored (automated assessment) (Suen, 2014). The automated assessment functions as follows; at the end of every module session, learners are asked to answer a number of multiple choice questions that intend to assess the learners' mastery of specific concepts of a module (Suen, 2014). Learners receive a score after answering the questions and these scores are their feedback, indicating whether they learnt the material in hand (Suen, 2014). If learners do not do well they are encouraged to go back and review the material (Suen, 2014).

Looking at earlier literature from e-assessment, Nicol (2007) argued that Multiple Choice Questions (MCQs) have been increasingly used in Higher Education due to the growing number of students. MCQs not only give the opportunity for rapid feedback but they also save time for marking (Nicol, 2007), which is also applicable to the massive number of students in MOOCs. According to Brame (2014), MCQs can be an effective and efficient way to assess learning outcomes as they have several advantages. Versatility is one of them as various levels of learning outcomes can be tested, from basic recall to application, analysis, and evaluation.

Douglas et al.'s (2012) case study, presented an evaluation of students' grades and the results of a questionnaire designed to capture students' perceptions about the effectiveness of MCQs in online learning environments other than MOOCs. Their study has shown that students held positive attitudes about their experience with online MCQs, considering them useful at supporting their learning of basic concepts, as well as building confidence and self-esteem (Douglas et al., 2012). If MCQ are combined with other types of assessment such as essay and report-writing they can enhance the learning environment and work more effectively (Douglas et al., 2012).

On the other hand, there is contradictory opinion about automated systems as they frequently cannot capture the semantic meaning of answers, which limits the feedback that they can provide to help students improve (Bennett 1998; Hearst 2000 in Kulkarni et al. 2013). Moreover, Suen (2014) argues that most instructors find it challenging to create good quality multiple choice tests to measure high-level cognition.

These closed format questions can be effective in testing objective knowledge. Moreover, students seem to have a preference for them according to the literature, so instructors should take this into account. Nonetheless, it may turn more difficult to test subjective material with automated types of assessment. For this reason,

alternative types of questions and tests are often used in conjunction with automated methods to assess students, such as peer assessment.

2.5.2. Peer Assessment

Strijbos & Sluijsmans (2010) have described peer assessment as an educational arrangement where students judge a peer's performance quantitatively and/or qualitatively, which stimulates students to reflect, discuss and collaborate. According to Suen (2014), peer assessment could be used in MOOCs to provide the necessary feedback to learners. In its most basic form, peer assessment, consists of common rubrics and a random distribution of each piece of work to a handful of peer raters (Suen, 2013). Each peer rater rates a handful of randomly assigned peer submissions; written peer comments are provided along with rating (Suen, 2013). Students receive peer comments and average or median of peer ratings (Suen, 2013).

Lu & Law's (2011) study on peer assessment in online learning environments other than MOOCs suggested possible explanations for its benefits on student learning performance. According to the authors, peer assessment works differently for assessors and assessees because peer grading and peer feedback set in motion different learning processes for assessors and assessees. They also suggest modelling or training should be provided prior to or during the task of peer assessment, as it is considered a challenging task (Lu & Law, 2011). Assessors should provide suggestions when giving feedback to peers and explain why they assigned particular grades to peers, as that activates cognitive processes that contribute to learning gains of assessors (Lu & Law, 2011). Moreover, weak students do not only need to be given specific instructions on the types of feedback they are to give to their peers but also to reflect on and implement the feedback (Lu & Law, 2011). Affective comments that give socio-emotional support to peers and recognize peers' achievement are also important because they can help boost the motivation, interest, and self-efficacy of assessees, which in turn can enhance their performance (Lu & Law, 2011).

Another research study by Wen & Tsai (2006) on students' attitudes towards peer assessment has shown that students regarded it positively but they viewed peer assessment as a technical tool to facilitate the assessment process rather than as a learning aid. Additionally, students with previous peer assessment experiences had less negative attitudes towards it (Wen & Tsai, 2006).

A critical approach to peer assessment is not absent. Brinton & Chiang (2014) suggest that the system of peer grading lacks efficacy because different students grade differently. Additionally, students understand the material at different levels and the time commitment required for grading is long (Brinton & Chiang, 2014). Suen (2014) argues that peer assessment in MOOCs has no teacher's supervision or mediation and students come from different parts of the world, therefore there is language variation, culture and little sense of obligation.

Consequently, from the literature that was reviewed, even though students seem to like peer assessment, they do not see it as a learning tool, they do not really know

how to make use of it and they may need training in order to be able to effectively perform it. Results of peer assessment in other online environments can be applicable in MOOCs, but it is interesting to explore people's opinion with regards to peer assessment in the global environment of MOOCs where there is a big cultural variation. Self- assessment is explored in the next section.

2.5.3. Self-Assessment

Self-assessment (or self-grading or self-evaluation) is another assessment type used in MOOCs. Self-assessment refers to the involvement of learners in making judgements about their own learning, their achievement and outcomes of their learning and can be formative or summative (Boud & Falchikov, 1989).

Wilkowski et al (2014) in their study on self-evaluation in MOOCs suggest that self-grading seems to be an effective alternative to multiple-choice assessments for in-depth, qualitative student work in low-stakes massive open online courses. It is a simple and effective way to create direct student engagement in their learning, while not requiring the development of very sophisticated auto-grading systems (Wilkowski et al, 2014). Their study showed that it is very important to develop the clearest and simplest rubrics possible when students need to assess their own work, especially in diverse environments with students from different educational backgrounds, with widely varying language abilities, and dramatically differing degrees of practice in learning in online settings (Wilkowski et al., 2014). However, Wilkowski et al. (2014) do not neglect to mention that creating these rubrics is often difficult pragmatically, as the student composition is often not known ahead of time.

Recent work in the area of self-assessment in other online learning environments than MOOCs that should be mentioned here is the SAFeSEA project that sets out to assist students in writing draft essays by exploring feedback mechanisms to facilitate this process (Whitelock et al., 2014). One such mechanism investigated how to offer support on essay structure, and for that a web-based feedback system called OpenEssayist was developed. OpenEssayist is an automated feedback tool for students' draft essays where key words and sentences are displayed as they appear in the text, designated by introduction, main text and conclusion section of the essay (Whitelock et al., 2014). It is a system that provides immediate formative feedback of "advice for action" on students' essay drafts (Alden et al., 2014). So, this tool can help assist students to self-assess their essay drafts and improve their final work.

SAFeSEA project has also investigated if support could be offered to students before writing an essay in a form of hints and it was found that this "feed-forward" approach could have an effect on students' essay marks. In other words, if hints are given before a student starts writing, he/she performs better in their essay (Whitelock et al, 2014). With "hints", they refer to a general guidance on how to structure an academic essay (Whitelock et al., 2014). As hints are content-free, they may be broadly appropriate to academic writing in any subject and with large numbers of students (Whitelock et al., 2014). For instance, course designers, tutors and students of MOOCs may benefit from this approach. Nonetheless, a disadvantage of this

approach is that it is not tailored to learners' current subject understanding and individual learning needs.

2.6. Recent Research in Assessment in MOOCs

All of the above assessment types (i.e. automated, peer and self- assessment) are commonly implemented in MOOCs. Learners in MOOCs are asked to use different types of online assessment in various phases of courses. Researchers are also investigating new approaches that will be able to assess high level cognition and are testing systems and tools that will be automatically scoring essays (Balfour, 2013). Some MOOCs providers (i.e. edX and Coursera) have announced they will use methods such as Automated Essay Scoring (AES) and will be giving feedback to learners in effective ways, such as with Calibrated Peer Review (CPR) (Balfour, 2013). Balfour's (2013) work reviewed relevant literature on AES and CPR mechanisms and outlined the capabilities of scoring and giving feedback on essays as well as to provide a table and framework for comparing these two forms of assessing student writing in MOOCs settings.

AES programs build statistical models to predict human-assigned scores using features of essays that have been determined empirically or statistically to correlate with the ways humans rate those essays (Balfour, 2013, p. 42). These applications may offer direct, reliable feedback to students about important elements of their writing. However, AES applications do not understand texts in the way humans do, they are vague in their feedback and there are a few studies suggesting that structured, computer-regulated peer evaluation in specific situations may be more favourable to learners than just feedback on their writing (Heise, Palmer-Judson, & Su, 2002; Likkell, 2012 cited in Balfour, 2013).

The mechanism of Calibrated Peer Review (CPR) is a specific form of peer review in which students are trained on a particular scoring rubric for an assignment using practice essays before they begin the peer review process (Balfour, 2013). CPR manages the workflow for a specific peer review process and scores how well peer reviewers perform. In particular, CPR allows large numbers of students to turn in essays, to learn what the critical points are according to the instructor, by scoring instructor provided essays with a multiple choice rubric (Balfour, 2013). CPR also allows students to perform peer review of other students work, of their own work (self-evaluation) and receive feedback from peers (Balfour, 2013). Balfour (2013) argues that studies that have examined the mechanism of CPR have found that it results in learning and improves students' writing and evaluation skills. It was also found that students' writing performance and critical reasoning with CPR has improved more than that of students who have been given feedback from the instructor in the traditional way.

However, in the context of MOOCs there are technical challenges regarding the massive numbers of people enrolling in a course (Balfour, 2013). An issue for both CPR and AES programs is that some types of written assignments that are unique and creative are not likely to be successfully scored and therefore a good evaluation will not be generated. For that reason Balfour (2013) suggests in his review that a writing evaluated MOOC might use AES for giving students feedback on their drafts,

so that a higher quality writing will be achieved at first and then CPR can be used for final evaluation. This combination of AES and CPR in MOOCs may turn to be very powerful and could potentially produce stronger writers more efficiently than human evaluation (Balfour, 2013).

There is also relevant literature in the context of MOOCs suggesting the integration of peer and machine grading. These techniques will help preserve the difficulties of peer assessment and lower the grading burden. These are achieved by using another technique of an “identify- verify” pattern as an example of how peer work and machine learning can combine to improve the learning experience (Kulkarni et al, 2014). Likewise, Piech et al (2013) have developed algorithms for estimating and correcting for grader biases and reliabilities, showing significant improvement in peer grading accuracy on real data. Cisel’s study (2014) showed that learners who used forums and were involved in peer-assessment were more likely to complete a course. This study aimed to identify factors statistically associated with engagement in a French MOOC in Management. Additionally, the findings illustrated that learners’ personal aims and achievements highly depended on their employment status, geographical origin and time constraints (Cisel, 2014).

There is a recent quantitative study on self and peer assessment in MOOCs by Admiraal et al. (2014) on three MOOCs of Coursera showing that the quality of self-assessments and peer assessments was low to moderate. In other words, peers agreed on their grades to a limited degree. Moreover, results have shown a bias of self-assessment (i.e. self-assessments did not significantly explained variance in students’ final exam scores) and it was suggested that self-assessment might not be a valid way to assess students’ performance in MOOCs (Admiraal et al., 2014). However, weekly quizzes (i.e. automated assessment) and peer assessment significantly explained differences in students’ final exam scores, with that of the weekly quizzes as the strongest predictor (Admiral et al., 2014). Nonetheless, weekly quizzes are not adequate for the assessment of more open or complex assignments. For this reason, other forms of assessment, such as self-assessment, peer assessment or assessment by outside experts, should be developed to make the assessment of the more open assignments possible (Admiraal et al., 2014, p. 127). Nevertheless, the authors do not explain in detail how this might work.

Going a little further and discussing self- evaluation techniques, Wilkowski et al (2014), have tested the efficacy of self-evaluation as a method for complex-question evaluation in two Google MOOCs by putting students to submit projects and evaluate their own work. Teaching assistants graded a random sample of papers, compared their grades with self-evaluated students’ grades and found that many of the papers were of very high quality, accurately evaluated (Wilkowski et al., 2014).

In a more broad review of different types of assessment, Hew and Chaung (2014) discuss among others, the challenges of teaching MOOCs. One of these challenges is the assessment of student work, which cannot only rely on automated essay grading software, as it might not always be indicative of students’ progress. On the other hand, they criticise peer grading as ambiguous due to no instructor intervention/ check or poor rubrics and guidelines and they discuss the issue of cheating and fraud. They also suggest that, this may be eliminated by requiring

students to pay some fee, granting them formal course credit, and being monitored by webcams while tested. Another option is to go to test centres under teaching assistant or instructor supervision.

In conclusion, assessment research in MOOCs has investigated how essays will be scored by using automatic mechanisms, what those mechanisms' capabilities will be, and limitations or challenges once applied in MOOCs contexts. In other words, assessment research in MOOCs has focused on how the grading burden could be reduced by integrating automated mechanisms. Furthermore, assessment research has tested assessment techniques quantitatively to find out assessment quality and efficacy. Additionally, there are reviews on assessment of student work which should rely on more than one method to be accurate. Further research devoted to learners' views and perceptions with regards to the different types of assessment in the MOOCs settings is needed. The current study will attempt to do this. Students are assessed on the courses they enrol, and therefore their views may be valuable in the assessment design of MOOCs. Students' insights may contribute to effective ways to implement the different assessment types and expand the scope of assessment so that it is designed perhaps in different ways from what it is at the moment and enhance further their learning experience. Hence, MOOC design can be improved by investigating how learners view assessment and which assessment types they feel are more effective in their learning. In the next section, the concept of online communities that informs this study is examined.

2.7. Online Communities

During a course as well as during assessment, students and moderators may interact with each other, sharing ideas. As Jung et al. (2002) concluded from their study on effects of interaction on learning, "Social interaction with instructors and collaborative interaction with peer students are important in enhancing learning and active participation in online discussion". Therefore, the concept of "online communities" of learners may assist to understand the interactions between learners, their contributions to course discussions and principally assessment.

As already noted, learners in MOOCs may interact with each other enhancing their learning experience. Those learners form "online communities". For the purposes of this study, online communities are in accordance with Preece's (2000) concept. Preece (2000) previously discussed that online communities offer new opportunities for students as they can work together, exchange information, comment on each other's work, share resources or meet people from all over the world without leaving their homes. It was also proposed that online communities can have a major role for supporting student to student interaction and professor to professor interaction (Preece, 2000). Moreover, it was outlined that this learning approach is particularly welcomed by students with full time jobs because they can update their skills without taking time off their work (Preece, 2000). This claim is quite applicable to MOOC learners as they may be coming from different backgrounds, not only studying MOOCs but working at the same time, and therefore the online communities they belong to may be a creative space where they can share ideas, exchange information and learn.

Online communities can add inspiration to education and students can learn together and benefit from sharing ideas and resources (Preece, 2000). The downside is that these students may never meet their classmates in person which is a concern because learning should be intrinsically a social process (Vygotsky, 1978, 1986 in Preece, 2000). But this new technology of online learning may assist to transform learning to a more social process. There is relevant research investigating interaction and learning in online environments. For example Garrison et al.'s (2005) study considered the depth of online learning with a focus on the nature of online interaction in distance education course designs. They found that simple interaction, absent of structure and leadership, is not enough. The design was important for interaction on whether students approached learning in a deep and meaningful manner (Garrison et al., 2005).

On the other hand, Anderson (2003) suggests three types of interaction that involves students and which are discussed in the distance education literature: student-student, student-teacher and student-content interaction. Anderson (2003) also suggests that thanks to the technological development there is pressure and the opportunity to transform student-teacher and student-student interactions into enhanced forms of student-content interactions. In other words, students are exposed to a great amount of digital content since the internet evolution gives them this perspective of interaction. This may diminish the human interaction (student-student, student-teacher). In xMOOCs, the MOOCs under investigation, student-content interaction is high, according to Miyazoe & Anderson (2013), because the normal student-teacher interaction is transformed into student-content (the videos and quiz) interaction where video teaching sequences are recorded. Student-content interaction's importance depends on the extent to which it engages students or teachers in interaction, and leads to relevant knowledge construction (Anderson, 2003). Hence, when interaction is discussed it is not solely related to humans but also to the content that online communities may interact with and contributes to enhancing knowledge.

2.8. Conclusion

The literature review places this research study within the research area of assessment and within the framework of online communities in the MOOCs context. Research relevant to MOOCs and the types of assessment from the learners' perspective is needed. MOOCs are distinct in some aspects from other online learning environments despite of the big similarity of the "means" that both settings share, and therefore it is interesting to study assessment in MOOCs settings too. Therefore, the aim of this study is to focus and answer the following research questions:

- How do learners view the different types of assessment in MOOCs?
- To what extent does each type of assessment influence enrolment and consequently their completion of a course?
- How effective do they feel each type of assessment is in their learning?

In an attempt to unpack the above questions, this study focuses on learners' views on the different assessment types in MOOCs. The notion of "view" in the first

research question involves learners' preferences with regards to the different assessment types, the importance and the value of each of the assessment types they have come across in their MOOCs. Moreover, learners' views also entail their perceptions towards each of the assessment types they have used in MOOCs. The different assessment types include (objective) automated, - peer- and self-assessment methods as those are the most common ones in the MOOCs assessment literature;

The notion of "enrolment" in the second question involves whether any of the assessment types has an impact on learners' selection/choice of a course and its completion. "Completion", entails the participation on the videos, quizzes and assignments of a course. Another aspect that will be taken into consideration after exploring the enrolment and completion elements is the experience that learners have in MOOCs.

The third question aims to investigate in what regard learners feel that each type of assessment is "effective". How learners consider assessment and what each of the different types they have used offers to them is therefore going to be explored. This involves the value they attribute in supporting and enhancing their learning experience while associating each assessment type with benefits or difficulties they might face. Attention will be given to learners' views about assessment's effectiveness and whether they are driven by their prior experience regarding assessment. Finally, what each of the aforementioned types of assessment offer to students' learning experience will also be explored.

Chapter 3: Research Methodology

This chapter describes the research design of this study in which online ethnography, a methodology to study interpersonal communications on the internet, is employed, (Beneito-Montagut, 2011). The chapter also presents how online ethnography addresses the research questions and the rationale for the data collection techniques (i.e. interviews and observations) is described. The rationale of the choice of sample is discussed and the ethical approaches that this study complied with are examined along with ethical issues that were taken into consideration. The chapter also reviews other research designs considered for this study and explains why they were found not to be appropriate.

3.1. (Online) Ethnography

In order to define online ethnography it is essential to define ethnography first, which is one of many approaches that can be found within social research (Hammersley & Atkinson, 2007). The label is not always used in a standard way, its meaning can vary and as a consequence there is considerable overlap with other labels such as 'qualitative inquiry', 'fieldwork', 'interpretive method', and 'case study', with fuzzy semantic boundaries (Hammersley & Atkinson, 2007). However, in this study the concept of ethnography agrees with Hammersley & Atkinson's (2007) approach to it. Ethnography's goal is "to investigate some aspect of the lives of the people who are being studied, and this includes finding out how these people view the situations they face, how they regard one another, and also how they see themselves" (Hammersley & Atkinson, 2007, p.3). Moreover, ethnography is based on a reflexive position that allows the observation of how people construct, re-construct and make meanings (Hammersley & Atkinson, 1998).

Ethnography is an approach seeking to understand people within their social and cultural contexts. The ethnographic researcher is required to be accurate, sensitive and reflexive towards his subject/object of analysis and the context in which it is acting or performing (Beneito-Montagut, 2011). Ethnography analyses human practices in the context of culture and a major part of that culture is now contained online, which has procreated its own meanings and symbols within itself (Beneito-Montagut, 2011). Therefore, ethnography is taking place on the internet too.

Another view about online ethnography that agrees with this study comes from Cavanagh (1999), who considers online ethnography to be a variant of traditional ethnomethodological techniques, utilizing a spectrum of observational and other qualitative methods to examine the ways in which meaning is constructed in online environments. Similarly, Crichton & Kinsash (2003), discuss online (or virtual) ethnography, which suggests a method in which one actively engages with people in online spaces in order to write the story of their situated context, informed by social interaction. The type of interaction they describe involves a researcher and participant engaging in conversation and meaning making through repeated, revisited and jointly interpreted conversations that support reflection and revision (Crichton & Kinsash, 2003). These conversations are conducted online and thus they are text-based. The use of ethnography in the online context tends to imply a participant observation approach (Hine, 2008). Online surveys, interviews and systematic

analysis of message content in online ethnography are supplemented by an ethnographer's embodied learning through being a part of the situation (Hine, 2008).

In the current study, people interact in an online context. The methods of data collection used in this study, are commonly used in ethnography and involve interviews and participant observations (see Hammersley and Atkinson, 2007). In particular, participants are recruited via a Facebook group set up for a MOOC and their views on assessment in MOOCs are explored. Moreover, data is collected through observations in this Facebook group as well as through another Facebook group. In these groups learners interact with each other about their courses. Ethnographers seek to find naturally occurring situations and focus on whatever goes on there as representing locally specific interpretations of the technology (Hine, 2008). My aim was to explore learners' views on assessment in MOOCs therefore I contacted learners via a Facebook MOOC group, something permitted by an ethnographic approach.

The rationale of employing online ethnography is first of all that, the content of MOOCs is entirely online. These courses are taking place on different educational platforms. Secondly, people participating in the courses are geographically distributed all over the world. Thus, communities and cultures participating in MOOCs are shaped online through social interaction and can be simply found on these educational platforms or on social media groups commonly used for communicating with each other. Thirdly, people participating in MOOCs are probably also familiar with online interaction. Therefore, the design of this study aimed to employ an online ethnographic approach with the interest of interacting with the participants during the course. However, due to ethical clearance and permissions taking longer than expected, I could only contact students after the course had finished and this may have deviated from the online ethnographic approach I initially designed. This is discussed further in the limitations chapter in 6.2.

The purpose of this study is to grasp learners' views related to the assessment types and their effectiveness as well as to study how assessment influences participation to and completion of a massive open online course. It is therefore, important to identify learners' experiences. There were other methods considered too but it was decided to employ online ethnographic approach because it was more suitable method due to reasons explained above. The study aims to go in depth with people's experiences and opinions rather than surveying a large number of people and therefore a survey method was rejected as I wanted to focus on the way participants view assessment in a MOOC course. In a future study it would be interesting to find out if participants' views of this study were shared by a large number of people. The sample selected for this study includes a variety of people with different experiences on MOOCs. In other words, the sample is diverse with experienced participants on MOOCs as well as less experienced ones so that a general picture of their in depth opinions will be drawn. The choice of sample is not random; it is purposeful (Patton, 1996).

An alternative method considered was a case study that involves "systematically gathering enough information about a particular person, social setting, event, or group to permit the researcher to effectively understand how it operated or functions"(Berg,2004, p.225). Case studies may be rather pointed in their focus, or

approach a broad view of life and society (Berg, 2004). Berg (2004) also states that the investigator may attempt to assess the social life of an individual and their entire background, experiences, roles and motivations that affect his or her behaviour in society although this may not be necessary or possible for all case studies. A full case study approach was not chosen for this study as time would not permit to assess the social life and participants' entire background and experiences that affect their behaviour in MOOCs environments. The research questions I posed sought to study learners' experiences with regards to assessment. Consequently, an appropriate technique to explore their experiences would be first to ask people who have done MOOCs about their practices. Secondly, it was decided to observe learners' posts in order to see if what MOOC learners say in the interviews, is relevant and corresponds with what learners post online during their interactions with fellow students. Thus, it was explored if there were differences and similarities in students' posts and students' interviews.

I followed a qualitative approach. Qualitative researchers study phenomena in their natural settings and attempt to make sense of, or interpret, phenomena in terms of the meanings people bring to them (Denzin & Lincoln, 2000). Particularly, when a researcher follows a qualitative approach there is often a focus on the meanings in terms of which people make sense of their environment and there is often investigation of a small number of cases (Bryman, 1988). Learners' experiences are explored via interviews where they express their own views related to assessment in MOOCs. Learners' posts are observed and analysed. Two Facebook groups about MOOCs are observed to explore what people discuss and whether any discussion is related to assessment types in MOOCs, the topic of this study. I did not follow a quantitative approach as in my case, it would not permit to go deeper in people's experiences rather than it would test a hypothesis or make a prediction. In the next section the methods of the data collection of this study are discussed in detail.

3.2. Methods of Data Collection

The methods of data collection were online interviews and observations. Interviews can give an insight of participants' experiences; address their approach to MOOCs, and their views on the types of assessment and the effectiveness of the different assessment types. However, interviews may be challenging sometimes as they require a personal sensitivity and adaptability as well as the ability to stay within the bounds of the designed protocol (Trochim, 2006). A researcher needs to be sensitive with interviewees' needs and adaptive to the nature of the interview. I decided to use interviews for several reasons that are presented in the next section. Observations were also employed in order to gather richer data for analysis and are discussed in the next sections.

3.2.1. Online Interviews

It was previously mentioned that one of the techniques to gather the data for this study was interviews. People from a particular Facebook group set up for a MOOC were contacted via a personal message (message in Appendix 2) on Facebook instant messenger. They were asked if they would be willing to be interviewed about the course and the types of assessment of this course and other courses that they

might have previously participated in. The group was related to a Behavioural Economics course that I completed too and more information on this group is presented later. Interviews can reinforce information regarding perceptions and experiences of participants according to Denscombe (2003) and therefore, interviewing participants regarding their experiences and views on the different assessment types in MOOCs may reinforce information and give a clear picture of their views.

Due to lack of proximity, interviews in this study were arranged online via Instant Messenger of Facebook as participants in MOOCs live in different geographical areas. Even though it has been more than a decade now that literature documents issues about the use of internet conducting interviews, there is no clear consensus about the suitability of the method and qualitative researchers using online methods need to move beyond this debate and engage in a deeper self-reflection and reflexivity (Jowett et al, 2011). Online interviews, when synchronous, involve both parties using the internet simultaneously to engage in a text based “real time” conversation using some form of “chat” or “instant messaging” software (Jowett et al, 2011).

The interviews in my study were carried out online, synchronously via Facebook Instant Messenger as Jowett et al (2011) described them and the procedure is discussed in detail in 3.4. Hinchcliffe & Gavin’s (2009) study on the evaluation of synchronous online interviewing with Instant messenger (IM) has shown that the collection of data from structured questions was proved advantageous in the evaluation of respondent opinions of the quality and utility of online interviewing using IM. Respondents of Hinchcliffe & Gavin’s (2009) study, during the online interviews using IM, “opened up” in a different and productive way to discuss their experiences and they also valued anonymity as it permitted them to be more honest because they were not in the presence of another person. Therefore, by using IM, important advancements in knowledge concerning student social support networks were achieved, particularly through perceived anonymity, which enabled more reflective, descriptive and accurate data (Hinchcliffe & Gavin, 2009). In my study participants were not anonymous, but they were informed that their personal information would be kept confidential and pseudonyms would be used. Most of them were descriptive when answering my questions.

Online interviews have both pros and cons. A disadvantage of online interviews, happening synchronously, is the fast pace of an exchange that can make responses disjointed (Punch, 2013). Also, comments and questions may be posted before a reply to a previous message is received making the final transcript difficult to interpret (Punch, 2013). Listening is an important part of developing rapport in any interview and this may be a challenge in online interviewing. By responding too promptly the interviewer risks moving on in the interview too quickly but also a delayed response may be read by the participant as the interviewer not paying attention (Jowett et al, 2011). This might make responses less detailed and less serious (Hewson & Laurent, 2008 in Punch, 2013). James & Busher (2009) also point out the difficulty with online interviewing in judging when participants have finished responding to a given question and the way in which online interaction may defy conversational turn taking.

However, a researcher needs to decide on how they will take action and a good schedule of the interviews and waiting for an interviewee to complete a response can overcome such issues. Although it was a challenge not to interrupt a participant unnecessarily, I was aware if it happened and made sure the participant was given another chance to finish what they were saying

Moreover, internet connection is needed as well as technological competence from participants (Jowett et al, 2011). There is a lack of facial expressions and tones of voice in online interviewing. Another constraint of online interviewing is its length and the amount of data produced when comparing it with a face-to-face interview and as Jowett et al (2011) suggested, participants are free to take breaks or ask to continue at a later date and time during the interview.

Taking into consideration the advantages of online interviews it is suggested that they eliminate barriers such as geographical distance, time and cost to meet the participants (Jowett et al., 2011). This is true in a study as mine that participants were coming from different continents of the globe. Moreover, using Instant Messaging eliminates the need to create transcriptions and reduces the transcriber's potential "bias" when translating an audio recording into textual form (Ayling & Mewse, 2009 in Jowett et al., 2011). The online experience of a synchronous approach to interviewing makes it more like the traditional face-to-face interaction (Punch, 2013). Participants have less time to "doctor" responses in an effort to make them more socially desirable or acceptable allowing for more candid, honest and authentic comments to emerge (Punch, 2013). Consequently, this method might offer more authentic data for analysis. Further, in terms of building rapport online, according to Hewson and Laurent (2008 in Punch, 2013) ice-breaker exercises as an introductory activity might be a good technique for a participant and an interviewer to get to know each other and this was a technique I employed asking people about the weather in their country, the time etc. For example, one of the participants, located in Brazil, was chatting with me about the biggest Football Event (World Cup) that was taking place in his hometown before our interview.

Another study about building rapport suggests that it may take longer online than in a face to face interview because internet communication can be viewed by some as impersonal, detached and impoverished form of social communication (Hewson et al., 1996 in Jowett et al 2011). Trust is the basis for the development of a good rapport (Mann & Steward 2000 in Jowett et al., 2011) and having a shared identity with participants may be an asset in establishing trust. This may influence relationships and the kind of data produced.

For the purposes of this research study in particular, I chose to interview learners of a course on Behavioural Economics. "Online ethnographers can gain access to an online setting and recruit potential research subjects by displaying cultural competence of the norms of the group they are studying" (Walstrom, 2004 in Garcia et al., 2009). Being a participant in the same course and having completed it, I did not only had a shared identity with participants as literature suggests but I could also access the online Facebook group and contacted in private, people that participated in the same course. I had a clear picture of the course structure as well as the assessment types used. Moreover, this course had three different assessment types

(auto-, peer-, self-assessment) so it would give a wider insight to people's experiences with regards to those types. Thus, I recruited participants for interviews by showing them that I was also a person sharing common interests with them, that I participated in MOOCs in general and in the Facebook group associated with this particular MOOC. More information on the participants of the interviews is given in the next section. Apart from the Behavioural Economics course, some of the learners that were chosen to participate had experience on assessment from other courses too. The Behavioural Economics course was just a base to gain an insight into their attitudes and motivations related to assessment types of MOOCs.

The course chosen for this study was appropriate for this methodology for different reasons. As several definitions of ethnographic approaches (see Cavanagh, 1999; Crichton & Kinsash, 2003; Hine, 2008) suggest, they involve how a researcher engages with people in online spaces in order to find out their story in their social context by their interaction. My intention for this study was to involve participants in a type of interaction where we would be discussing and making meaning through text-based conversations on assessment types of the Behavioural Economics course and reflect on these conversations. I considered that the course chosen was appropriate for this methodology of online ethnography because as mentioned above it involved three different assessment types and as I had studied this course, I would be able to interact deeply with participants and reflect on its assessment types. When the research design for employing online ethnography was decided, the Behavioural Economics course was still running. However, when the actual research process happened, the course had already finished. Therefore, I was constrained by the fact that the data collection did not take place until after the course finished due to delays in getting permissions from the university's ethics committee. Nevertheless, I managed very soon, to find participants for my study and interview them and I could also use a small number of observational data. A critique about the ethnographic approach I employed is discussed in the last part of this dissertation (6.2.).

Interviews were used in order to investigate learners' views. In particular the aim was to investigate three aspects of assessment via the interviews:

1. *The approach and experiences of participants with MOOCs:* the questions were looking into how they approach MOOCs and how they understood and coped with the different assessment types of their courses.
2. *The types of assessment in the MOOCs and the effectiveness of the different assessment types:* the questions focused on which types of assessment they prefer in the course and to what extent the type of assessment influences their decision to complete a course. The types of assessment in relation to their effectiveness and contribution to learning were explored.
3. *The type of support the participants ask related to assessment:* the questions examined "how", "from whom", "when", "where" the learners ask for help and support with regards to assessment.

The above points of the interviews will assist to answer the *research questions* of the current study:

1. How do learners view the different types of assessment in MOOCs?

2. To what extent does each type of assessment influence enrolment and consequently their completion of a course?
3. How effective do they feel each type of assessment is in their learning?

In other words, the views and perceptions of participants with MOOCs and assessment in particular will assist in answering question 1. The investigation of the different types of assessment and learners' opinions about their effectiveness to learning experience will assist to answer question 2. The details that learners will give for the different types of assessment and which of these is more beneficial to their learning experience will contribute in answering question 3. Moreover the online observations may offer additional data on learners' views on the above aspects.

A more detailed interview schedule is presented in Appendix 3. All interviews were arranged via Facebook Messenger as MOOC learners were geographically distributed. At first, a pilot interview was arranged with one participant, in order to evaluate the adequacy of questions. For reasons of convenience and reflexivity, participants willing to participate in this study were free to choose between a Skype call interview and a synchronous text based interview via Facebook Messenger. Interviews lasted an average of 45 minutes each. None of the participants chose a call interview. They all chose a synchronous text based interview via Messenger. Online synchronous interviews were saved in a safe folder – password protected.

In the next section the method of data collection which involves observation in online research is discussed in detail.

3.2.2. Observation

“Observation in online research involves watching text and images on a computer screen rather than watching people in offline settings” as Garcia et al. (2009, p. 58) discuss. Nonetheless, the online environment still provides direct contact with the social world studied by the ethnographer since participants in that setting communicate through online behaviour (Garcia et al., 2009). Being a participant of one of the courses I was planning to observe, I was also a “participant experiencer” which according to Garcia et al. (2009) “entails the role of the active contributor to the group being studied”. In other words, in online observation a researcher experiences how it is to participate in a group by mainly reading or posting texts to the group (Garcia et al., 2009). I also posted to the Facebook group of the Behavioural Economics course.

In this study, I planned to explore different MOOC groups that are set up on Facebook first, so as to see how active their members were. I intended to observe the content of their posts and see what was relevant to assessment. In particular, I gained access to Facebook groups and scanned the posts of these groups to see if they were active; I was planning to include groups from courses that have finished recently and to explore if members were discussing any assessment topics. I chose to observe a group of a MOOC in Behavioural Economics as already mentioned along with another one related to Business.

Garcia et al. (2009) argue that the ethnographer should “attempt to experience the online site the same way that actual participants routinely experience it”. I have

experienced participation in the Behavioural Economics course group on Facebook, as I was a student enrolled in the course. I also observed the Business course group on Facebook and explored how the actual participants experience it. Access to these groups is usually open or sometimes a moderator needs to give permission to a user in order to join the group. My observations were purely textual and I did not meet any of the participants. More details on observations are discussed in chapter 4.

3.3. Methods of Data Analysis (Thematic Analysis)

The data collected through interviews and observations were analysed with qualitative techniques and thematic analysis in particular was used as for Braun & Clarke (2006).

Thematic Analysis is a widely used qualitative analytic method, within and beyond psychology, with the advantage of being flexible and useful which can potentially provide a rich and detailed, yet complex account of data (Braun & Clarke, 2006). It is "a method for identifying, analysing and reporting patterns (themes) within data. A theme captures something important about the data in relation to the research question and represents some level of patterned response or meaning with the data set. Thematic analysis often goes further and interprets various aspects of the research topic. Moreover, it is also common to read "themes" emerging from the data.

There are 6 phases according to Braun & Clarke (2006) to be followed when doing thematic analysis. These are described below with the following table* with relevant examples of the current study.

Phase 1	-transcription of the interviews -reading repeatedly
Phase 2	-generation of initial codes (eg. "completing a course is watching the videos, getting the certificate etc"- code: definition of completing a course -coding of interesting features of the data in a systematic fashion across the entire data set while collating data relevant to each code (e.g. reasons for enrolling to a course->career benefits)
Phase 3	-search for themes (e.g. Assessment preference)
Phase 4	-reviewing themes by checking if the themes work in relation to the coded extracts and the entire data set
Phase 5	-definition of themes -the overall story the analysis tells generating clear definitions and names for each theme.
Phase 6	-production of a report. -final analysis of selected extracts, relating back of the analysis to the research question and literature

**Table taken from Papathoma (2011)*

These phases were followed in order to analyse the data in themes and are discussed in detail in the next chapter.

The concept of reflexivity also has to be noted here. Reflexivity according to Hammersley & Atkinson (2007, p.15) acknowledges that the orientations of researchers will be shaped by their socio-historical locations, including the values and interests that these locations confer upon them. This research study is therefore affected by my social background and my biography and analysis and findings cannot remain untouched by social processes and personal characteristics. This entails the fact that I have also experienced MOOCs and my interpretation about this study will be probably influenced by my participation in MOOCs.

3.4. The Choice of Sample

Normally, people enrolling in a MOOC exceed 100,000 (Universities UK, 2013) even though the number of people who completes a course or remains active is much smaller. The aim of the study was to go in depth rather than to generalise from the outcomes.

The process of recruiting people for the interviews was completed via the Facebook group of the MOOC related to Behavioural Economics. This closed group consists of more than 5,000 members. 46 members of this group were contacted by private message on their personal profile informing them with the details of the study (see Appendix 4). Since the course was over when this study was run, these 46 members were contacted because they were the active ones posting on the group, hence, more likely to respond. The participants were selected in terms of their experience with MOOCs and online courses. I decided to interview people that had participated in at least one course lecture even if they did not get the chance to complete it. I also found it necessary to interview more experienced MOOC users because it would be more likely that they would have tried more types of assessment and would be more familiar with the different assessment types. So, in the first contact with potential participants I was asking them about their experience with MOOCs (i.e. how many courses they have enrolled, if they have completed them, if they experienced different assessment types).

After arranging a convenient time with the participants, I sent them a consent form to sign before the interview along with the information regarding the study. The procedure followed for interviews is presented below:

- Sending an instant message on Facebook to find out if the participant showed up (i.e. if he was online) at the arranged time
- Asking a couple of ice-breaker questions (Punch, 2013) to put the participant at ease
- Informing participant again about details of the study
- Reminding him/her to send me a consent form if it was not already sent
- Making sure a word document was open on my computer with the questions I was planning to pose to the participant, copying and pasting the questions and adjusting them when needed (for instance when a question was already answered, it was not posed again)

- Asking the participant to confirm their name and date
- Informing the participant not to hesitate to ask questions and to feel free to withdraw at any time during the interview or not to answer any of the questions they felt uncomfortable with.
- Informing the participant about the length of the interview (around 60 min).
- Informing the participant about the first set of questions that were introductory in nature, more ice-breaker questions were also present here, asking where they come from how the weather was in their hometown etc. When they asked me about the weather in my country I was friendly answering back so as to build rapport (Jowett et al., 2011).
- Moving to main questions where there were three sections (three aspects of assessment that were already mentioned see also Appendix 3). Informing them what each section consisted of.
- Waiting for the participant to answer my questions. Answering back “good”, “ok”, “I see your point” etc. so that the participant feels that I was “listening as literature suggests (Jowett et al., 2011)
- After finishing the questions, asking the participant if there is anything else they would like to add about their experiences with the course or other MOOCs
- Copying interview from the instant messenger to a Word file and saving it in secure folder.

The participants of this study captured a wide range of views as they consisted of very experienced learners that participated in more than five MOOCs as well as less experienced ones that participated in just one. To start with, 15 people were willing to participate but not all of them managed in the end for different reasons (they did not find time, cancelled and rescheduled but could not make it in the end). Interviews were arranged with twelve learners who had the necessary experience. Interviewing twelve participants with different levels of experience provided an opportunity to uncover concepts and meanings related to their experiences on MOOCs and the assessment types they came to grips with.

3.5. Ethical Guidelines and Issues

This study followed the Ethical guidelines from the British Educational Research Association (BERA, 2011) and Association of Internet Researchers (Ess and the AOIR, 2002). Taking into consideration Ethical guidelines is very important as this study involved human participants. Ethical clearance from the Open University Human Research Ethical Committee was given for the study (see Appendix 5) and a consent/information form was sent to participants via Facebook messenger (see Appendix 4). After giving their consent, the data gathered by their posts and interviews was used for analysis. Participants’ identification details will remain confidential in this study. It was vital to consider that participants would have the right to withdraw at any time during the interviews or could ask the data to be destructed before it was aggregated for analysis.

Gaining access to the online research setting, building rapport with research subjects and obtaining volunteers for interviews might be an issue because ethnographers

cannot rely on their physical presence, appearance, interactional style and conversational competence to help them gain access (Mann & Stewart, 2002 in Garcia et al., 2009). Cavanagh (1999) points out with her study that when researchers are venturing online, they face some complexities surrounding the issues of online interactions. For example, she is questioning what information which is posted online constitutes public or private status. Her point is to raise awareness so that researchers consider these issues when they are venturing online. Therefore, the ethical issue that comes up when doing research online is what data is considered as public when it is published on a website such as Facebook and what is not. The group of the Behavioural Economics course was not public and permission was needed in order to become a member. Since I was a student of the Behavioural Economics course, I had access to its Facebook group that was observed. Taking this into consideration, during the online observations, I drew on some comments of the Facebook group. I used direct quotes only from students' comments that I have consent. I also used nicknames of those people who were commenting. Participants were contacted from my personal account on Facebook.

The researcher's identity can affect how conspicuous they are in the setting and the likelihood that potential informants will be willing to talk to them (Garcia et al., 2009). My approach was friendly, not formal, showing to the participants that I am one of them who has also participated in MOOCs and was interested to investigate in depth the different assessment types of MOOCs. Being a participant, I tried to be as objective as possible when interacting with participants because they knew that I was a student too. The impression I would make to the participants was important in deciding to participate in my study; I decided that participants would not be able to see my detailed profile on Facebook so that they would not be influenced by that in any way. Therefore, they had only a restricted view of my profile on Facebook. That means that they could only see the avatar of my profile picture.

3.6. Conclusion

This chapter discussed the research design employed in this study in order to answer the research questions. The current design is online ethnography. It was shown how the design addresses the research questions along with a rationale for the data collection techniques. Alternative research designs were also considered in this chapter. In addition, online ethnography was defined as well as online interviews and observations. The method of analyzing the data from the interviews and observations (i.e. thematic analysis) was discussed and ethical guidelines and issues related to the study were considered. In the next chapter, the data collection is discussed.

Chapter 4: Collecting the Data

This chapter is dedicated to the discussion of data collection. In particular, demographic details of participants of the interviews are considered. The procedure of online chat interviews and observations on Facebook are also addressed.

4.1. Participants

The current study involves a small number of participants. Amongst the 12 participants of the study, there was almost an equal number of female (seven) and male (five) interviewees. Six of the participants are between 21-30 years old, three are between 31-40 years old and another three are 51+. Therefore, there is a wide age range amongst the MOOC students even though participants were not selected on the basis of their age. Ten out of twelve of the participants have full time jobs, two are students and one of them is also working part time. They work as IT managers, translation managers, telecommunication managers or business managers; there are also consultants, dieticians, solo entrepreneurs, lawyers or students working part time. Eight of them have already completed a Masters degree while the rest have already a Bachelors degree. Hence, they are all highly educated people. There is no participant who has not studied at least at an undergraduate degree level. Most of them have a Master of Science, a Master of Fine Arts or a Master of Business Administration. The sample is geographically distributed with participants from Australia, Brazil, Canada, Colombia, Denmark, Greece, India, Russia, the US and Venezuela. Thus, MOOCs are used by people in geographically diverse parts of the world, Europe, North and South US, South Asia etc.

4.2. Online Synchronous Interviews

Interviews were carried out from 12-23 June 2014 (12 days) and participants had the option to choose between Facebook chat or Skype call. Interestingly, all participants were happy to do a text-based real time conversation (Jowett et al, 2011) for reasons of convenience. The interviews took place in the hours that were convenient for the participants due to time zone difference in their country of origin. Two participants had to pause the interviews due to meetings or other job obligations; however they came back to continue and finished the interview as planned. Normally interviews were completed in an average of 45-60 min.

Interviews were structured around three sections as already mentioned in the previous chapter. The first section was on the approach and experiences of participants with MOOCs, the second was related to the types of assessment in the MOOC course and the effectiveness of the different assessment types while the third was connected to the type of support the participants ask from the moderators of the course. In the next section the online observations of Facebook posts are discussed.

4.3. Online Observations of Facebook Posts

A MOOC Facebook group of the Behavioural Economics course was observed along with another one on Business.

In the Behavioural Economics course group, more than 300 posts were made from March 2014 when the course started until the end of June that this study run and observations were made at that time. The Behavioural Economics course lasted 6 weeks and the group was very active with more than 200 posts when the course was live. Another 100 posts were observed after the course finished and while this study was running (end of June). So, the Facebook group remained active even though the course finished in early May.

There was a concern during the observations as not much data was found. 13 posts were chosen for analysis as they were the only ones related to topics immediately or indirectly related to assessment (i.e. assignments, final exam, and certifications). The rest of the topics that were observed until the end of June 2014, were connected to articles, research that has been conducted on the course topic, ideas sharing among fellow students or suggestions for relevant future courses. In particular, when the course was on, most of the posts were focusing on course issues, questions or interesting articles students wished to share, issues with peer grading, messages that fellow students were posting to thank moderators for the usefulness of the course or posts where students were showing their statements of accomplishment and their grades. However, there was not a big number of posts related to types of assessment, the focus of this research.

In the other MOOC group of the Business course, more than 200 posts were observed from December 2013 until end of June 2014 (the course lasted 6 weeks but posts were observed after the course finished and while this study was running). The majority of them were posts of articles related to the course subject and fewer posts on sharing ideas about the course or events related to the course. There were also posts related to other courses relevant to this MOOC. Only 4 posts were indirectly connected to assessment and were on issues on the final exam of the course, on grading and certifications. As the data from this group was very poor it was not investigated further. In the next section the structure of the Behavioural Economics course is described.

4.4. Course Structure

In order to understand more fully the students' responses in the next chapter about assessment the details of how the course was structured and interspersed with the assessments are presented in this section. The Behavioral economics course's focus was learning about the many ways people behave in less than rational ways, and how people may overcome their weaknesses. Students also learn about cases when irrationalities may work in our favor and how we can harness these tendencies to make better decisions.

The course format is organized over 6 weeks. Each week consists of four short video lectures (10 min each) followed by two automated quizzes (Reading and Lecture quizzes). Learners are required to watch the lectures and read some other material. They are then asked to complete the quizzes without time limitation. Moreover, they have the opportunity to try multiple times (10) to achieve excellence for each quiz. The questions of the quizzes change slightly in each attempt and learners get direct

feedback with the scores they attained. The score that counts in the end is the highest they achieved among all their attempts.

On the third and the fifth week learners are also asked to write an assignment. Each assignment (500-800 words) is peer assessed by 3 other students. Students that are assessing other students' work are asked to grade the content of their peers' assignments according to specified guidelines with a binary system (i.e. they give 1 when a student has written what was requested in the guidelines or else they give 0 if what was requested is missing). Moreover, they are required to give some written feedback about the assignment and comment on strengths or weaknesses of their fellow students. Following the peer assessment, learners are also asked to correct their own assignment (self-assessment).

At the end of the six weeks of the courses, students need to revise what they did and take part in a final exam for which they have limited time and they can only attempt it once.

Furthermore, provided that students attain 85%, they can take a statement of accomplishment in two tracks; normal or distinction. For the normal track they have to complete only the quizzes and the final exam and for the distinction track they have to complete the quizzes, the assignments and the final exam.

Finally, the course has a forum space where students have the opportunity to ask questions to moderators/teaching assistants and get direct answers on the forum. Alternatively, students can also pose their questions to the course instructor that are then answered at the end of each week through a video. This video is called "Office Hours". There is also a Facebook group of this course where students interact with each other online. No offline interaction among students was mentioned in the forums or on the Facebook group.

4.5. Data Analysis Techniques

The data collected through interviews and observations were analysed with qualitative techniques and thematic analysis in particular was used as discussed by Braun & Clarke (2006). The phases followed are described below:

Thematic analysis was implemented. No transcriptions of the interviews were needed since all of them were conducted via Facebook messenger and questions and answers were in writing. The interviews were copied in separate files and saved in a password protected folder. They had a fairly structured schedule. Posts from the MOOC Facebook group of the Behavioural Economics and the Business course were scanned, saved in Word documents. In particular, posts related to assessment were filtered as the data set for analysis, and were copied in a separate folder. Both the interviews and the Facebook posts were read repeatedly. Following this, a text with initial codes was generated and quotes of the participants were highlighted. These codes were re-read repeatedly aiming to search for themes that were then reviewed by checking if they work in relation to the coded extracts and the entire data set. Themes and subthemes with regards to the interviews were defined and are the following:

- Reasons for signing up to a course
- Payment for MOOCs or other online courses
- Type of participation in MOOCs (enrolment, completion, dropout)
- Definition of completing a course
- Assessment preference
- Assessment importance
- Assessment value
- Types of assessment
 - Automated Assessment
 - Peer Assessment
 - Self Assessment
- Social media and fora: communication for course issues, ideas, assessment
- Activities related to MOOCs

Themes that emerged from the online observations are:

- Peer Assessment Issues
- Certifications
- Discussions of Course Experiences
- Comments on Final Exams and Grades

In the next chapter the themes that emerged from the interviews and the observations are shown and are being analyzed.

Chapter 5: Data Analysis

In this chapter the data that was gathered from the interviews and the observations are analyzed according to themes that emerged during the first phases of the data analysis. The interview data are analysed and presented in part A and the observation data follow in part B.

A. Interviews

The participants of the interviews, their demographic information and experience with MOOCs are shown on Table 1:

Table 1: Information about participants

Name	Age	Country of origin	Education Status	Work Status	Experienced MOOCs or OC in
Filippos	20-30	India	MBA	Full Time	Very
Orestis	20-30	Brazil	BA	Full Time	Very
Aris	51+	Canada	MA	Full Time	Very
Danae	31-40	Australia	MA	Full Time	Moderate
Maya	20-30	Greece	MA	Student	Moderate
Dionysus	31-40	Russia	MA	Full Time	Moderate
Niobe	20-30	Greece	MA	Full Time	Non experienced
Antigone	31-40	Venezuela	MA	Full Time	Non experienced
Elpi	51+	CA,US	MFA	Full Time	Non experienced
Melpo	51+	Denmark	BA	Full Time	Non experienced
Calypso	20-30	US	BA	Full Time	Non experienced
Hermes	20-30	Colombia	BA	Part Time& Student	Non experienced

5.1. Reasons for Signing up to a Course

The majority of participants (eight) mentioned that they signed up to a course out of personal interest and interest in the course topic. This is illustrated by the following quote:

Interviewer: What were the reasons for signing up to the course?

Niobe: *"Personal interest in the subject matter"*

Interestingly, four participants talked about the course instructor's reputation which contributed to their enrolment in the course:

"The topic was interesting to me and I have seen and thought about reading the books that professor had published". (Calypso)

Moreover, five participants mentioned that participating in the course could benefit their career. This is highlighted in the quote below:

"I began working full time on my partner's growing business and we were at a stage where we wanted to really understanding marketing better (...) reasons included own interest and career benefits, with a view to increasing revenue of my partner's business through a better understanding of marketing" (Danae)

Additionally, three participants stated that the course they chose contributes to developing new skills. For instance, when **Aris** was asked what he was expecting from the course he said:

“To update my current knowledge, develop new skills and if it extends, then to career benefits”.

Finally, only **Aris** and one other participant specifically mentioned that they are enrolling to a course in order to update their knowledge/skills or to get new knowledge as already illustrated from the previous quote.

To conclude, for most participants the driving force of signing up to a course was their personal interest, the course topic or their career development while a few participants valued the course instructor and therefore signed up. For a couple of other participants the reasons for signing up to the course were skills development, update or getting new knowledge. Table 2 below summarises participants’ responses about the reasons they are signing up to a course:

Table 2: Participants’ views on reasons for enrolling to a course

Reasons for signing up to a course and participants’ views :	Personal interest / interest in the course topic	Course instructor value	Career development	Skills development	Update /Get new knowledge
Filippos	✓		✓	✓	✓
Orestis	✓	✓			
Aris			✓	✓	✓
Danae			✓		
Maya	✓				
Dionysus			✓		
Niobe	✓				
Antigone			✓		
Elpi	✓	✓		✓	
Melpo	✓	✓			
Calypso	✓	✓			
Hermes	✓				

5.2. Payment for MOOCs or other Online Courses

The majority of participants (eight) said that they did not pay any fee to participate to MOOCs or any other online courses. One participant highlighted the importance of having the opportunity to participate in open courses for free:

“I want to emphasize how lucky we all are to have free access to courses online nowadays (..) A few years back unless you had the money, and the grades you would not be able to study something that really interests you but not that is possible (..) my friends call me a Coursera ambassador, I keep telling everyone about it (..) No further comments” (Niobe)

One participant has paid for two courses, did not complete any of those but did not mention the reason why:

Interviewer: Have you paid any money to study an online Course or MOOC?

Danae: *yes I have*

Interviewer: and you completed those or not? (those for which you paid for?)

Danae: *no I haven't (..) ironically*

However, another two participants have paid for MOOCs and completed them and one participant had also paid for online courses at university:

“In college I paid for online courses that counted towards my degree..... (...)During a summer internship I decided to remain productive and take 2 online courses that would give me general elective credit.” (Calypso)

To conclude, most of the participants did not pay to enrol to online courses or MOOCs. Interestingly one participant paid for a MOOC and did not complete the courses they paid for. Table 3 below summarises participants’ responses about payment for MOOCs or other online courses.

Table 3: Participants who paid for MOOCs or online courses

Payment for moocs or other Online Courses	Paid for MOOCs	Haven't Paid
Filippos	✓	
Orestis		✓
Aris		✓
Danae	✓ (but not completed)	
Maya		✓
Dionysus		✓
Niobe		✓
Antigone	✓	
Elpi	n/a	n/a
Melpo		✓
Calypso	✓ (for other online courses)	
Hermes		✓

5.3 Type of Participation in MOOCs (enrolment, completion, dropout) completion or registration

The participants of this study were considered into three main groups; very experienced, moderately experienced and non experienced learners. As I was focussing on assessment the classification was made in terms of completion to courses. Three participants of the very experienced MOOC students have participated in more than 10 courses each. The following quote from **Aris** illustrates this:

“Yes I have completed over 20 MOOCs and have received 19 certificates to date”. (**Aris**)

Three moderately experienced MOOC students have participated in 3-4 courses each. The remaining six participants were non experienced MOOC students and have participated in 1-2 courses so far. The experienced ones have completed all the MOOCs they enrolled in. The moderately experienced MOOC students were usually completing the courses they enrolled in. There was one exception in those students that has dropped out of two of the three courses she enrolled in:

“I have actually tried to finish a couple of other Coursera courses, but I did not finish them. I have only achieved to finish one of them”. (**Maya**)

Finally, two of the non experienced MOOC students pointed out that they have dropped out several MOOCs in the past before completing their first or second course. This was mentioned by one interviewee as follows:

“I had signed up for a few others prior to that one (Critical Perspective on Management and Content Strategy for professionals) but i did not keep up with the material and unenrolled” (Calypso)

Another interesting comment related to completing the courses was from a student mentioning the following:

“I have only completed online courses through Coursera. I had enrolled in a number of other MOOCs in the past but I never completed them. I did not find the necessary commitment to do it” (Niobe)

Finally four interviewees of the category of non experienced students have completed the course(s) they enrolled in.

In conclusion, the experienced students of this study did not drop out of courses and completed them all. The same happened with the moderately experienced with one exception and two of the non experienced students have dropped out a couple of courses before completing their first one. Table 4 summarises participants' experience about the courses they enrolled and completed or enrolled but dropped out.

Table 4: Participants' course completion record

Type of participation in MOOCs and participants' views	Experience	Courses Enrolled and completed	Courses Enrolled and Dropped out
Filippos	Very	10	None
Orestis	Very	14	None
Aris	Very	20	None
Danae	Moderate	4	None
Maya	Moderate	3	2
Dionysus	Moderate	3	None
Niobe	Non Experienced	2	Several in the past before completing these 2
Antigone	Non Experienced	2 MOOCs & several online trainings	None
Elpi	Non Experienced	1	None
Melpo	Non Experienced	1	None
Calypso	Non Experienced	1 MOOC & 1 online course	Several in the past
Hermes	Non Experienced	2	None

5.4. Definition of Completing a Course

All participants apart from one agreed that, completing a course means following the videos, readings, quizzes, assignments and getting a statement of accomplishment as highlighted in the following quote:

“To me it means watching the videos and completing the assignments, readings, and quizzes to receive a certificate”. (Calypso)

Only one student defined completion differently. He considered that completion of a course is taking notes while watching the video lectures. He mentioned that:

“making notes is the definition of completing a course” (Dionysus)

Two participants mentioned that completing a course is synonym to “learning”:

“To me, it does mean gaining a certificate or some form of documentation of completion on a personal level, I feel accomplished if I’ve received something in writing, and if I feel that I’ve learned new concepts and that I’ve made a good attempt at completing the course deliverables”. **(Danae)**

In the above quote it is implied that getting “something in writing” is a proof of learning. Two more participants valued the certificate the same way as they could include it in their CV. There was one interviewee who had a slightly different view with regards to learning and getting a statement of accomplishment. This was in contrast to Danae’s view. He mentioned in particular:

“The statement of accomplishment makes me feel more committed to the course but I know that only achieving the statement does not mean that we learn something”
Orestis

Therefore, the statement of accomplishment was motivating to remain committed to a course but did not necessarily mean that it guarantees learning. Consequently, for the majority of participants (nine of them), getting a statement of accomplishment is part of the definition of completion. Only one participant mentioned that getting a certificate is not important but he was one of those, who even though has participated in a course and followed the videos and readings, he did not manage to get it in the end. This is highlighted in his words below:

“Completing the course means for me taking all the assignments, all the quizzes, watching all the videos, etc. but not getting the certificate” **(Hermes)**

Further, one participant did not mention the statement of accomplishment at all in his definition of completion and interestingly, he was an experienced MOOC student having completed all the courses he enrolled. However, there was no observable difference between experienced and new students in their views on “completion”. They all valued it as important. Additionally, four interviewees included the importance of participating in fora and interacting with other people in their definition of completing a course:

“Whenever I take a course I make sure I do it 100% that is do all the videos, read the stuff, participate in forums..” **(Filippos)**

To conclude, completion for most of the students of this study is to watch the videos and follow the readings and quizzes and get the statement of accomplishment. This seems to be very important almost for all of them. There were just a few participants who mentioned that completion is synonymous with learning while some included their participation in the forums in their definition of completion. Table 5 summarises participants’ responses on defining completion of a course

Table 5: Participants' views on definition of course completion

Definition of completing a course and participants' views	Videos/ Readings/Quizzes/ Assignments	Taking notes	Learning	Certificate	Participation/ interaction in forums
Filippos	✓			n/a	✓
Orestis	✓			✓	✓
Aris	✓			✓	
Danae	✓		✓	✓	✓
Maya	✓			✓	✓
Dionysus		✓		✓	
Niobe	✓			✓	
Antigone	✓		✓		
Elpi	✓			✓	
Melpo	✓			✓	
Calypso	✓			✓	
Hermes	✓			He did not complete the course because of an assignment missing	

5.5. Assessment Preference

Five participants preferred the automated assessment while one preferred peer assessment. None of the participants included self-assessment in their preferred assessment type and three had no preference. These are illustrated by the quotes below:

"I found that the MCQs which came up automatically as I was progressing through the lectures, was really helpful for my learning". (Danae)

"I like the written assessments, peer evaluated because we can read the work from others, evaluate them, discuss about them in the discussion forums". (Orestis)

There was only one participant who preferred a case study analysis type of assessment. Case study analysis is a type of assessment where a case is presented and students are asked to analyse it with relevant theory. This participant came across this type of assessment in a MOOC in Marketing that she completed. She thought that this was a useful way of getting into grips with real examples in order to identify theory elements:

"We have the case on video (interview of the Marketing officer of the company) she explains what is the business model and the marketing aspects so we identify the strategy and the elements they follow in the company so, we fill in the blanks the answers for each video". (Antigone)

Interestingly, three participants mentioned that the combination of peer- auto- and self- assessment reinforced each other to enhance the learning experience. She mentioned the strategy that one of the course instructors followed:

"the automated quizzes that you could retake helped recall & retention. Many of the questions were softball at the beginning so people weren't discouraged & then got

progressively more difficult. This gave people a feeling of both success & accomplishment, which was very clever(..) the **self-assessment** gave you the chance to experience hindsight, so you could see what improvements you could make for yourself(..) the **peer assessment** allowed you to get a feel for how other people were understanding the material and opened up new ideas and insights on the course (..) so i thought say X concept could be used in one way, but the peer assessment showed me that other people thought of more ways to apply X (..) these types of assessment **reinforced each other**, so by the end I understood why the instructor had set the course up in this manner with the 3 types". (**Elpi**)

To conclude, participants prefer automated assessment. Just one of the participants has a preference for peer assessment and some participants prefer the combination of different assessment types. None of the participants prefer self assessment. Table 6 summarises students' responses about assessment preferences.

Table 6: Participants' proffered assessment type

Assessment Preference and participants' views	Automated assessment	Peer Assessment	Self assessment	No preference	Combination of types	Other types of assessment
Philippos					✓	
Orestis		✓				
Aris				✓ but →	✓	
Danae	✓					
Maya				✓		
Dionisos				✓		
Niobe	✓					
Antigone						✓ (case study)
Elpi					✓	
Melpo	✓					
Calypso	✓					
Hermes	✓					

5.6. Assessment Importance

More than half (eight) of the participants did not pay attention to what type of assessment a course includes when they enrol, whereas four valued it. For example **Calypso** mentioned that:

"I think missing deadlines is a reason I unenrolled from other courses. With the class I completed they had hard deadlines but the first one was not for many weeks and they also said they would drop your lowest 2 quiz scores to make up for their inflexibility in deadlines. There was one week I was too busy to complete the reading quiz and it was nice to know that it would not count against me".

Therefore, this mechanism of assessment gave her some flexibility that was vital for her.

To conclude, when choosing a course the type of assessment is not important for most of the students. Few students admit that sometimes the assessment type may contribute to their course choice. Table 7 summarises students' responses about assessment importance.

Table 7: Participants' views on assessment importance

Assessment Importance on choosing a course and participants' views	Important	Not important / Neutral
Philippos		✓ (only course content is important)
Orestis		✓
Aris		✓
Danae		✓ (but helps complete)
Maya		✓
Dionisos		✓
Niobe	✓	
Antigone		✓
Elpi	✓	
Melpo		✓
Calypso	✓ (missing deadlines is a reason to unenroll)	
Hermes	✓ (if there are long assignments)	

5.7. Assessment Value

For three participants, assessment offered motivation for attending a course and therefore was important. In particular **Niobe** mentioned that:

“These types of assessment are a motivation to pay close attention, keep notes, and understand the required material more deeply”

As stated in the previous quote by Niobe and another participant, keeping notes, making presentations and writing assignments entailed a creative way of assessing a course. Therefore, assessment enriched their creativity. Moreover, assessment contributed to understanding deeper the material in hand. Additionally, for one experienced participant of this study, who was studying at university, assessment in MOOCs was as important as university's assessment which is more formal. He, therefore, associated formal assessment of higher education with the assessment in MOOCs:

“I feel the same responsibility and they (i.e. assessment types) are as challenging as the works I make in the "real" university” (Orestis)

It can also be inferred that the value of assessment for some participants (3) was based on the combination of different types and its contribution to their learning goals:

“I think they all do (i.e. contribute to achieving learning goals) and they must be combined. Assignment only will put folks off. Quizzez after each week will get them interested. A layering effect, just as game designers do. You know I am too involved with the MOOCs”. (Aris)

Furthermore, assessment for a couple of participants was challenging. However, it can be inferred that for almost half of them, assessment was important because depending on the quality of feedback given, participants thought it enhanced their learning experience.

To conclude, the students' responses about the value of assessment vary. Assessment may motivate them to pay attention to a course, enriches their creativity

and offers them a deeper understanding of the material in hand. A few of them value the combination of the different assessment types. Many of them value the feedback as it contributes to their learning. Table 8 summarises students' responses about assessment value

Table 8: Participants' views on assessment value

Assessment Value and participants' views	Motivation for attention	Enriches Creativity	Deeper understanding of material	Parallellising it with formal assessment of university courses	Combination of types	Feedback contribution to learning
Philippos					✓	✓
Orestis				✓		
Aris					✓	
Danae	✓					✓
Maya		✓(via presentations, assignments)	✓			
Dionisos	✓					
Niobe	✓	✓	✓			✓
Antigone						✓
Elpi					✓	
Melpo						✓
Calypso						
Hermes						✓

5.8. Types of Assessment

Participants were asked to elaborate on their views related to automated, peer and self-assessment and an analysis of their quotes is described below.

5.8.1. Automated Assessment

Five participants preferred automated assessment. One of the reasons of this preference is the opportunity to attempt more than once each quiz and this was therefore motivating:

“number of attempts are very imp aspect in a mooc. if there is only one attempt, students will be stressed, and might not able to perform 100% but if they give multiple attempts, we know which questions we got wrong so we can study those lessons again, watch the video, read the stuff and then take the quiz again” (Filippos)

Moreover, eight of the participants mentioned that automated assessment tests their knowledge/ memory and therefore their learning. Additionally, two participants highlighted this when they mentioned that automated assessment “crystallized” what they learnt:

“I found that the MCQs which came up automatically as i was progressing through the lectures, was really helpful for my learning. they helped crystallise what I had just learned. also, I liked that the MCQ would replay when I got an answer wrong, so I had an opportunity to learn” (Danae)

Additionally, the above quote illustrates another reason that five participants valued the motivating character of automated assessment i.e. the chance to see the correct and wrong answers and therefore learn from this:

“I think that seeing the correction of the quizzes, and learning from our mistakes is very helpful” (Aris)

Following this, two participants mentioned that the automated assessment was also valuable for revisions for final exams (recall and retention):

“the automated quizzes also served as great finals prep, because they kept them open for re-taking (but without recording the scores) after the hard deadline each week”. (Elpi)

Thus, the design of the course let the students to go back to the quizzes they were taking during the course and retake them, so that they would recall the information gained during the course and learn it better. In other words, the automated quizzes that students could retake, assisted them to remember the information they were exposed to during the course and memorise them. Finally, it also appears that automated assessment not only motivated students but also offered the feeling of attainment; two participants expressed this opinion:

“many of the questions were softball at the beginning so people weren’t discouraged & then got progressively more difficult. this gave people a feeling of both success & accomplishment, which was very clever”. (Elpi)

To conclude, automated assessment, which is the most preferred type for students of this study, is motivating because students get the opportunity for multiple trials in the quizzes and they can see the correct and wrong answers and they feel they learn from those. Automated methods also test their memory and knowledge and they believe they learn while completing them. For some of the participants, this method of assessment gives them the opportunity to revise for the final exams. There were no negative views about automated assessment. Table 9 below summarises students’ responses about their views on automated assessment.

Table 9: Participants’ views on automated assessment

Automated assessment (objective type) and participants’ views	Opportunity for multiple attempts/ motivating	Testing knowledge/ memory therefore learning	Crystallizes what was learnt (feeling of success and accomplishment)	Opportunity to see correct/wrong answers and learn/motivating	Opportunity to revise for final exams
Filippos	✓	✓	✓	✓	
Orestis	✓			✓	
Aris	✓	✓			
Danae	✓	✓	✓		✓
Maya	✓	✓			
Dionysus					
Niobe		✓		✓	
Antigone	✓				
Elpi	✓				✓
Melpo		✓		✓	
Calypso	✓	✓		✓	
Hermes		✓			

5.8.2. Peer Assessment

Even though peer assessment was not the ideal type of assessment for the majority of participants of this study, they did recognize some value in it and they expressed some positive aspects. However, it is worth noting here that only two participants mentioned that they had previous experience of peer assessment during their undergraduate studies and hence, peer assessment was a new genre for most of the

participants. In particular, five of the participants mentioned that peer assessment offered the opportunity to get to know others' ideas and they got familiar with these ideas while assessing fellow students. Moreover, another five participants considered peer assessment powerful and interesting because it offered ways of understanding concepts; it seems to be a complete type of assessment that directed students to their learning goals and they believed they could learn from each other:

"Peer assessment also offers me a window to another person's ideas and ways of conceiving the concepts" (Niobe)

"They are very interesting as it brings in other people views on the assignment". (Aris)

"I like the written assessments, peer evaluated because we can read the work from others, evaluate them, discuss about them in the discussion forums.. and it makes us learn from one another". (Orestis)

One participant, interestingly, presented a social aspect of peer assessment:

"I think they are a good opportunity for interact with other students from all over the world and get more involved and committed with the course" (Orestis)

On the contrary, four participants were fairly negative about peer assessment. They pointed out that it was unfair for some.

"..but we wrote an assignment and graded 3 other assignments – worked ok but I suspect some felt unfair grades". (Melpo)

Three participants mentioned that expertise is needed for peers to assess other peers' work.

"(I prefer)..papers marked by the professor and his assistants because they are the experts and their feedback has more weight as they know the material better and they are also experienced as they have seen tons of other papers" (Niobe)

It can be inferred here that Niobe has the notion that her paper should be marked by a "respected superior" (i.e. the professor and his assistants). Her views are possibly influenced by her own socio-cultural background and that has an impact on her views about assessment. A superior, an expert has to mark her papers rather than a novice (i.e. her classmates). There is a hidden theme here of socio-cultural impact that may control students' views. Niobe comes from a Greek educational background as myself. Teacher and student relationship is slightly different in the Greek educational system from what it is in the UK or the US. Students are expected to respect teachers' views even if they don't agree with them and consequently they will seek teachers' view on any work they submit, in case peers are not entirely sure. Being part of the Greek educational system I am in a position to understand Niobe's socio-cultural background that may influence her views about assessment.

Additionally, they mentioned that it is time consuming, illustrated by the two quotes below:

"I think I lose some time but it's a kind of payment" (Dionysus)

"However, sometimes it (peer assessment) is less effective, considering the fact that maybe it takes more time to search-think-evaluate others' work" (Maya)

Another two participants mentioned that peer assessment is not taken too seriously when peers are marking other peers work:

"Most folks do a good job at it. Others try n slip by. While marking, I reward content n understanding of subject matter." (Aris)

Two participants considered peer assessment problematic because of the language barrier between peers. This view contrasts with the previous quotes related to the positive social aspects of peer assessment:

"The issue was the global nature of the class - many people didn't have the correct level of fluency to write English well enough to do the essays (..) others had reasonable business English, but couldn't cope with the level of writing offered by the native speakers, so they couldn't read those essays well enough" (Elpi)

This comment reveals the impact of language in the context of the global offer of MOOCs. The fact that people participating in MOOCs are coming from different socio-cultural backgrounds becomes apparent and this may have an impact on assessment. In this case, a native speaker of English language finds it challenging having to assess non-native speakers' work.

To conclude, for most of the participants assessing their peers is something new to them. They have both positive and negative views about this method. They do appreciate that they get to know other people's ideas and they see it as a powerful way of understanding concepts that will assist with their learning. There is also one person who sees social aspects of peer assessment that promotes interaction. However, some students find it unfair, time consuming and hard. Students participating in MOOCs, are coming from different educational systems and they might be expecting a certain set of rules they are used to from previous teaching and learning settings and consequently from the assessment procedure which is an important aspect of learning. Therefore, MOOCs designers need to be sensitive to students' views and prepare students for learning in a global setting. This is also discussed in 6.2. Table 10 summarises participants' views on aspects of peer assessment.

Table 10: Participants' views on aspects of peer assessment

Peer Assessment aspects and participants' views	Prior Experience	Get to know others ideas	Powerful way of understanding concepts directing to learning goals	Social Aspects-promoting interaction with people around the globe	Negative- (i.e. unfair, expertise needed/ hard/ time consuming/ language barrier issues/not taken seriously)
Filippos					
Orestis					
Aris		✓	✓		✓
Danae	✓			✓	
Maya					✓
Dionysus					✓
Niobe	✓	✓	✓		✓
Antigone		✓	✓		
Elpi					✓
Melpo		✓			✓
Calypso			✓		
Hermes		✓	✓		

5.8.3. Self -Assessment

As previously mentioned, self-assessment was not a preferred type of assessment by the participants of this study and they were fairly negative towards it. Four of the participants in particular, challenged its validity, objectivity and believed that it was conflicting. This is illustrated below:

“Self- evaluation are okay but there is nobody to check you.. you can give full marks and cheat” (Filippos)

“(Self-assessment) is a bit challenging because you always feel that you are right” (Antigone)

In other words, when someone was assessing him/her-self, he/she could not be objective with his own work and therefore the validity of this type of assessment was ambiguous. Nonetheless, one participant interestingly mentioned that she was quite strict with herself when assessing:

“it's (i.e. self-assessment) conflicting between you wanting to appear modest and actually wanting to get the best possible mark. I always marked me more conservatively than I wanted because of that reason and then felt quite foolish for not giving me better marks” (Niobe)

Two participants expressed the opinion that they could not be critical with their own work, they were too generous with themselves and explained the reasons for this by highlighting a theory from one of the courses they had completed (i.e. IKEA effect- somebody appreciates more something he has created himself and its value is greater)

“I think self assessments contribute too (i.e. to my learning), but people are not so critical when they look to their own work (...)what it called IKEA effect so I prefer when there is a mix between our self assessments and peer assessments” (Orestis)

Moreover, three opponents mentioned that self-assessment does not check knowledge, is not helpful and consequently, it does not contribute to enhancing their learning experience.

"I do not really think that it helps to check knowledge. I think it only helps to check how good you remember things. Knowledge for me means to search, to create, to really get involved to it" (Maya)

Regardless of the negative comments from some participants, there were three participants who had positive views on self-assessment. Those participants happened to be the same ones who had a preference on the combination of the three assessment types. They mentioned, in particular, that self-assessment is helpful for improvement and thus, it contributes to enhancing learning:

"I liked the self-assessment because after seeing what other people did, I could identify improvements in comparison" Elpi

Self-assessment in the particular course that Elpi participated was linked to peer assessment. A learner could evaluate his own work only after assessing his peers' work. Hence, this order of assessing peers first and continue with self- assessment, assisted her to improve her own work.

To conclude, students' views about self assessment which was not a preferred method of assessment were relatively negative. Assessing their own work is either not valid or objective for them or at times they find it conflicting. Some students are too generous and cannot be critical with their own work or they express the opinion that self assessment does not check their knowledge and does not contribute to their learning. However, some positive thoughts about assessment show that students find it helpful for improvement and a complementary method to enhance their learning. Table 11 summarises participants' responses about their views of aspects on self-assessment.

Table 11: Participants' views on self-assessment

Self Assessment aspects and participants' views	Not valid/ objective/ Conflicting	Not Strict with own work	Too generous/not critical	Does not check knowledge/ does not contribute to learning enhancement	Positive comments (helpful for improvement/ contributes to learning)
Filippos	✓				
Orestis					✓
Aris					
Danae			✓		✓
Maya					
Dionysus				✓	
Niobe	✓	✓			
Antigone	✓			✓	
Elpi					✓
Melpo				✓	
Calypso			✓		
Hermes	✓				

5.9. Social Media and Fora: Communication for Course Issues, Ideas, Assessment

MOOCs often have a space for online discussion fora where students and moderators chat about their ideas or issues related to the courses. Moreover, the discussions related to courses are expanding on Social Networks, such as Facebook, Twitter, Google+ and LinkedIn as they are widely used. Hence, participants were asked to talk about their experiences on the social media and fora.

However, only one participant of this study was an ardent user of fora (ranked #4). Forum ranking is an important device created by the instructor to engage people with the Behavioural Economics course. This is highlighted by the student's quote below:

“another commitment device was the forum reputation ranking “Would you be in the top 25 or not?” The structure made you feel successful, so you wanted to do more and enjoy basking in that success so there were multiple positive feedback loops that bound you to the course thus you became more committed over time” (Elpi)

Therefore, this student was bonded together as a community with other peers in the fora and became a “Roomba”. *Roombas* were the students that were striving for excellence with an intention to participate in all activities of a course (quizzes, assignments, peer and self-assessment) and achieve to get a certificate with distinction. On the other hand, *Sponges* were the students who were looking to get the standard certificate without distinction by completing only the quizzes:

“based on the instructor's work, he identified techniques to make people commit to finishing the course, doing well on it and bond together as a community such as creating a “doing” identity by asking if you would be a Roomba or a Sponge”.(Elpi)

The labels of *Roombas* and *Sponges* were assigned by students themselves. It was a game among students -probably directed by the course moderators. Five participants mentioned that they participated and interacted with other MOOC students in social media (Facebook, Google+ and LinkedIn) and this happened because they were online anyway or they were administrators of study groups on Facebook. Nevertheless, the majority of participants (eight) did not communicate in social networks or in course fora due to lack of time, they were not willing to or they were just reading posts. Four participants mentioned the “office hours” feature of a course that gave them the opportunity to ask questions to the course instructor and watch a video with the answers. This was highlighted as follows:

“The teacher also offered video office hours that he would post after receiving questions from the students. I watched all of those and enjoyed them very much (Calypso)

This shows that participants were also looking for support from the instructor and not peers even though this instructor-student interaction was via video content. Once more, communication from the “respected superior” seems to be more important to them rather than interacting with their fellow students. These views are possibly influenced by the teaching and learning culture these students are used to and that has an impact on their views. The theme of the socio-cultural impact that may control students' views appears again.

Finally, three of them interestingly mentioned the opportunity that social media offers for cultural exchange with other MOOC students:

“I like to know about different people. Different countries and their cultures so I like to meet people from other countries. And connect with them.” **Filippos**

The aspect of cultural exchange through social media and MOOCs can be associated with the social aspect that peer assessment offers to one of the participants as was pointed out earlier.

To conclude, the majority of students do not communicate neither in the social media nor in the course fora about course related topics due to time restrictions or because they are just not willing to do that. They value the fact that they can ask the tutor questions via the “office hours” feature. However, some of them do appreciate the fact that interacting with people through social media promotes a cultural exchange as part of the global offer of MOOCs. Table 12 summarises the participants’ responses about social media and fora use and communication through them on topics related to the course, ideas and assessment.

Table 12: Participants’ views on social media and fora

Social media and fora: communication for course issues, ideas, assessment and participants’ views	Course Use	Forum	No communication due to time restrictions/or not willing but have checked them	Interaction with other MOOCs students via social media	“Office Hours” Feature-questions and answers about the course)	(i.e. Cultural Exchange
Filippos				✓	✓	✓
Orestis				✓		
Aris				✓		✓
Danae			✓		✓	
Maya			✓			
Dionysus			✓			
Niobe			✓			
Antigone			✓			
Elpi	✓			✓	✓	✓
Melpo			✓			
Calypso			✓		✓	
Hermes			✓			

5.10. Activities related to MOOCs

Participants were asked about what kind of activities they were involved in, when they take part in a MOOC. Sometimes participants mentioned activities that existed in MOOCs even if they were not involved. The activities in MOOCs that five participants were involved were mainly related to watching videos, readings, quizzes and assignments (i.e. assessment). Three other participants mentioned that meet ups and hangouts were other activities they considered and/or had been part of.

Four people mentioned the discussion fora and the social media participations as an activity related to MOOCs. Nonetheless, not all of them were active users of these tools:

“There was a discussion forum, but I just took a few looks there I did not write anything” (**Maya**)

To conclude, students' activities in MOOCs are related mainly to watching videos, completing quizzes and assignments or doing the readings. Some students mentioned activities that they do not take up and are related with discussions in forums or meet ups with other students. Table 13 summarises these activities that participants took part or considered.

Table 13: MOOC activities participants took part or considered

Activities in MOOCs and participants' views	Videos, readings, quizzes and assignments (i.e. assessment)	Meet ups and hangouts	Discussion fora and social media (but not active users)
Filippos		✓	
Orestis	✓		
Aris			
Danae		✓ (considered)	
Maya	✓		✓
Dionysus			✓
Niobe	✓		✓
Antigone			
Elpi			
Melpo	✓	✓ (considered)	
Calypso	✓		✓
Hermes			

B. Observations

This section discusses the online observations from the Facebook groups' posts of the Behavioural Economics course and the Business course. As previously mentioned, I was a "participant experienter". The Behavioural Economics course is one of the courses I have completed. The Facebook posts in the group of this course are analyzed below. The Facebook posts in the MOOC group of Business very little concerned assessment. They were related to issues on the final exam of the course, on grading and certifications and therefore data was not adequate for analysis.

The posts from the Facebook group of the Behavioural Economics course were mainly related to hyperlinks from magazines and newspapers relevant to the course. It was common that students would only press the "like" button to this genre of posts and were rarely interacting with the person who was posting these links. Specifically, 13 posts were found that were immediately or indirectly related to assessment. As previously mentioned, the following themes emerged from members' discussions:

- Peer assessment issues
- Certifications
- Discussions of course experiences
- Comments on final exams and grades

5.11. Peer assessment issues

There were two posts out of the thirteen (13) of the data set, where students commented on peer assessment issues. As a learner of this course, I also posted on the group. One of my posts was related to difficulties I faced when I had to grade the second assignment of the course. Seven people commented and shared their personal experiences under my post. All of them were mentioning that more

gradations/ scales would be useful while grading peers' work. The lack of a bigger scale on grading made the students to be more generous when grading and many students ended up with excellent results. In particular while they were grading, there was a binary system of grading with 0 or 1. Hence, students would give 1 if they were not sure if the peer was absolutely correct. They would prefer to have a different system with a scale from 0 to 5 so that they could grade peers more fair.

Therefore, a bigger scale when grading would make peer grading more effective according to those eight people who were talking about this issue in the Facebook group. There was one participant who came up and expressed a different opinion saying that peer assessment is simple and a piece of information was either there (so they would mark with 1) or not (so they would mark with 0). But then another learner presented the opinion that only the first assignment could be easier in terms of grading and the person who mentioned in the first place that peer grading was simple, agreed. This post may show that all students were highly graded in the end because more of the students were in doubt with this grading scale.

5.12. Certifications

Certifications and statements of accomplishment in particular was another theme of the posts that MOOC learners were discussing on the Facebook MOOC group. In particular, there were five posts (out of the 13) in which members of the group were asking each other what was the percentage they needed in order to achieve to get statement of accomplishment or that they managed to achieve getting one. There were more than 30 comments in these five posts where students rejoiced their success. They commented on the percentages they achieved:

"Um, girlfriend, I believe that should be "us" 90%ers? You're one too!" Elpi

Getting a certification seemed to be of high importance as it was also shown from the interview data previously discussed.

5.13. Discussions of course experiences

There were three "thanks" messages directed to the course providers where people shared their experiences of the course. I made a comment mentioning that I did not managed to get the certificate but completed the course with a lower than 85% (the minimum to achieve getting a certificate) but was very happy because the course was a life lesson:

"It doesn't really matter as I feel I gained so much from it! This was a life lesson and I couldn't imagine when I started this course that it would have such an effect in my everyday life" Tina [the researcher]

Ten MOOC learners commented on this post and shared their opinion and their own experiences under this post as they might have felt sympathy for me.

5.14. Comments on Final exams and Grades

Finally, there were three posts where learners were asking advice on how to get prepared on final exam and others who had already taken the exam they were posting the grade they got on the final exam waiting for the final grade:

"I still haven't taken the exams. I have to study a bit. Has anyone completed the two parts separately?" Tina [the researcher]

"just finished the final exam ...scored 31/31 and 28/31" Filippos

Consequently, the data from the observations were not very rich but when students posted or commented on others posts the most common topic was the certificates of accomplishment and that may show how important it may be for them. Issues about assessment were less frequent and discussions about their course experiences were also present either to thank to the course moderator or to comment on exams and grades.

5.15. Conclusion

In this chapter, the interviews of the twelve MOOC learners who participated in this study were analysed (section A) along with the posts of the online observations from a Facebook MOOC group (section B). In particular, the main themes that emerged were related to the reasons for signing up to a course and the participants' experiences with MOOCs in general. Furthermore, the assessment types that participants prefer to have in these courses was another theme of analysis as well as what each type of assessment has offered to their learning experience. The definition of completing a course that participants gave was also discussed. Participation and communication in social media and discussion fora related to MOOCs was also studied. Finally, posts of MOOC learners of a Facebook MOOC group were analysed. Themes that emerged from the observations were different from the interview ones but the content of the topics discussed did not differentiate as such. The learners' opinions of the posts on the Facebook group of the MOOC courses as well as the participants' opinions during the interviews were coherent. In particular, the ideas on peer assessment for both the interview participants and the posts from the observations were pretty similar. It can be inferred that from both the interviews and the observation data have shown how important the statement of accomplishment for learners is. There is an impression that a certificate gives them the pleasure of accomplishment.

It can be inferred that the majority of the participants of this study found that assessment drives their learning. It is what Rowntree (1987) discussed when he described the purposes of assessment. Assessment is a motivation for students in order to encourage them to learn, and feedback given to them shows them how they performed on assessment exercises and is meant to help them learn (Rowntree, 1987). Each assessment type served a different role for students. Automated methods tested their memory and knowledge, giving students the opportunity to revise and see wrong and correct answers, crystallizing what they learned while giving them a feeling of accomplishment. On the other hand, peer assessment

exposed students to others' ideas and was a powerful way to understand some concepts deeper, regardless of the fact that some students were negative to assessing their peers' work. Finally, fewer benefits were found in students' views regarding self-assessment and those were related to self-assessment's role to assisting to the improvement of students' own work and to contributing to the enhancement of their learning experience.

The following chapter discusses these findings and aims to demonstrate the contribution of this study.

Chapter 6: Discussion and Implications of the Study

The driving force of the current study is my curiosity and interest to understand learners' views of assessment types in MOOCs, whether any of these has an impact on their enrolment and completion of a course and in what aspects each type of assessment is effective in supporting their learning experience.

The data has revealed themes on how learners approach the different types of assessment in MOOCs by exploring their preferences in terms of assessment types, their importance and value. It was also distinguished what each of the assessment types offers in their learning experience. Some themes emerged on whether the assessment types have an impact on enrolment. Moreover, a few themes also emerged from the data on how effective learners feel each type of assessment is. This research study did not focus on a big sample but it may possibly raise some issues and contribute to an in depth understanding of learners' experiences and views related to the different assessment types in MOOCs. Future MOOC assessment design and development may benefit from that.

6.1. Key Findings of the Study

This study aimed to investigate assessment types in MOOCs. In order to grasp the participants' views related to assessment in MOOCs, demographic data of the participants were gathered. They were all well-educated individuals, employed and from different age ranges. The participants' educational background of being already well-educated and employed globally, agrees with Christensen's et al. (2013) findings of the University of Pennsylvania. Participants were apparently technologically literate as they all preferred to have a written chat interview and type in their views, even though they were also given the option of chatting through Skype.

The interviews included questions concerning the reasons that contributed to participants' enrolment in a MOOC. The interest in a course and the course instructor were influential factors for most of the participants. Furthermore, possible career benefits and new skills acquisition contributed to enrolling to a course. It was also noticed that most of the participants had not paid for participating in MOOCs, while very few paid but had not completed them. There was also one participant who paid for other online courses, as part of her higher education degree and completed them.

The participants of this study, in particular, were categorised into three groups with respect to their experience in participating in MOOCs; very experienced, moderately experienced and less experienced ones. The very experienced ones completed all the MOOCs they enrolled in. The moderately experienced learners usually completed the courses they enrolled in. There was one exception in those students that has dropped out of two of the three courses she enrolled in. Two of the less experienced MOOC students dropped out several MOOCs in the past, before completing their first or second course. It can be inferred that students with more experience in MOOCs are more likely to complete a course. Experience in what MOOCs represent and how they operate may be needed, so that students learn the rules at the beginning and proceed with the completion of a course. This involves watching course videos, completing quizzes and writing assignments, assessing other peers' work as well as

their own work (where applicable) and consequently getting a statement of accomplishment.

Assessment importance

The assessment type did not seem to be important for most of the participants in choosing a course and consequently completing it. Although they said it was not a factor, when answering other questions they connected it to learning. One participant interestingly mentioned that when assessment is relatively flexible, it helps completing a course. This echoes Jordan's (2013) findings suggesting that there is an indication that assessment type may play a role in completing a course.

Definition of completion

When participants were asked how they define "completion of a course", most of them proposed that completion is synonymous to following the course videos, participating in all genres of assessment (auto, peer, self- assessment) and therefore achieving a certificate. The importance of getting a certificate was also reinforced by the Facebook posts that were observed. Moreover, an interesting finding is that the statement of accomplishment may be a motivation for a learner to stay committed to a course. It was significant that when some participants defined "completion", they mentioned their participation in the discussion fora or social media. This may entail that learners form online communities where they exchange information, comment in each other's work or share resources.

Assessment preference

The current study found that five out of twelve participants had a preference on the automated assessment. None of them preferred self-assessment, whereas one preferred peer assessment. It is interesting that three participants believed that a combination of the different types of assessment would be more suitable in MOOCs. One participant had a preference in a "case study" method of assessment, considering it as a useful way to identify theory elements and consequently to enhance her learning experience. The rest of the participants had no preference or did not point it out.

Assessment value

Assessment is valuable for most of the participants for different reasons. Some believe it is motivating, because it makes them focus to a course. Assessment may enrich their creativity and help understand the material in hand more thoroughly. There was also a participant who approached assessment formally, associating it with formal assessment in higher education. The fact that a few participants valued the combination of the different types of assessment in contributing to learning, shows that they are appreciating the benefits of the different types. A similar finding was made in Douglas et al. (2007)'s case study, where they found out that the combination of automated assessment, essays and report writing enhanced learning. Moreover, it can be inferred that feedback is valuable for some participants, a finding that is also mentioned in other studies (see Lu & Law, 2011).

Automated Assessment

It was found that five participants preferred automated assessment. Douglas's et al. (2012) case study on MCT's (i.e. automated assessment) has shown that students were positive about their experiences with MCT's, because they tested their knowledge or their memory. Therefore, it contributed to enhance their learning experience. This is in accordance with the participants' experiences in this study. Additionally, participants had several attempts to answer on quizzes, which was motivating. They could also check the correct and wrong answers. These were mentioned as reasons suggested by the participants as being contributing to their learning. Perhaps, another reason they preferred the automated assessment is the fact that they were obtaining direct feedback. It was also noted, both from the interviews and the observations, that automated assessment was proved helpful when revising for final exams. Quizzes' direct results also gave a feeling of attainment to some participants.

More generally, as Chao et al. (2011) have pointed out, online assessment provides the option of recording activities for future reference, which is something that participants also mentioned. Additionally, this was discussed in the posts of Facebook from MOOC learners. Moreover, Chao et al. (2011) noted that online assessment provides greater convenience for learners, a point mentioned by the participants of this study, when they talked about automated assessment in particular.

Peer Assessment

Some participants found that peer assessment is valuable, although it was not their first preference. They were positive about peer assessment, as it offered them the opportunity to get exposed to other peoples' ideas. Peer assessment is powerful and interesting, since it is a good way to visualize a concept and learn from each other. There is also a social aspect in it, where you get to "meet" other cultures and views through assessing. However, a few students were relatively negative towards peer assessment, regarding it as being unfair, time consuming, not taken too seriously by other peers or they believed that expertise is needed. This resonates Suen's (2013) concern about online peer assessment. Suen (2013) raised the issue of no teacher mediation or guidance, as in peer assessment in a traditional classroom. From this study, it seems that participants needed guidance from the experts (i.e. instructors). As Lu & Law (2011) suggested with their study on the benefits of online peer assessment, modelling and training should be provided prior to or during the task of peer assessment. Posts from this study's observations showed that the "grading scales" did not discriminate finely enough and were problematic. Consequently, giving the benefit of the doubt, students were generous and they were all graded with high marks. This shows that peer assessment was not very effective and learners suggested that the grading scales should provide more discrimination. Finally, it is worth mentioning that for most of the interviewees, peer assessment was a new experience in MOOCs.

Self-assessment

It was interesting to find that none of the participants preferred self-assessment. Some of them challenged its validity, objectivity and they suggested that it was conflicting. Most participants were not comfortable criticising their own work. Additionally, most of them supported that it did not check their knowledge, nor was helpful or contributing to their learning. This is in accordance with Admiraal's et al. (2014) recent study. Their results have shown a bias of self-assessment (i.e. self-assessment did not significantly explained variance in students' final exam scores). They suggested that self-assessment might not be a valid way to assess students' performance in MOOCs. However, it is interesting that a few participants valued the combination of peer and self-assessment as a factor contributing to their learning experience.

Assessment overview

The participants of this study preferred automated assessment more since it may be an already "known", standard type of assessment for them. They experienced it before enrolling to MOOCs and they were familiar with it. It may be a clearer method than others for them, in which they know what to do. Another point to consider is the language. MOOCs are global and there is often a language barrier amongst peers, when they are trying to assess other people's work, as mentioned by participants of this study. For this reason, it may be inferred that as long as MCQ and quizzes do not require writing, automated assessment is the simplest type for learners that English is not their native language.

Peer assessment is a new assessment type for participants and most of them did not prefer to use it. Prior experience to peer assessment is linked to less negative attitudes according to Wen & Tsai (2006). Therefore, when learners are not familiar with peer assessment they might be more negative towards it. In the current study, it was often not clear how to put it into practice or learners needed clearer guidance. Lu & Law (2011) suggested with their study that specific instructions should be given to (weak) students on the types of feedback they should give to peers. Moreover, they pointed out that affective comments can help learners' boost the motivation, interest, and self-efficacy of assessees, which in turn can enhance their performance (Lu & Law 2011). Therefore, if learners are encouraged to give affective comments, peer assessment may turn to a more effective and motivating type that will enhance students' learning. Peer assessment may need better design with bigger scales when marking along with encouraging learners to give affective feedback to their peers. More detailed guidelines might contribute to peer assessment's effectiveness.

Additionally, the fact that one participant mentioned the "case study" type of assessment as her preferred type of assessment is also stimulating. This learner was exposed to something completely new – that other participants might have not experienced- and could interact with the content in hand. This might have inspired her. Therefore, it may also be motivating if students interact with types of assessment they have no experience at all, provided that assessment activities are well designed and appropriate for enhancing their learning.

The combination of different assessment types may also have positive effects on students' learning because each of them serves a different purpose. For example,

automated assessment assists learners to recall and retain information, and since it is straight forward, it may give a feeling of accomplishment. This in turn may encourage learners. Peer assessment on the other hand, opens a window to other learners' ideas and insights. Moreover, self-assessment, if it follows after peer assessment, it may give the opportunity to experience hindsight, so that a learner improves his work. The order of each assessment type (what comes first, what comes next) may also be important in enhancing students' learning. Provided that each assessment type is well designed, they can reinforce each other.

Online Communities Interaction

Finally, participants may communicate with moderators and other peers via discussion fora and social media when they enrol to courses. All the participants of this study in particular, were members of MOOCs groups on Facebook. Only a few of them (four) interacted with other learners on Facebook. They mentioned or inferred that they were online anyway. Most of them (eight) did not interact with anyone because they found it time consuming. Therefore, the participants of the interviews which form "online communities" (Preece 2000) do not work together as often. However, the number of posts from the observations indicates that the online community of the Behavioural Economics course was quite active since they were exchanging information and were sharing resources as Preece's (2000) "online communities" concept suggests. As for the discussion fora, only one participant was an ardent user, motivated by the concept of "commitment devices". She was striving for excellence and this concept contributed to achieving it. Approaches like "commitment devices" may make students bond with the community while interacting with each other and get the certification of the course. Hence, this particular student bonded with the community and got the certification. No other participant mentioned this.

Student - Content interaction

Interaction in MOOCs was not solely related to humans but also to the content that online communities may interact with. Miyazoe & Anderson (2013) suggested that there is high student-content interaction in xMOOCs. It is true that all participants pointed out several times, during the interviews that, they interacted with lecture videos, quizzes or "office hours" videos (i.e. a feature where students pose questions to the instructor and they get support). Learners were indeed interacting with the digital content that they were offered even though they were not interacting with moderators or other learners.

The outcomes of this study may be beneficial for developers, designers and educational researchers of online courses and MOOCs. Moreover, throughout this study, its participants may reflect on their practices related to their MOOCs and benefit for future courses.

6.2. Limitations of the Study and Implications for Future Research

A clear limitation of this study is the small number of participants and the small amount of data gathered. Moreover, the methodology of online ethnography that was employed was not an online ethnography in the traditional sense. When the research

study of employing online ethnography was designed, the Behavioural Economics course was still running. But when the actual research process happened, the course had already finished. I was constrained by the fact that by the time I could get permissions and carry out the data collection, the students were not actively studying the course. Even though, my intention was to employ an online ethnographic approach interacting with students while they were participating in the course that was not possible. However, I managed in little time to find participants for this study through the Facebook group of the course with the means I had at that time. I interviewed them and I could also use a small number of observational data to address on my research questions.

Looking back on the methodology of this study it can be argued that a number of other methodologies could be employed. For example an online study where interview methods were employed in order to gather data could be considered. However, in the limited time I had, I conducted this study and got permissions to access the subjects and use some other data. In different circumstances in which time would permit it, I would be able to get permissions for a full online ethnographic study or either a case study.

The study cannot generalize its findings but it can contribute to a body of knowledge and stimulate further research on learners' views with the different assessment types in the MOOCs context. An interesting hidden theme that came up from this study is the socio-cultural impact on students' views. MOOCs learners are coming from various educational systems and they may have different expectations. It is reasonable to assume that educational systems in different countries have specific rules that are used in teaching and learning environments. As a result, assessment which is an important aspect of learning may differentiate too and needs to be considered. When designing assessment in MOOCs it is important to think about the cultural differences of the students. MOOCs designers need to examine students' views and prepare them for learning in a global setting. This hidden theme may be considered for future research in the context of the global offer of MOOCs.

Further research needs to be conducted in the area of assessment in MOOCs and its effectiveness in students' learning. In this way, MOOCs designers and educational researchers can have a better understanding of how students perceive the different types of assessment and tailor assessment to learners' needs to enhance the learning experience. Further research may explore how student-content interaction can be supported and how the different types of assessment may be combined in the same course to assess student learning. Finally, further investigation on other assessment types (not as common as auto-self-, peer- assessment) can offer further knowledge for enhancing the learning experience.

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Appendix 1

List of papers used to find out assessment types in MOOCs

Author(s)/ year	Title
1. Admiraal, W., Huisman, B. & Van de Ven M. (2014)	Self- and Peer Assessment in Massive Open Online Courses
2. Alber S., Debiasi,L. (2013)	Automated assessment in MOOCs
3. Balfour, S.P. (2013)	Assessing Writing in MOOCs: Automated Essay Scoring and Calibrated Peer Review
4. Chen, Y.,(2014)	Investigating MOOCs through Blog Mining
5. Cisel, M. (2014)	Analyzing completion rates in the First French xMOOC
6. Diez, J., Luaces, O., Alonso-Betzanos, A., Troncoso, A. and Bahamonde, A. (2013)	Peer Assessment in MOOCs Using Preference Learning via Matrix Factorization
7. Fraser, K., (2014)	The future of learning and Teaching in the new generation learning spaces
8. Hew, K.F. and Cheung W.S. (2014)	Students' and instructors' use of massive open online courses (MOOCs): Motivations and challenges.
9. Kulkarni, C., Pang Wei K., Le, H., Chia, D., Papadopoulos K., Cheng J., Koller D., Klemmer R. S. (2013)	Peer and self-assessment in massive online classes, ACM Transactions on Computer-Human Interaction (TOCHI)
10. Kulkarni, C.E., Socher, R., Bernstein, M.S. and Klemmer, S.R. (2014)	Scaling short-answer grading by combining peer assessment with algorithmic scoring
11. Meyer, J.P. and Zhu, S. (2013)	Fair and Equitable Measurement of Student Learning in MOOCs: An Introduction to Item Response Theory, Scale Linking, and Score Equating
12. Mitros,P., Agarwal, A.,Paruchuri. V., (2014)	MOOCs & Technology to Advance Learning and Learning Research Assessment in Digital At-Scale Learning Environments
13. Mitros,P., Paruchuri,V., Rogosic J., Huang, D. (2013)	An Integrated Framework for the Grading of Freeform Responses
14. Nguyen, A., Piech, C., Huang, J. and Guibas, L. (2013)	Codewebs: Scalable Code Search for MOOCs
15. Piech, C., Huang, J., Chen, Z., Do, C., Ng, A. and Koller, D. (2013)	Tuned Models of Peer Assessment in MOOCs
16. Renz, J., Staubitz, T. ; Willems, C. ; Klement, H. ; Meinel, C. (2014)	Handling re-grading of automatically graded assignments in MOOCs
17. Shah, N.B., Bradley, J.K., Parekh, A., Wainwright, M. and Ramchandran, K. (2013)	A Case for Ordinal Peer-evaluation in MOOCs
18. Suen, H. K. (2014)	Peer assessment for massive open online courses (MOOCs)
19. Wilkowski, J., Russell, D.M. and Deutsch, A. (2014)	Self-evaluation in advanced power searching and mapping with google MOOCs

Appendix 2

Private Message on Facebook/ Google+ to recruit participants

Dear,

I am a MOOC enthusiast and for the purposes of my Master of Research program I am investigating the different types of assessment in Massive Open Online Courses (MOOCs).

My research will focus on how learners approach to the various types of assessment in these courses, to what extent each type of assessment influence completion of the course and how effective they feel each type of assessment is in contributing to their learning.

I would like to interview 10-12 students online between 2 - 20 June. It does not matter if participants have not entirely completed a course as long as they had participated at least in one or two sessions of a course. The interviews will be either in writing on chat or call interviews via Skype/ Google hangouts/ Facebook depending on your convenience. They will approximately last 30 minutes.

I am not able to offer any recompense for your contribution. I would really appreciate your help in gathering information about the assessment approaches on these courses. I am very happy to send a brief abstract of findings if you would like to be informed about the findings. I am hoping this study will give participants the opportunity to reflect on their practices related to MOOCs they have already participated or completed and get familiarised with the different types of assessment that are used. This may also benefit your future courses.

If you are willing to participate in this project please contact me either by text on Facebook/ Google+ or email me at Tina.Papathoma@open.ac.uk . Please feel free to circulate this message to others who might be interested in participating. Thank you for your time and contribution in advance

Best regards,

Tina Papathoma

Appendix 3

Draft Interview Schedule for Assessment in MOOCs study by Tina Papathoma

Open University

Interview Questions:

1. The approach and experiences of participants with the MOOCs: this section deals with how learners approach MOOC courses and how they understand and cope with the different assessment types included in a course

- Which MOOC are you studying at the moment?
- Have you studied any other MOOCs before this current one? Do you want to tell me a bit more about those? (Length of the course, syllabus, assessment etc.)
- What is your experience with MOOCs? Is it the first time you are taking a MOOC? Do you have any other experience of online learning in general?
- Have you completed any of the MOOCs you enrolled in?
- What does “completing a course” mean for you? What is your definition? (Watching the videos? Reading the text? Completing quizzes? Completing assignments? Etc.)
- Can you tell me a little bit about what kind of activities you are engaged in when studying a MOOC?
 - (For example, do you interact with other people in the courses? Is there a facility integrated in the course for this purpose?)
- Are there any fora set up for communication purposes? Can you tell me what happens in the course related fora?

2. The types of assessment in the MOOC course and the effectiveness of the different assessment types: the questions in this section will focus on which types of assessment learners prefer in the course and to what extent the type of assessment influences their decision to complete the course. Moreover, the types of assessment in relation to their effectiveness and contribution to learning are also explored.

- What kind of assessment did you come across in the courses you studied? (Automated / Peer / Self Assessment/ other)
- What does each of these types of assessment offer to your learning?
- Do you have any preference?
- Does the type of assessment included in the course influence your enrolment in the course?

- Are you familiar with automated assessment? Were you enrolled in any course that used it? What do you think about this type of assessment? (eg. Do you think it's difficult? Can you go back to check your errors and is that important for you? Can you actually see the correct answers? How many times do you attempt to answer normally and how many times does the course lets you attempt to answer?)
- Do you have any prior experience of peer assessment? (Have you tried peer assessment before this course? Were you familiar with it? Do you want to discuss this in more detail? Can you tell me a little bit about what kind of activities are involved in this type of assessment?)
- What do you gain/ lose when you assess a peer's essay? Are the rubrics /guidelines adequate for you to assess a peer's work?
- What about self assessment? Do you feel it is helpful to assess your own work and how does it contribute to your learning if it does? Can you explain to me how self assessment works in your present course?
- Which type of assessment types is more beneficial for you?
- What type of assessment do you feel contributes more to achieving your learning goals? Why?
- Do you find any of these different assessment types difficult? Did you have any experience with these types of assessment before at school or university?

3. The type of support the participants ask from the moderators of the course: These questions will be examining "how", "from whom", "when", "where" the learners ask for help and support with regards to assessment.

- Do you use any other social networks (i.e. Facebook, Twitter, Google+ etc) in order to communicate any issues, thoughts related to the MOOCs you have enrolled?
- Have you communicated with the Tutors-Instructors-Teaching Assistants-fellow students in the context of a MOOC? Is there a facility for this? How? Where from?

Appendix 4

PROJECT INFORMATION for Assessment in MOOCs

In this project I will be investigating the different types of assessment in Massive Open Online Courses (MOOCs). MOOCs are developing rapidly and have become the new trend in Higher Education. Since these courses are massive, an issue that comes up is that the instructors of these courses are not able to assess the learning of this massive number of students. My research will focus on how learners approach to the various types of assessment in this course, to what extent each type of assessment influences completion of the course and how effective learners feel each type of assessment is in contributing to their learning.

For the purposes of the study, you will be interviewed by me with regards to your experiences related to your MOOCs and the different assessment types you have used during these courses. Even if you haven't completed the courses, as long as you have attended at least one or two session of the course, your help will be invaluable for me.

The assessment is called "the engine which drives student learning" (Cowan 2005). The outcomes might give an insight for improving the design of these courses and also learners may benefit more from future MOOCs that they will enrol.

You will not need to prepare anything in advance, prior to the interviews. The interviews will aim to investigate three aspects of assessment:

1. *The approach and experiences of participants with MOOCs:* the questions will be looking into how you approach MOOCs and how you understand and cope with the different assessment types of these courses.
2. *The types of assessment in MOOCs and the effectiveness of the different assessment types:* the questions will focus on which types of assessment you prefer in a course and to what extent the type of assessment influences your decision to complete the course. The types of assessment in relation to their effectiveness and contribution to learning will be explored.
3. *The type of support the participants ask related to assessment:* the questions will be examining "how", "from whom", "when", "where" you ask for help and support with regards to assessment.

The interviews will take place online. You can decide which tool you want to use for your interviews: through chat via Facebook/Skype/ Google hangouts or through Skype/Google Hangouts call. The interview will last approximately half an hour and will be recorded. The collected data will be used for analysis, in an anonymous form. Under no circumstances it will be made available to anyone apart from myself in a form that participants can be identified. You have right to withdraw at any point before the data is aggregated (see the dates in the consent form below).

If you would like to receive a copy of the research report produced at the end of the study, please provide your email in the space below.

Consent form

If you can contribute to my study and agree to be interviewed, I would like your informed consent, please fill in the form below and return it to me by email. If you could help me by agreeing to be interviewed it will be an enormous contribution to my study.

Thank you in advance.

I am looking forward to hearing back from you.

Tina Papathoma

I, (print name in full)am over 18 years old and I agree to participate in this study being conducted as part of an Open University Master of Research project.

I give permission for the data collected to be used in an anonymous form in any written reports, the web, presentations and published papers relating to this study. My written consent will be sought separately before any identifiable data is used in such dissemination.

At any time during the research I am free to withdraw and to request the destruction of any data that has been gathered from me, up to the point, 1 August, at which data is aggregated for analysis.

I understand the purpose of the research, as explained in the following section, and accept the conditions for handling the data I provide.

Signature: (type your name)

Date:

Important dates:

- 29-30 May 2014: Dates for sending invitation to interview participants
- 2 June – 20 June 2014: Interviews
- 1 August 2014: Deadline of withdrawal from the study and request for destruction of any data that has been gathered (After that date data is written up for the dissertation)
- December 2014: Participants will be sent a summary of the findings
- Supervisor contact details in case you have further questions or concerns: Canan.Blake@open.ac.uk (tel: +44(0)1908654966)

Appendix 5

Ethics Committee approval



The Open University

From Dr Duncan Banks
Chair, The Open University Human Research Ethics Committee
Email duncan.banks@open.ac.uk
Extension 59198

To Tina Papathoma, IET

Subject "Investigating types of assessment in Massive Open Online Courses (MOOCs)."

Ref HREC/2014/1700/Papathoma/1
AMS ref n/a
SRPP/IRAS
Submitted 28 May 2014
Date 10 June 2014

Memorandum

This memorandum is to confirm that the research protocol for the above-named research project, as submitted for ethics review, has been given a **favourable opinion** by the Open University Human Research Ethics Committee. Please note that the OU research ethics review procedures are fully compliant with the majority of grant awarding bodies and their Frameworks for Research Ethics.

Please make sure that any question(s) relating to your application and approval are sent to Research-REC-Review@open.ac.uk quoting the HREC reference number above. We will endeavour to respond as quickly as possible so that your research is not delayed in any way.

At the conclusion of your project, by the date that you stated in your application, the Committee would like to receive a summary report on the progress of this project, any ethical issues that have arisen and how they have been dealt with.

Regards,

Dr Duncan Banks
Chair OU HREC