

Chapter 1. Introduction

The introduction of eLearning in university settings has changed the teaching and learning landscapes dramatically. Lecturers who teach online have to be constantly working and updating their online environments, and for that, they need to be continuously improving their knowledge on sound pedagogical principles that can be applied online. With the increase in online offerings, student attrition became a real challenge that lecturers had to deal with, and they constantly work on finding new strategies to overcome them. This research explored the attrition issue and the current strategies and activities being applied online by lecturers who have proved to be successful. This chapter presents the background for this research, together with its context, aims, significance, context, structure, bias and assumptions.

1.1 Background

Universities worldwide have embraced the evolution of educational technology with an increasing number of individual core subjects, if not fully online degree programs, becoming available every year. This research refers to formal online, paid core subjects that are part of a degree program. There has been increased competition among universities worldwide as they attempt to reach a larger number of learners (Rovai & Downey, 2010). Despite their popularity, completion

rates for degree programs that are delivered fully online have often been lower than traditional, face-to-face ones. The number of online courses being offered worldwide continues to grow (Hannon & D'Netto, 2007; Norton, 2013), but, at the same time, and according to Bart (2012), there has been an increase in attrition rates, which can be 10% to 20% higher if compared to their face-to-face counterparts. According to Rosenthal (2013), this rate can reach 90% for some online courses when compared with traditional on campus ones.

Online retention has been a topic of a significant amount of research in education, where aspects of culture, lack of motivation, effectiveness of Learning Management Systems (LMSs) and online pedagogies have been shown to play a significant role in student online attrition and lack of engagement. The literature review presents detailed information with references related to each of these aspects in separate sections. After acknowledging that these elements are key to students' interest in continuing to study online, it has become increasingly important to understand what engagement strategies have been currently applied by lecturers at higher education institutions, in each of these aspects that have contributed to increase attrition. Considering that the attrition issue remains a recurring problem, further research is required, particularly focusing on areas not yet explored, such as what type of engagement strategies are being implemented by online lecturers, and what types of challenges lecturers face when teaching online. The next section presents the characteristics of the global eLearning industry market.

1.1.1 Global eLearning industry market

Higher education institutions worldwide started to develop an interest in eLearning delivery due to the increasing costs of running on campus classes and the possibility of enrolling a massive number of students from anywhere in the world. This meant a huge increase in revenue without having to provide a physical classroom space on campus, including all related expenses. According to Raisman (2013, p. 3):

A concern central to retention and attrition is that colleges lose large sums of money when students leave. Each student who walks out the door takes his or her tuition, fees, and other revenue the school might have been able to receive such as for housing, food, and bookstore purchases. This is revenue that schools count on to support operations.

The provision of online classes to national and international students has been an interesting possibility. According to Chakrabarty, (2013, p. 6):

Traditionally universities are labour intensive; substituting IT technology for labour could increase productivity by reducing costs while maintaining same outcomes relative to the traditional ways of handling day to day activities.

The eLearning market began in the early 2000s; it has continued its rapid evolution and radically changing the training industry (Gutierrez, 2014). With eLearning being an effective tool for the provision of training, it has been

increasingly applied within the education sector as well as the corporate sector, contributing to its exponential growth (Docebo, 2014). A growing number of organisations have started to adopt training with the use of eLearning courses, which is currently growing at a rate of 13% per year, and it is projected to stay consistent through 2017 (Docebo, 2014). The global eLearning market is expected to reach US\$107 billion by 2015 (Docebo, 2014). The countries with the highest growth rates from 2011 to 2016 that are driving the bulk of the growth in this segment are Asia and Eastern Europe, followed by Africa and Latin America (see Figure 1.1). Between 2012–2017, which is over five years, the total projected eLearning growth in the higher education sector is expected to reach 38% (see Figure 1.2).

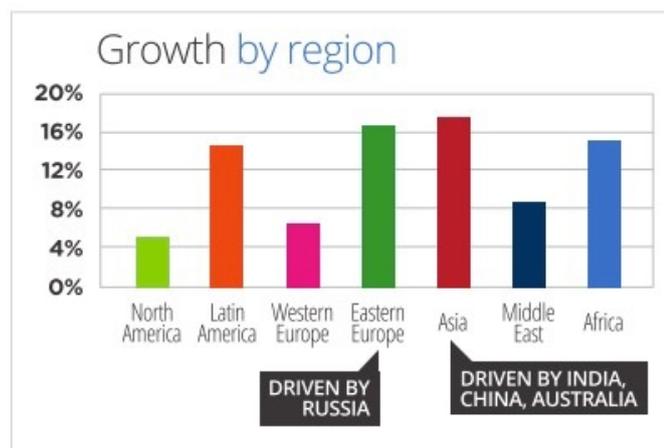


Figure 1.1: 2012–2016 eLearning growth by region (Docebo, 2014, p. 35)

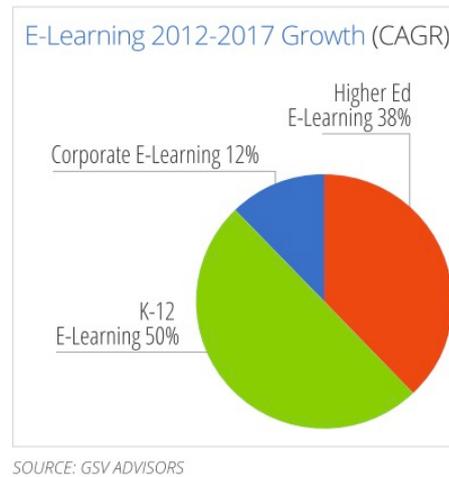


Figure 1.2: eLearning growth 2012–2017 by sector (Docebo, 2014, p. 8)

Each of the world's regions has its characteristics in terms of the factors that drive the eLearning market. These factors are not stagnant and new trends and issues can emerge that may affect the eLearning sector in these countries in the next few years, as, for example, there could be a decline in overall training expenditure in a country that has an effect on the eLearning market. The following is an overview of current trends in eLearning per world region, according to Docebo (2014):

- 1. North America:** The revenues generated in North America are extremely high and it is considered as the most mature market for eLearning in the world. In 2011, the United States of America (U.S.A.) spent more on eLearning developments than any other country. The entire education industry in the U.S.A. is growing rapidly and the projections concerning market growth are reassuringly positive.
- 2. Western Europe:** Western Europe is the world's second largest buying region for eLearning products and services. This is set to change in the upcoming

forecasted period, and it is anticipated that Asia will outspend Western Europe in eLearning by 2016.

- 3. Latin America:** Latin America imports the majority of its eLearning content and technology from outside the region. eLearning revenues in Latin America is predicted to almost double to \$2.29 billion in 2016 from \$1.16 billion in 2011, which is equivalent to an annual growth rate of 14.6%. This is likely to change over the forecasted period as domestic suppliers continue to gain market share.
- 4. Australia:** Overall acceptance of online education is likely to grow as the Group of Eight universities embraces massive open online courses. The report states the average employment growth of 4.3 per cent a year will create another 5,000 online education jobs by 2018, driving overall employment above 26,000. Annual growth for 2011–2016 is predicted to reach 10.9%.

The information on eLearning growth per sector demonstrates that it has been increasingly adopted by universities, hence the importance of exploring ways to increase online student retention, considering the delivery of online university courses are growing every year. This section presented an overview of the eLearning market per world region with some notes on projected growth for the next few years. The next section presents the characteristics of the LMS market and its current growth rate.

1.1.2 LMS market

The LMS market was worth \$2.55 billion in 2013 with an estimated compound annual growth rate of approximately 25.2% over two years (Docebo, 2014). In other words, the LMS market is expected to be worth approximately US\$4 billion in 2015 and over US\$7 billion by 2018. Some of the world regions have had higher growth rates than others, with the highest being in Asia at 17.3%, followed by Eastern Europe, Africa and Latin America at 16.9%, 15.2% and 14.6%, respectively. There are always new LMSs being developed and updated (Wright, Montgomerie, Reju, & Schmoller, 2014); hence there is no lack of choice for sound LMSs to cater for the higher education sector. Although these figures do not relate to higher education only, they reflect the overall growth of the LMS market, which may be impacted by the fact that universities have “more than 2 billion potential online learners around the world” (Docebo, 2014, p. 43). After an overview of the LMS market, the next section presents the issue of retention in online degree programs.

1.1.3 Online attrition

According to Herbert (2006), in the late 1990s, the number of online degree programs offered by American institutions tripled, and by 2002, the total students enrolled in online courses, compared to on campus classes, was higher than 57%. In the last decade, researchers such as Gleason (2004) in the United States of America; Packham, Jones, Miller and Thomas (2004) in the United Kingdom;

Breen, Cohen, and Chang (2003) in Australia, have identified attrition as one of the main drawbacks in online degree programs, being 10% to 20% higher than on-campus education (Carr, 2000; Herbert, 2006), with some courses reaching 20% to 50% attrition (Diaz, 2002; Herbert, 2006).

After presenting the issue of online attrition within degree programs, the next section outlines the aims of the research in reference to online retention. It also clarifies the choice of having lecturers as participants in this research, instead of students, and the contexts in which online retention is explored.

1.2 Aims of the research

Published literature has highlighted online retention as an issue in the higher education sector. For example, Herbert, in 2006, stated that online attrition was 10% to 20% higher than traditional classes, and in 2013, Raisman suggested it to be reaching as high as 80%. There are many studies using students' interviews to explore what led them to drop out of online degree programs instead of exploring lecturers' views on retention. Considering this to be an important aspect to investigate, this research focused on lecturers' views and experiences, as well as strategies they use in order to contribute to the current knowledge on online engagement and retention. Considering there is little research presenting lecturers' views on online retention, this research aimed to investigate engagement strategies applied by lecturers in online teaching in six countries and their contexts by:

- a) addressing the needs of students, including students from diverse backgrounds;
- b) analysing strategies that motivate online students;
- c) analysing lecturers' application of LMSs;
- d) analysing lecturers' online pedagogies.

The contexts of culture, motivation to learn, LMS's application and online pedagogy are main themes emerging from the literature review as main reasons for low retention. It led this researcher to explore and analyse them through the lecturers' perspectives. These themes are presented in detail on the Literature Review, and discussed separately in their individual case studies.

This section outlined the aims of the research and explained the choice of having lecturers as participants. The next section describes the research significance and contribution to knowledge.

1.3 Significance of research and contribution to knowledge

The findings of this research can contribute to a better understanding of the types of strategies applied by online lecturers to increase student retention by the application of online engagement strategies. In order to explore the types of strategies applied by lecturers, it is imperative to understand in which circumstances online classrooms are presenting low retention rates. Collecting

data from different countries supports delineating strategies for higher retention and engagement that are not particular to a specific country or university and provides a general overview. Understanding the challenges of online teaching can assist educators when planning and designing online courses, leading them to focus on particular program characteristics as well as students' specific needs (Patterson & McFadden, 2009; Unwin, 2007; Gillani, 2003). Howell (2001, p. 90) states his optimistic view for the future of online courses:

One hope is that designers and teachers will try to use other pedagogies of learning that do not embrace the lecture format. Perhaps new leaders of technology will find ways to tap into individual differences to help create meaningful courses that really make a difference... If this hope is realised, two decades from now we may read about online courses encountering the revolutionary 'significant difference phenomenon,' with students experiencing the 'happy and connected' effect. We might even read articles on the latest methods to stop students from 'dropping in' to the class years after they graduate because it was such a life-changing experience.

Most research has focused on students' views and reasons for not completing their online degree courses. There is a need for a comprehensive understanding of the problem by incorporating lecturers' views and experiences of the issue. Exploring it from the lecturers' perspective could add significantly to what is currently known. Thus, this research was designed to make a significant contribution to the current knowledge by analysing and noting successful

strategies that can be used to improve planning, design and pedagogy applied to online programs.

1.4 Strength of the overall research

Although online engagement and retention issues have been extensively researched, the focus has been mainly on students' point of view and their personal reasons for dropping out of online courses. From the analysis of published research, four main Case Studies emerged, which formed the themes for further exploration in this research: cultural issues, motivation, effectiveness of LMSs and online pedagogies. This research aimed to explore lecturers' views on these same issues. Lecturers were surveyed and interviewed. The questionnaire and interviews allowed lecturers to elaborate on their personal views according to their professional experience. This research adds to the current knowledge by presenting the strategies lecturers currently apply to achieve high engagement and retention in online degree courses.

Findings also contribute to original research by revealing the importance of lecturers' formal training in the use of eLearning, by being able to apply their teaching pedagogy to the online teaching environment. Lecturers who have not received training in the use of LMSs were the ones finding it most challenging. However, they said that they were able to conduct their online classes successfully, basing their teaching on strong pedagogical principles while working alongside technical staff. Lecturers follow a combination of constructivist and connectivist approaches and they presented a positive attitude towards teaching using technology with the application of these learning theories, which brings

connectivism to a stronger basis as a chosen online pedagogy, considering that connectivism is still not even formally considered a learning theory.

1.5 Limitations

Caution is needed when attempting to generalise the results of this research. Although a smaller sample size is more manageable in qualitative studies (Bluff & Cluett, 2006), it creates limitations. To reduce this limitation, instead of undertaking the research within university settings in one single country, the participants were lecturers teaching within six international universities (Australia, Brazil, U.S.A., Canada, Norway and Spain). The lecturers in this research were recruited from groups of lecturers who were teaching online courses that did not include any on campus (face-to-face) components. This approach may have narrowed the scope of this research. Research using a larger sample and from a wider range of universities providing online degree programs in blended modes (combination of online and on-campus classes) could add to the findings of this research. However, it was decided to explore only those universities teaching fully online subject courses, providing clear strategies currently applied to reach high online engagement without any face-to-face component.

1.6 Motivation for this research

Low retention rates for online courses have been a common issue, and many reasons have been given for this, such as students lacking English language or computer skills. Extensive research on causes for attrition has been undertaken with a specific focus on students' views, and not the lecturers'. In order to understand the issue with a wider perspective, this researcher decided to explore lecturer's experiences and their perspectives while teaching online core subjects in higher degree settings. The next section outlines the research context within the six countries that participated in this research.

1.7 Research context

The context of this research was online core subjects delivered by six universities in the following countries: Australia, Brazil, Canada, Norway, Spain and U.S.A. Contact was made via email sent directly to the eLearning or, when not available, to the Education departments, explaining the aims of the research and the intention to interview lecturers who deliver online courses that currently achieve high retention rates on the delivery of core subjects in Education. The choice of having Education related subjects only, delivered fully in English, was to keep consistency throughout the research.

The intention was to focus in one area of study, and as online pedagogical aspects were going to be explored, choosing lecturers in Education could allow for in depth

discussions on lecturers' specific pedagogical choices. The researcher's bias is discussed in the next section.

1.8 Bias

In qualitative studies researchers need to analyse data with a focus on participants' experience without influence of their own biases when arriving to conclusions (Johnson & Christensen, 2004). Parahoo (2006) suggests that to minimise potential biases, researchers need to account for their biases, beliefs, knowledge and values, which this researcher follows by providing additional information of her background. This researcher has been working in the education sector for over 25 years, not only as a lecturer but also in professional roles. The educational environment has always had international students with non-English speaking backgrounds (NESB), which enabled exposure to the cultural and language issues and challenges presented when international students attend higher degree programs in Australia. This could create biases towards international students' specific needs. However, these were directly related to face-to-face environments, and not online courses, which minimises biases considering this research focuses on degree courses delivered fully online.

This researcher worked for two years as an online lecturer for an Australian educational institution. However, the subjects taught were in the vocational education sector and for domestic students only, in Australia, which minimises biases related to a personal researcher's experience teaching international students online. There was a concern of bias in relation to lecturer's challenges in

teaching online courses and on the use of LMSs, not only during the formulation of questions, but as well as during the analysis of the data. To avoid any biases, the research identified what could lead to them and addressed them separately as follows:

- a) During the preparation of questions to be used on the two phases of the research, it was imperative not to deviate from the themes that emerged from the literature. The literature review and the formulation of questions based on the themes that emerged, were completed eight months prior to the researcher having the first experience teaching online. At the time that the questions were formulated, they were validated by presenting them to non-participants and PhD supervisors as a Pilot Study (please see Chapter 4, Section 4.8);
- b) Selection of lecturers was undertaken by contacting university Online Departments and the researcher did not have any knowledge of lecturers' years of experience teaching at university level and online;
- c) The settings were six universities in different countries for a wider representation of lecturers' views and opinions;
- d) After collection of data, the researcher transcribed all interviews, which were sent to the lecturers for validation;
- e) Data from the web-based questionnaires were compared to the one that resulted from the semi-structured interviews for cross-reference. The aim was to find new themes and key findings on the four themes explored (culture, motivation, use of LMS and online pedagogy) through case studies;

- f) The use of Leximancer (a software tool designed for analysing natural language text) during the analysis process, assisted in reducing bias and increasing reliability;
- g) It was important to reflect on an ongoing basis to avoid omitting vital data while keeping to the methods and procedures of data collection and analysis.

This section presented how the researcher addressed any biases that could be present during the research. The next section presents the researcher's assumptions, followed by the thesis structure, as a last section in this Chapter.

1.9 Assumptions

One of the assumptions of this research is that it is possible to achieve higher engagement in online programs if strategies that foster online engagement are properly implemented. The thesis is set out to verify this assumption by adopting two data collection methods: a web-based questionnaire and semi-structured interviews. Results and analysis of data collection are presented in Chapters 5 and 6.

1.10 Thesis structure

This thesis has eight chapters. It comprises of an introduction, literature review, methodology, research procedure and method, web-based questionnaire results and discussion, interview results and discussion, major findings and conclusion.

The literature review follows this introductory chapter. The following are brief descriptions of each chapter:

Chapter 1 - Introduction: provides a broad overview of the research, including its background, aims, significance, strength of the overall research, structure, bias and assumptions.

Chapter 2 - Literature Review: focuses on the problem of high attrition and how it has been explored by other researchers. It also looks for research gaps and areas not yet explored concerning online attrition, which relates to engagement strategies currently being applied by online lecturers. The research questions, as identified by the gap in the literature, are presented here.

Chapter 3 - Methodology: describes the theoretical framework used in this research. It also defines and justifies the choice of a case study approach and learning theories applied in this research.

Chapter 4 – Research procedure and method: describes the research settings, recruiting and sampling, rigour, credibility, transferability, dependability and data collection. It also describes how the Pilot Study was applied, the four themes as basis for the case studies and any ethical considerations.

Chapter 5 - Web-based questionnaire results and discussion: presents the results of the web-based questionnaire in four case study themes: cultural diversity, motivation, LMSs and online pedagogies.

Chapter 6 - Interview results and discussion: presents the interview results and lecturers' views on eLearning in university teaching, its benefits and barriers through the four identified case studies.

Chapter 7 - Major findings: after combining the analysis of the four case studies presented from both data collection methods (questionnaires and interviews), major findings are presented in this chapter.

Chapter 8 - Conclusion: discusses the findings in response to the research questions. Conclusions and implications are outlined. Further research directions are also included in this chapter.

1.11 Summary

This chapter provided an introduction to the research undertaken and its contents. It outlined the background and context together with its aims and significance. Bias and assumptions were also presented. It also included the thesis structure and how data analysis is distributed through the chapters.

Chapter 2. Literature review

2.1 Introduction

This chapter reviews the literature pertaining to causes of low retention for higher degree programs worldwide in western countries and is divided into four sections. The first section discusses cultural issues and their impact on online courses, considering that culture was the most recurring reason, in the literature, for students not completing their online courses. The second section explores motivation and its effect on retention. The third section presents an overview of the effectiveness of LMSs, and the fourth section provides a discussion on online pedagogies.

There has been an exponential growth in online courses around the world along with the expansion of higher education, in particular distance education. According to the National Centre for Education Statistics (2002), “between 1995 and 1998 the number of institutions offering online courses essentially tripled and in the academic year 1999-2000 alone the number of students who took at least one online course increased by 57 percent.” However, online attrition rates, can be 10% to 20% higher than their face-to-face counterparts (Bart, 2012).

In the last decade, researchers such as Gleason (2004) in the United States of America; Packham, Jones, Miller, and Thomas (2004) in the United Kingdom; Breen, Cohen, and Chang (2003) in Australia, have identified low retention as one

of the main drawbacks in online degree programs, being 10% to 20% higher than on-campus education (Carr, 2000; Herbert, 2006). Some researchers point out that online attrition rates reach 20% to 50% (Diaz, 2002; Herbert, 2006), while other researchers report this rate to be as high as 80% (Flood, 2002; Smith, 2015). With the occurrence of Massive Open Online Courses (MOOCs) delivered by worldwide elite universities, this rate reached 91% to 93% (Yang, Sinha, Adamson, & Rose, 2013). However, the main differences between an online core subject and a MOOC are that MOOC courses are free, there are no enrolment requirements and these courses are not part of official degree programs. They offer certificates of completion that are not counted as credit for enrolment into any university program.

The following four sections will present the causes of low retention in online courses, as presented by literature. Next section discusses cultural issues and its impact on attrition.

2.2 Cultural aspects

This section examines the influence of culture in online courses in higher education institutions. Culture has been a recurring theme in the literature on online retention in degree programs and the delivery of core subjects online.

2.2.1 Influence of culture in online programs

The issue of culture and its influence in online learning is gaining increased interest among education professionals. This is not surprising, considering that online courses attract students from different geographical locations, including overseas countries. If these students do not complete their online degree programs, it is important to find out reasons for this. Research on online retention does not present age, gender or class as being indicative of main reasons for students not completing their courses. What emerges, as a result of research undertaken with universities that deliver online degree programs, are aspects of lack of cultural inclusivity and its impact on online students (Kim & Bonk, 2002; Meier, 2007; Hughes & Bruce, 2006; Gobbo, Nieckoski, Rodam, & Sheppard, 2004; Parrish & Linder-VanBerschot, 2010; Hannon & D'Netto, 2007; Oubenaïssa-Giardina & Bhattacharya, 2007; Morse, 2003; Mushtaha, & Troyer, 2007; Leppisaari, Herrington, Vainio, & Im, 2011). Cultural inclusivity refers to students from different countries sharing the same online space, where they communicate and share their views.

Researchers assert that some online courses may ignore the cultural and sub-cultural differences in learning behaviour, and fail to address the diversity of their learners (Downey, Wentling, Wentling, & Wadsworth, 2005; Mushtaha & Troyer, 2007; Fletcher, 2006; Hughes & Bruce, 2006). As stated by Parrish and Linder-VanBerschot (2010, p. 6):

Unfortunately, culture is often overlooked because the analysis phase of instructional design is one of the most commonly skipped phases.

According to Rogers, Graham, and Mayes (2007), instructional designers are not always knowledgeable on the difference in meaning of symbols, expressions and colours when designing online programs that will be used for a diverse student cohort.

Research conducted by Hannon and D'Netto (2007), with 241 online students in an Australian university, indicated that cultural aspects may affect not only students' satisfaction with their online degree programs, but also the way they perceive the technological and organisational components of them. Hence the problem appeared to be not only with the delivery of courses, but also with their online design. In research conducted with course developers, Rogers, Graham, and Mayes (2007) discovered that developers had only limited knowledge of cultural differences. They concluded that being aware that there are cultural differences among students does not mean the developers know exactly what they are. Rogers, Graham, and Mayes (2007) grouped the results into four categories, regarding the issues that repeatedly surfaced during the interviews:

- a) cultural/social assumptions** - to achieve successful outcomes and generate real engagement during programs, cultural and social expectations of students need to be taken into consideration during the designing stage. Different cultures have different expectations and these influence learning outcomes;
- b) teaching/learning expectations** - culturally diverse students have different expectations of teacher-student roles and they also have different learning

styles. There are many culturally related issues that may also affect learning outcomes and interaction;

- c) language/symbols used** - symbols, colours and language may have different meanings which could impact on the learning and comprehension of students;
- d) technological infrastructure** - when designing programs, it is important to consider that Internet speed and accessibility may be different in other countries (and even in different parts of the same country), apart from students' familiarity with using online technology.

Online courses should use a curriculum design that is inclusive and addresses diverse students' needs (Thomas & Tight, 2011). They could provide multiple opportunities for students to learn core concepts, and allow them to make use of multiple modes of communication and opportunities for self-directed, as well as collaborative learning, by taking into account their varied learning styles, such as learning through the use of text, video, audio, kinaesthetic, or a combination of them (Patterson & McFadden, 2009; Kleyn & Valle, 2014).

The curriculum should create opportunities for students to develop awareness of cultural differences and promote knowledge, allowing students to acquire skills that prepare them to operate in today's world (Clark, 2002). Although the advances in technology are making education more accessible for students globally (Garrison, 2011), it is not easy for multicultural groups to work together, as language and diversity can hinder collaboration (Downey, Wentling, Wentling, & Wadsworth, 2005; Sleeter & Grant, 2009). To foster collaboration in an online

environment, lecturers need to address cultural diversity, which needs to be taken into account during the design process (Thomas, Mitchell, & Joseph, 2002; Downey, Wentling, Wentling, & Wadsworth, 2005).

Online education works the same way as any traditional class, where diversity needs to be considered during the design and planning stages of a course, and educators need to develop cultural awareness to be able to foster collaboration among students (Rutherford & Kerr, 2014; Genc & Bada, 2005). When lecturers and course designers are more familiar with cultural differences, it becomes easier to create an inclusive, accessible and flexible learning environment (Gay, 2010).

Morse (2003) outlined the need to address cultural differences, not only during the pedagogical design stage of online courses, but also in the way that courses are delivered. The literature presented in this section outlines the importance for lecturers to acquire cultural awareness to be able to foster collaboration among students. Lecturers need to endeavour to increase their cultural competency, cultivate appreciation for diversity as well as an increased cultural self-awareness (Alexander, 2002). After presenting the influence of culture in online programs, the next section explores engagement within a culturally diverse cohort, according to literature.

2.2.2 Engagement within a culturally diverse cohort

The issue of engagement within a culturally diverse cohort and its impact on online retention has become an important aspect that lecturers have to deal with in the delivery of core online subjects. Engagement among culturally diverse students can be challenging in an online environment (Hannon & D'Netto, 2007). With universities having more culturally diverse students, lecturers need to be aware that students have different learning needs and require appropriate induction and scaffolding to support their learning (Cools, Evans, & Redmond, 2009). This can be achieved by a lecturer's constant feedback and interaction with students through discussion boards and live lectures (Krause & Lowe, 2014; Van Petegem, De Loght, & Shortridge, 2004), and establishing means for synchronous or asynchronous communication among students, which leads to increased peer engagement (Haythornthwaite, 2006). Engaging students from diverse cultural backgrounds is not an easy task but can be an enriching one for all learners, as culturally diverse students bring different interpretations to the classroom, and their contribution adds to what is being taught and what everyone learns (Merryfield, 2003; Sharpe, 2005; Harzing, 2008). According to Weinstein, Tomlinson-Clarke, and Curran (2004), it is possible to foster engagement within a diverse cohort when engagement is encouraged, supporting the development of culturally competent individuals, who are able to impart their knowledge, present their views, learn from and respect other people's perspectives. Learning and respecting other people's cultures is part of intercultural communication (Grant & Brueck, 2011; Hill, 2006; Jokikokko, 2009). The elements of intercultural communication and strategies to apply it online are presented in the next section.

2.2.3 Intercultural communication strategies in online environments

Scholars have explained the need to address cultural diversity in order to keep students engaged online. But, for engagement to be effective, the way students communicate becomes crucial (Zembylas, 2008). The ability to successfully communicate and interact with people from a variety of cultural backgrounds is referred to as intercultural communication, which occurs between two or more people from different cultures, despite their differences (Arasaratnam & Doerfel, 2005; Cushner, 2011; Dooley, 2009).

Tsai and Houghton (2010) state that it is up to the universities to foster students' interculturality, considering student populations at international universities are from different cultural backgrounds and multilingual. Tsai and Houghton (2010) add that learning to be intercultural is not an automatic or easy task, even for students who are already fluent in the language they are communicating with. Being interculturally competent is a skill that needs to be developed, be it by learning from being exposed to living within a culturally diverse context, as in living in a foreign country, for example (Kim, 2008). Another example is learning from interacting, living and sharing experiences with people from diverse cultures or developing the cultural knowledge by attending cultural awareness programs, as it happens and it is mandatory for lecturing staff teaching Indigenous students in remote communities of Australia. Being interculturally competent is important for lecturers who teach online degree programs that are open to students worldwide,

considering that students bring their diverse views and experiences to the online classroom.

The ability to foster intercultural competence is dependent on lecturers' knowledge of cultural differences (Kern, Ware, & Warschauer, 2004; Diller & Moule, 2005; King & Magolda, 2005). A pilot study for developing intercultural understanding in pre-service teachers, in Sweden, demonstrated that, although being a challenging process, self-reflection can be used to support this, by making them re-evaluate their pre-conceived ideas and concepts on values, beliefs and expected behaviours and look upon them with new eyes (Feng, Byram, & Fleming, 2009).

Lecturers can support the development of intercultural competence by providing a variety of online resources from different cultures and enabling students to experience a richer learning experience (Patrick, Rashne, Walter, & Ghere, 2004). Students from different cultural backgrounds bring their own life experiences and share their unique ways of learning (Rennie, 2009). Hence, creating opportunities for the development of intercultural communication requires cultural sensitivity and awareness, and the ability to foster interaction among students in a way that they learn to appreciate differences (White, 2007; Hammer, Bennett, & Wiseman, 2003).

Hannon and D'Netto (2007, p. 418) undertook research with 241 students in online learning programs in a large university in South Australia, with the purpose of exploring how students from different cultural and linguistic backgrounds interact

online and to assess the impact of cultural differences in online engagement. They discovered that:

Cultural differences do have an impact on participant satisfaction with organisational and technological issues, with local participants indicating significantly more positive perceptions than international participants. Significant also was a reported lack of peer engagement and intercultural communication.

Hence the importance for fostering intercultural communication, be it in a traditional classroom or an online one, to avoid student dissatisfaction that can lead them to drop out of their courses. The elements described as contributors to the development of intercultural competence in online programs are shown in Figure 2.1. It presents the elements for intercultural competence as:

- a)** Diverse cohorts: these are multilingual and multicultural, with diverse views and unique ways of learning;
- b)** Online environment: with lots of interactivity and online discussion among students, where lecturers provide multicultural resources and self-reflection activities for students.

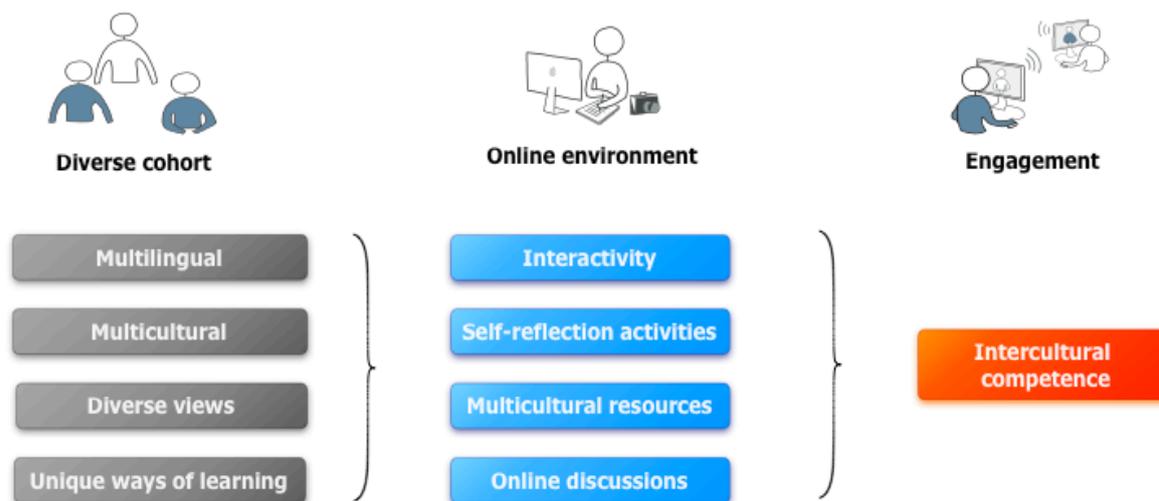


Figure 2.1: Development of intercultural competence in online environments

As stated by various authors in this section, when online programs incorporate these elements, they can expect higher engagement, and as a consequence, the effectiveness of the program increases.

2.2.4 Summary

This section presented the cultural aspects that play an important role in online retention, according to the literature. The influence of culture in online programs was described, together with the challenges of engagement within a culturally diverse cohort. Intercultural communication strategies within online environments were also presented. The next section describes how motivation is developed through engagement, the importance of developing a sense of belonging in students and how motivation presents itself within online environments.

2.3 Motivation to learn

It is important to discuss motivation to learn as a factor in online student engagement, as low motivation has been indicated as a cause for students not completing their courses (Jung, Choi, Lim, & Leem, 2002). Student motivation has been identified as a critical factor for achieving positive academic outcomes in various educational settings, and online courses are not an exception to this (Rovai, 2007; Zaharias, 2009; Leppisaari, Herrington, Vainio, & Im, 2011; Timmis & Cook, 2004; Keller & Suzuki, 2004). In online environments motivation emerges as one of the main causes for low retention (Herbert, 2006; Levy, 2007; Jones, 2013). Previous research has indicated that motivation to learn can be mainly fostered by:

- a) increasing students' engagement;
- b) creating a sense of belonging in students;
- c) social, teaching and cognitive presence in online degree programs.

The following sections present the different ways motivation to learn can be fostered in online degree programs. The first is motivation through engagement, followed by students' sense of belonging and lecturers' online presence. These are discussed separately. As this research focuses on online degree programs, the motivation within MOOCs are also presented, as although their certificates of completion are not counted as credit for enrolment into any university program,

they are normally large and diverse online cohorts, which are similar to the online environments explored in this research.

2.3.1 Motivation to learn through engagement

This section presents the importance of students' engagement for increasing retention and increasing students' motivation to learn in online environments. Discussing engagement is important for this research, as a decrease in engagement causes students to withdraw from online courses (Herbert, 2006). This research uses the definition of 'engagement' as it was described by Ally (2008), which is the interactivity students have with the online content, their instructors, and with their peers in collaborative learning. Each type will be briefly discussed separately.

Students engage with online content when it is meaningful to them. Being able to apply what is being learned to a real life situation is paramount to maintaining students motivated in an online environment as it increases the meaningfulness of learning activities (Hartnett, 2012). For this reason, it is important to choose tasks that are pleasing and inviting, so students feel motivated to engage with those activities (Anderson, 2001). Furthermore, the online environment should be easy to use, supporting learning objectives, creating an educational experience that motivates students to engage with them (Lindquist & Long, 2011) and providing content that students can apply to their lives (Kim & Frick, 2011).

The second type of engagement, as a motivator to learn, is the one that happens in collaborative learning. Some students need more than engagement with online content, and they feel more motivated when they are able to work in collaboration and are socially engaged with their peers (Jung, Choi, Lim, & Leem, 2002). Collaborative learning serves as a means to create a group of people with common goals who are learning together by the use of cooperative efforts, which can be achieved by providing group projects and debates (see, for example Hiltz & Turoff, 2002). Online students' diversity can play a major role in improving collaboration by producing thought-provoking dialogues and providing various source of information (Al-Shehri, 2011; Beetham & Sharpe, 2013).

Lastly, the final type of engagement, as a motivator to learn, is the one that comes from the lecturers. For the development of motivation to learn, some students require lecturers' support with content and constant online presence (Lowenthal & Lowenthal, 2009). This is not surprising, as having a constant online presence, as in participating and mediating online forums and discussions, for example, and guiding students in the integration of argumentation since the early stages of their interaction online encourages a more explicit scaffolding of the learning phases for learners as well as the development of critical inquiry (Rienties & Giesbers, 2013).

The question on which types of activities lecturers apply online to increase students' motivation to learn will be asked of participants in this research to determine the differences between engagement with content and engagement with other students. According to Jones (2013), motivation to learn has also been

linked to the sense of belonging students like to feel when learning online, which is discussed in the following section.

2.3.2 Sense of belonging and online presence

When classes began being delivered online, content used to be added online and students interacted with content only; collaboration with other students was not considered part of online teaching and learning. However, students who study through online classes need to feel that they belong to a learning community in order to achieve optimal learning and to make full use of interactions with their peers for their cognitive growth (LaPointe & Reisetter, 2008; Shea, Sau Li, & Pickett, 2006). Although not all students feel the need to interact with their peers, it is important for retention that online students have a sense of belonging and feel comfortable expressing themselves, as this makes them feel connected with their peers, their lecturer and with the course content (Herbert, 2006).

To support the engagement among peers, lecturers usually facilitate and nurture learning communities, giving students a sense of belonging and promoting the construction of knowledge via social interaction (LaPointe & Reisetter, 2008; Volery & Lord, 2000). The creation of online communities during the orientation period can stimulate the sense of belonging and create a sense of socialisation (Gleason, 2004; Patrick, Rashne, Walter, & Ghere, 2004). Moreover, online courses need to facilitate the creation of learning communities where students

assist each other while learning, which leads to a social construction of knowledge (Rovai, 2007).

Garrison, Anderson and Archer (2001) proposed a community of inquiry model of online learning that explored a sense of belonging that depended on the interactions between students and content, among students, and between students and instructors as evidenced by three types of online presence: social, teaching and cognitive presence:

- **Social presence** is the communication that happens within the online community, where students develop interpersonal relationships (Anderson, 2001; Garrison, 2007);
- **Teaching Presence** is the facilitation and design of courses, with a focus on learning outcomes (Anderson, 2001);
- **Cognitive Presence** is the construction, reflection and exploration of knowledge that happens while students work in collaboration (Anderson 2001; Garrison, 2007).

Social presence is paramount in online courses, highlighting the importance of affective aspects in networked learning. Zaharias (2009) asserts that the affective dimension of learning has been neglected in some eLearning developments, and without it, it is difficult to create a good connection between learners and their online courses, which makes them active and engaged. Affect drives students' motivation to learn, which goes beyond simple enjoyment, but creates a real sense of purpose that contributes to persistence in their studies (Holder, 2007).

Another type of online presence is the teaching one, which is the ability of an educator to enhance and support social and cognitive presence through instructional management, building understanding (Lowenthal & Lowenthal, 2009). Teaching presence supports online communities that have students as active participants, as it maintains a setting where social and cognitive presences develop. This is achieved when lecturers provide good instructional design, facilitation of discussion and direct instruction (Garrison, Anderson & Archer, 2001).

The third type of online presence is called cognitive, which is “the extent to which learners are able to construct and confirm meaning through sustained reflection and discourse, in other words, to develop critical thinking” (Anderson, 2001). Achieving cognitive presence in an online course requires a focus on knowledge acquisition and its application at a higher-level. All of these elements, combined, lead to an increase in students’ motivation to learn, as visually portrayed in Figure 2.2 and presented in this section by the community of enquiry model, as described by Garrison (2007).

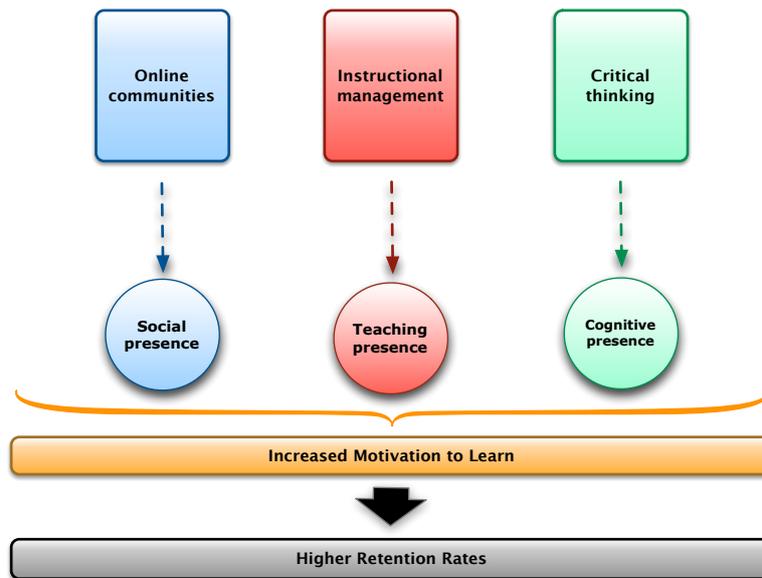


Figure 2.2: Online presence

These three types of presence contribute, each in their own distinctive ways, to increase motivation in online environments, as presented in this section. Increasing motivation appears to be more easily achieved within smaller learning environments, as opposed to MOOCs, which have been reported to have 50,000 students enrolled in a course at the same time (Fomin, 2013). This happens because MOOCs are online course programs with unlimited participation. The courses required large-scale feedback and interaction; hence it is imperative to consider how this impacts on students' motivation to learn. This is explored in the next section.

2.3.3 Motivation to learn within MOOCs

There has been an increase in online course offerings, such as MOOCs, that are becoming increasingly popular in the educational community. Although this research focuses on core subjects delivered online, a brief comparison between motivation that happens within an online core subject and a MOOC one is made so differentiation is made about the two types of online learning environments. This is because motivation is one of the main sources of research within MOOC environments (Kennedy, 2014) and their impact on student attrition. Students can enrol for free in MOOC programs and in many courses as they wish, and, although there may not be feedback from lecturers, the asynchronous activities offer opportunities for discussion and learning (Daniel, 2012). As previously discussed, there are no enrolment requirements for MOOCs and these types of courses are not part of official degree programs. They only offer certificates of completion that are not counted as credit for enrolment into university programs. Attrition rates of MOOCs are high, and it may be due to the fact that they are non-credit-bearing once completed (McAuley, Stewart, Siemens, & Cormier, 2010). According to Clow (2013), MOOCs are a new phenomenon without a substantial body of literature on their learning analytics, which needs to be explored and validated (Clow, 2013; Skiba, 2012).

Student motivation in MOOCs has attracted increased interest in educational institutions worldwide, as it promotes them globally, which may attract more enrolments. Firstly, it is important to differentiate a regular online course and a MOOC one. The latter attracts larger number of enrolments, and only provides a

certification at the conclusion of the course which is not counted as credit towards any enrolment in degree courses.

Belanger and Thornton (2013) conducted pre and post-course surveys in a MOOC delivered by Duke University to thousands of students worldwide. The pre-course survey demonstrated that the main motivator for students to attend the course was fun and enjoyment. The post-survey indicated that students who completed the course had intrinsic reasons for persevering, such as formal accomplishment and professional development. The learning journey within a MOOC is one where students need to have a certain level of independence and skills in using and accessing information technology. These students are able to collaborate with others, look for information themselves, undertake their own research, and be active in their own learning.

MOOCs are complex learning environments that are more suitable to adult learners, which provides MOOC participants with the sense of belonging to a community, through active participation and contribution to the development of knowledge (Kop, 2011). This is not different from other online environments, hence the similarity between MOOCs and individual, core subjects delivered online.

MOOC participants usually share common learning goals and interests (McAuley, Stewart, Siemens, & Cormier, 2010). Considering that a number of participants in these types of courses can reach hundreds, if not thousands of people, it creates more opportunities for participants to find others who share similar skills and

interests, and this motivates them to work in collaboration. Social support and self-defined goals promote engagement within MOOC environments. This section presented the importance of motivation to learn for online retention by exploring:

- a) motivation through engagement;
- b) sense of belonging and online presence;
- c) motivation within MOOCs.

On the exploration of elements that lead to low online engagement, the third theme that emerged in this research was LMSs, their application by lecturers, their interface design and effectiveness. These elements are presented in the following section.

2.3.4 Summary

This section described how motivation is developed through engagement; the importance of developing a sense of belonging in students and how motivation presents itself within MOOC environments. The next section discusses LMSs application by lecturers and the relationship between LMSs interface design and cultural diversity. Some suggestions on what can be done to improve the effectiveness of LMSs are also presented at the end of the section. The next section presents LMSs characteristics and its application by lecturers.

2.4 LMS

An LMS is a suite of software tools that can be used to provide a range of teaching and learning activities and the services that enable their management and facilitation (Naidu, 2003; Anshari, Alas, Hamid, & Smith, 2016). LMSs have, since early 2000s, become the technology commonly used by universities for their online courses (Steel, 2009; Rutkowski & Moscinska, 2010). In the discussion of effectiveness of LMSs in minimising attrition, issues of a pedagogical and technological nature arise, however before exploring these elements, it is important to investigate how lecturers have applied their use of LMS in their online classes.

2.4.1 LMSs application by lecturers

Although lecturers and students are the primary LMS users, university administrators and IT experts often select the system, and this impacts users when they do not have complete administration access to the LMS. They are required to request whoever has administration rights to the courses they teach so to make some of the structural changes to it. This research presents lecturers' concerns and challenges on the use of LMSs, and the high dependency on technical support for setting up courses and/or dealing with technical glitches. One of the reasons lecturers continue to rely on technical support, in some occasions, is due to them not having total access to the administration and grading system related to

the courses they deliver. According to Wright, Montgomerie, Reju, and Schmoller (2014, p. 01):

Although faculty and students are the primary learning management system users, administrators and IT experts often select the system

According to Christie and Jurado (2009, p. 277), “for the further development of the use of LMS, it is important to offer continuous education, competence development and support in how to use an LMS.” Earlier studies have demonstrated that LMSs are, many times, still considered too technical and complex (Coates, James, & Baldwin, 2005). Although the use of different pedagogical approaches is possible with LMSs, it is dependent on lecturers’ expertise and experience, as in years of teaching, in making use of its technology to express their pedagogical vision (Brack, Samarawickrema, & Benson, 2005; Tyler-Smith, 2006; Steel, 2009; Godwin-Jones, 2012; Benson, Ward, & Liang, 2015).

It is argued that some educators are only adding content online without applying sound pedagogical principles and LMSs are not used in effective ways (Vrasidas, 2004). In research conducted in Poland by Rutkowski and Moscinska (2010), it was concluded that most online lecturers were reluctant to apply eLearning in their courses, stating that they did not feel motivated, had little time available for setting up the course and there were no financial incentives. This is crucial when increasing retention, because it is the lecturer’s ability to tailor courses to students’ needs, monitor their abilities and make adjustments that make eLearning dynamic and efficient (Knowlton, 2000). There are also issues for first time online students,

as it takes time for them to get used to using eTools. As explained by Tyler-Smith (2006, p. 03), “eLearners need to embrace a model based on a self-directed and motivated learner who is physically isolated from fellow learners and the tutor; and communicating primarily by electronic text.” Hence, lecturers’ support in the use of LMS is extremely important for first time online learners until they can embrace the new learning model.

Educational institutions would like to have LMSs that can be seamlessly integrated with the existing technology and meet lecturers and students’ expectations and needs (Vrasidas, 2004). However, in order to achieve that, more research is still required on lecturers’ perceptions of the impacts of the use of LMSs on learners and lecturers (Tyler-Smith, 2006; McGill, Klobas, & Renzi, 2008).

This research incorporates questions on the most current application of LMS by online lecturers in six international universities in Australia, Brazil, Canada, Norway, Spain and U.S.A. to assess instructors’ perceptions of the impact on teaching and attrition. Although Moodle and Blackboard are well known LMSs in Australia, this question is asked to the lecturers participating in this research to find out whether other types of LMSs are being used. Previously in this chapter, cultural issues and its impact on retention have been discussed. The next section highlights the impact of the LMS interface design within culturally diverse cohorts.

2.4.2 LMSs interface design and cultural diversity

The previous section presented past studies on the importance of lecturers' knowledge on LMS implementation for their online environment to achieve successful engagement. It also becomes imperative to explore how culturally diverse students interrelate, as it is through LMSs that they interact and learn. As presented earlier in this chapter, the success of online programs is partially dependent on cultural awareness and knowledge of how cultural differences affect online learners (Downey, Wentling, Wentling, & Wadsworth, 2005). Students and lecturers bring their culture and behavioural practices to the digital interfaces with which they interact (Marcus & Gould, 2000). Some online environments have a stronger focus on content and forget the impact of interface design on online learners (Zaharias, 2009). A successful interface is one that mirrors people's experiences, needs, beliefs and expectations (Uden, 2007; Zanjani, Edwards, Nykvist, & Geva, 2016). According to Beetham and Sharpe (2003, p. 07):

Although it takes different forms in different states, the desire of national governments to establish the 'return on investment' available from higher and further education has added to the pressure to standardise representation of educational design processes and their outcomes.

The concern is that standardised design may not always address students' distinctive ways of learning (Corey and Leinenbach, 2003; Fletcher, 2006; Zaharias, 2009; Norton, 2013). According to Hofstede (2011), culture affects how students respond to online environments and suggests that lecturers should

identify the dimensions of culture that are most likely to impact instructional situations when dealing with multiple cultures. Hofstede (2011) describes a set of eight cultural parameters in instructional situations and their spectrums of variability as follows:

- **Power distance** - importance given to certain social roles and hierarchies, with restrictions on some users.
- **Uncertainty avoidance** - more structured and simple navigation through the site, contrary to a more complex design where the user is encouraged to browse and look for own interests.
- **Collectivism versus individualism** - information and visuals are based on either personal or collective, with emphasis on individual or group achievement/action
- **Masculinity versus femininity** - images and messages focusing on cooperation and quality of life can be much softer, compared to career, competition and advancement.
- **Long-term versus short-term orientation** - functional designs for people willing to get quick information, versus one that requires more patience to achieve a desired outcome.
- **Indulgence versus restraint** - some people have a focus on seizing the day and enjoying life while others try to control impulses and follow strict norms.

Overall, these dimensions highlight the need for lecturers to address cultural differences and create online interfaces that reflect learners' perspectives, in order to keep them engaged, which in turn affects online retention positively. However, it

is important to note that lecturers' background and experience have a great impact on this. For this reason, Gay (2010) suggests that, during teacher education, pre-service teachers should be led to examine their attitudes and beliefs about cultural diversity, while developing their pedagogical skills.

This section presented the LMS application by lecturers and the relation between interface design and cultural diversity, ways of improving the effectiveness of LMSs in online classes needed to be explored. The following section presents some approaches applied by lecturers in order to achieve this.

2.4.3 Improving the effectiveness of LMSs

It is important to identify how LMSs have been applied by online lecturers and what challenges they face, so to have a wider understanding of the impact of LMSs on student retention. Lecturers are required to plan and coordinate online activities, just as they do for on campus students, and understand that only migrating content to the online environment is not sufficient for its success and to ensure high engagement and online retention. The LMS's application is far more complex, and should include quality feedback mechanisms and reviews to investigate its effectiveness, allowing the planning and development of new strategies to ensure its successful application (Coates, James, & Baldwin, 2005; Kikukawa, Aritomi, & Miyadera, 2016). Therefore, lecturers could benefit from training in the use of LMSs and participate in discussions within faculty when making decisions on their use and implementation.

Similarly to what is offered to on campus students, online degree programs should offer counselling support and frequent contact with faculty staff to increase their effectiveness (Rovai, 2003). Another suggestion to improve a LMS's effectiveness is student orientation, which is usually provided to on campus students at the beginning of their courses. This should happen during the first few weeks of an online course, and could assist students meet their peers, overcome any concerns about the course and learn the technology involved (Gleason, 2004).

Another important aspect of LMS's effectiveness is related to its system and content quality, considering that there is a strong positive relationship between easy navigation and quality content in LMSs and the level of learners' satisfaction with their online courses (Ozkan & Koseler, 2009). When discussing content quality and its access, it is important to mention how this can be achieved. Kerr et al. (2008) suggest lecturers incorporate a variety of teaching methods and different presentation formats, such as videos, graphic representations, audio and text to cater for a wide range of learners' needs and abilities.

The elements in this section are visually represented in Figure 2.3. It shows that the main elements that lead to an increase on the LMS's effectiveness are: different presentation formats, variety of teaching methods, easy navigation, student orientation, and faculty support. The elements leading to a decrease of a LMS's effectiveness are: courses that are not tailored to individual cohorts; lack of planning; as well as lack of training on the use of LMSs.

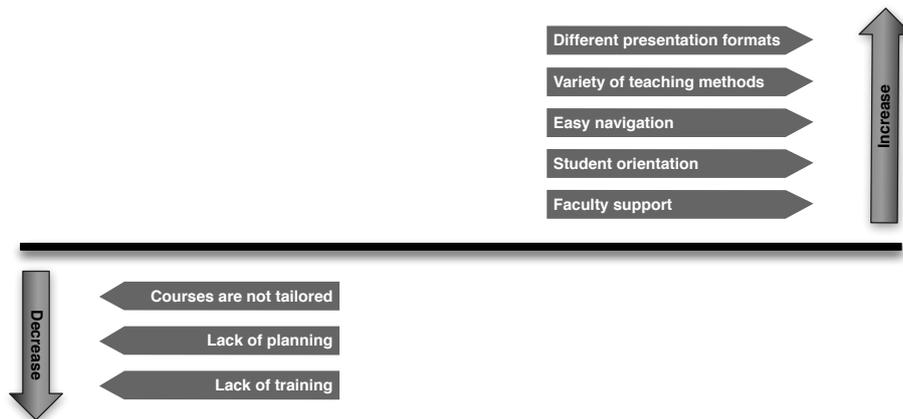


Figure 2.3: Effectiveness of LMSs

For this research, questions on the use and effectiveness of LMSs were asked to lecturers in six international universities so as to add to the current knowledge on LMS effectiveness.

2.4.4 Summary

This section discussed LMSs application by lecturers and the relationship between LMSs interface design and cultural diversity. Some suggestions on what can be done to improve the effectiveness of LMSs are also presented at the end of the section. The next section presents online pedagogy and the challenges of transitioning from traditional to online teaching environments. Pedagogical strategies used with diverse online classes and the learning theories applied within online environments are also presented.

2.5 Online pedagogy

After presenting the main aspects that need to be considered in instructional design for increased student retention, the chosen teaching pedagogy and its effects on retention is explored in the following section. The first section presents the process of transitioning from traditional teaching environments to online ones. The second section focuses on online pedagogies that are more suited to diversity cohorts, and the last one presents an educational theory for online learning.

2.5.1 Transitioning from traditional to online teaching environments

Godwin-Jones (2012) found through a study conducted in 2012, that the way lectures structure their online classes, with the use of LMSs, had not changed since its origins in the mid 1990s, as the design still followed traditional classroom teaching where knowledge was delivered with limited synchronous activities. The transition from face-to-face to online environments is not an easy task. As an example, Jones (2005) used her own online class in multicultural education for her research and noted that with the technology developments and the progressive introduction of online courses, the main challenge she had was in transferring her teaching style to the online program. Lecturers need to receive training on how to transition their traditional ways of teaching to online environments and tailor them according to students' needs (Hughes & Bruce, 2006; Uden, 2007; Godwin-Jones, 2012). This leads to higher retention in online programs, which continues to be

one of the main challenges faced by lecturers worldwide (Boston, Díaz, Gibson, & Ice, 2014).

Poor LMS design can lead to low retention (Tyler-Smith, 2006; Levy, 2007). Teaching online requires a specific set of skills, such as dealing with technology and understanding the complexities of online communication. Apart from this, the multicultural aspects of online environments, which have been presented in Section 2.2, Cultural aspects, require an inclusive pedagogy. This is discussed in the following section.

2.5.2 A pedagogy for diversity

The question in relation to lecturer's knowledge of cultural differences emerged when presenting the importance of culture for student engagement and motivation. The issue of cultural diversity emerges once again in the literature when exploring online pedagogical strategies. Online degree programs reach students worldwide, creating the need for lecturers to be aware of cultural differences (Cools, Evans, & Redmond, 2009). Online courses that do not accommodate a variety of learning styles make it very difficult for students to feel comfortable with them (Johari, Bentley, Tinney, & Chia, 2005; Ladyshewsky, & Taplin, 2013).

Some scholars state that lecturers are normally not aware that they were educated believing that their own cultural norms are accepted universally, forgetting that their biases and beliefs may influence how much they know and understand other

cultural values (Weinstein, Tomlinson-Clarke, & Curran, 2004; Brown, 2007; Milner, 2010; Harrison, Lawrence & Huntington, 2000). Some prospective teachers are reluctant to believe that they need cross-cultural training, as they prefer to associate differences with individual abilities (Gay, 2010). According to Chamberlain (2005), lecturers who do not understand cultural influences in learning behaviour may refer to problems as comprehensive in nature and label them as underachievement. Chamberlain (2005) compiled some pedagogical recommendations for teachers, assessors and schools, in regards to addressing cultural differences, which include:

- a) Implementation of policies and professional development on diversity, teaching culturally and linguistic diverse students (with and without disabilities);
- b) Student support and understanding of non-discriminatory practices for assessments;
- c) Diversification of teaching strategies by developing cultural awareness and gathering information about their students.

The latter is explored in this research by asking lecturers what type of strategies they apply online to achieve high student engagement. Culturally diverse cohorts are sometimes referred to as 'multicultural classrooms', making it imperative to explore its meaning (Nieto, 2000). Multicultural education is achieved when lecturers adapt their teaching styles to cater for the demands of culturally diverse groups of online students, as well as the demands of the always-evolving technological tools (Jones, 2005; Howell, 2001). However, Nieto, Bode, Kang, and Raible (2008, p. 44) expand on this view, explaining that multicultural education presents seven main characteristics: "antiracist, basic, important for all students,

pervasive, education for social justice, a process, and critical pedagogy.” Hence, teaching with a multicultural perspective means that lecturers need to have empathy for students and a commitment to social justice.

Planning the delivery of online classes ahead with adequate learning material that are suitable for all learners is crucial (Rovai & Downey, 2010). One suggestion is making use of the principles established by the Universal Design for Learning (UDL). This is a flexible teaching approach, designed by the Centre for Applied Special Technology (CAST) that provides a blueprint for the creation of eLearning activities and assessments that are flexible, accessible, inclusive and cater for students’ diversity, different needs and learning styles (Corey & Leinenbach, 2003; Rose, Meyer, & Hitchcock, 2005). The set of principles are based on:

- a) **Flexible methods of presentation:** also called the ‘what’ of learning. These methods are meant to offer content that is accessible for learners with visual, hearing or learning disabilities and/or who are from diverse cultural/language backgrounds;
- b) **Flexible methods of expression:** also called the ‘how’ of learning. These methods provide a wide range of options for students to express their knowledge;
- c) **Flexible options for engagement:** also called the ‘why’ of learning. Providing a variety of sources that influence students’ interest in what is being taught, as people are different in what motivates them to learn.

The UDL principles presented above support students' learning diversity, as they offer different options for learning if compared to traditional teaching methods. Catering for diversity, within multicultural classrooms, can be achieved, as explained by Patrick, Rashne, Walter and Ghere (2004, p. 14):

The goal is to make room for flexible, customisable content, assignments, and activities that are accessible and applicable to students with a variety of backgrounds, learning styles, abilities, and disabilities.

Figure 2.2 represents a LMS that presents the main aspects discussed in this section, which leads to a pedagogical design that caters for students' needs. It includes three main elements: students' needs, LMS and pedagogy. The pedagogy needs to cater for students' needs to be able to offer contextualised learning for them. The LMS needs to have flexible methods of presentation, expression and engagement to create an effective learning environment.

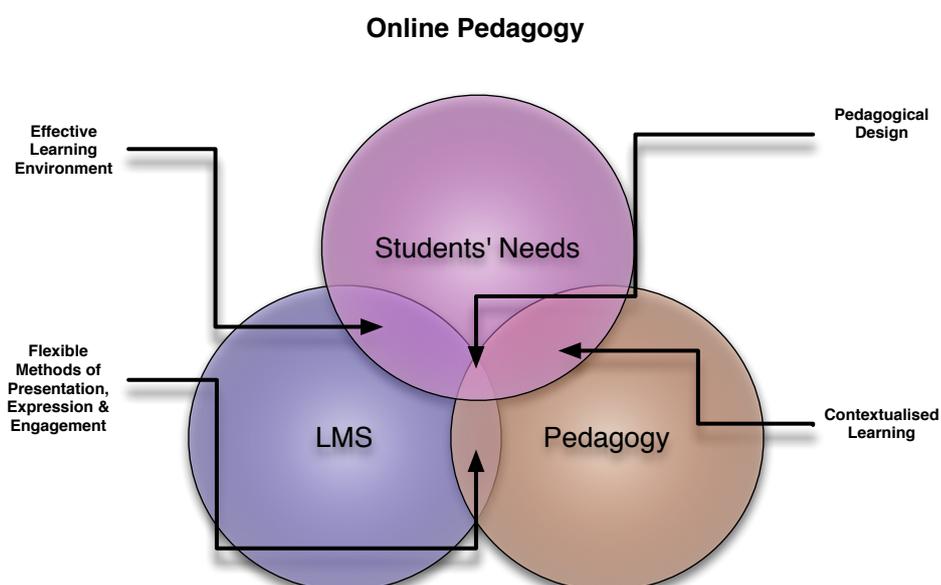


Figure 2.2: Inclusive online pedagogy

By analysing what scholars suggest in this section, and in order to increase online retention, a strategy that can be suggested is to personalise courses, addressing individual differences and learning styles, using Universal Design for Learning (UDL) principles. In view of how these strategies have been applied online, the next section explores what educational theories lecturers have adopted in their online courses.

2.5.3 Learning theories applied in online classes

The issue of attrition in online environments, from a pedagogical perspective, is only one of the variables identified by recent research, which highlights the need for a better understanding of online teaching skills and pedagogy (Tyler-Smith, 2006). Good eLearning planning and design is the core of high-quality online teaching (Davies & Barak, 2013), where students' learning styles and needs should be considered, before and during the delivery of programs, regardless of cohort's size. It is necessary to review the main educational theories to understand what they represent, how they are presented online and in what ways they may impact on students' learning in online environments.

Behaviourism is one of the teaching models used when distance education began to become available, where technology was still limited and did not facilitate collaboration. Major behaviourist learning theorists include John Thorndike, Edward Watson and Burrhus Frederic Skinner. Behaviourism has an instructional model

where learning is an individual process, where objectives are clearly identified and were not necessarily part of the learner's context of study (Anderson & Dron, 2011).

The development of the teleconferencing, then the use of the Internet, led constructivist approaches to be applied online, where learners were encouraged to work together to create knowledge with the use of technology, which slowly replaced activities traditionally completed and supervised by lecturers. Synchronous and asynchronous interactions started to be more widely used for learning, and the focus changed from transmission of knowledge coming solely from lecturers to one that was created by learners, being more active, involved in social discussions and where knowledge can be applied to real world contexts (Anderson & Dron, 2011; Davies & Graff, 2005). Leask and Younie (2006) reviewed information-technology projects and their outcomes considering the communal constructivist learning theory, which gets students to construct their own knowledge and contribute to the building of it in their own learning communities, through interaction with their environment (Tangney, FitzGibbon, Savage, Mehan, & Holmes, 2001). Leask and Younie (2006) state that constructivism is more in line with online learning, considering that, through the Internet, students are able to access information from a multitude of sources, and are able to engage with their own learning. During that engagement, they can contribute with what they know, consequently constructing new and up-to-date knowledge. This corresponds to the organic nature of knowledge, which is constantly being created and changed.

Connectivism is a relatively new theory of learning that is still being developed and refined, considering it is not widely accepted in scholarship. Kop and Hill (2008, p. 2) present reasons for this:

Connectivism is mainly concerned with cognitive development, and as such does not concentrate on explaining how connections to networks may be interpreted in relation to physical maturation or the changes that occur over time via a person's exposure to, and interaction, with the social world.

The concept of connectivism was developed by George Siemens which was later tested and demonstrated with the creation of the first MOOC course in 2008, called *Connectivism and Connective Knowledge*, at the University of Manitoba, Canada, with over 2,300 students worldwide (Daniel, 2012; Downes, 2012). Siemens (2005) notes that earlier theories focused on the individuality of learning, failing to address learning that occurs during social interaction and outside of people, and do not recognise connections made with the use of technology, and the networks of human and non-human channels. Downes (2012) explains that, in connectivist online environments, learning happens within a connected network, where content needs to be relevant, interactive and appreciated by learners. Dobozy, Campbell, and Cameron (2013, p. 16) advise:

It is important to locate the debate about connectivism as a legitimate theory in time and space as well as in relationship to earlier theories of learning.

Behaviourism, constructivism and connectivism present differences and similarities. In fact, a combination of them has been used to develop web-based material, as there is no single learning theory to follow (Ally, 2008). Their distinctive principles can be applied in the design of online environments, where facts can be delivered using behaviourist strategies and processes and principles by cognitive ones; contextual learning, that has personal meaning, can be delivered using constructivist strategies and learning can still occur within a networked system, aligning with connectivism principles (Ally, 2008).

This section presented the challenges of transitioning from traditional to online teaching environments, where students worldwide bring their different views and distinctive ways of learning, making it necessary to create a pedagogy that caters for individual needs. In view of this, educational theories, their principles and application within online environments were discussed, highlighting the fact that they can complement one another, bringing a distinctive quality to the online environment. This research explored the current learning theories applied by online lecturers in six countries. Considering connectivism to be presented as a learning theory of choice for participants in this research, its concepts have been presented. Constructivism is widely accepted as a model of learning, presented for teacher training as well as in educational literature. It describes how learners acquire knowledge, individually making sense of their experiences. Through constructivism, students learn from their own investigation, research and enquiry. Considering that technology can facilitate this process, further research is required to determine how connectivism can be situated as a learning theory (Clara & Barbera, 2014; Dobozy, Campbell, & Cameron, 2013), what are its main

characteristics and functions and its application in online environments. The views presented by the lecturers who participated in this research may provide an updated adoption of connectivism as a new learning theory for the digital age.

2.5.4 Summary

This section presented online pedagogy and the challenges of transitioning from traditional to online teaching environments. Pedagogical strategies used with diverse online classes and the learning theories applied within online environments were also presented.

2.6 Conclusion

The literature review presented issues relating to retention in online environments. Research indicated that when aspects of culture, motivation, LMSs and online pedagogies are not carefully considered, they can lead to students' dissatisfaction and low retention rates. The following is a summary of the main issues presented in this chapter:

1. *Culture*: Literature suggests that diversity is an important element to be considered during the design and planning stages of online programs and educators are required to develop cultural awareness to be able to foster collaboration among students. Teaching culturally diverse students is considered a challenging process in the creation of engagement among them.

Courses need to cater for different learning styles, providing flexible and accessible online environments. It is essential for lecturers to adapt their teaching styles to cater for cohort diversity that brings different learning preferences with it. The research presented thus far provide evidence that online interactions can only be successful if lecturers foster collaboration among students, and when cultural diversity is taken into account during the design process. This can be achieved by developing cultural awareness and an appreciation for cultural differences.

2. *Motivation*: Students feel more motivated when what they are learning what can be applied to their real lives and also when they are able to work in collaboration and are socially engaged with their peers. Within MOOC environments, intrinsic motivation, as in personal development, is what drives students to complete their courses. It is important for students to choose tasks that are pleasing and inviting. The online environment should be easy to use, supporting learning objectives and creating an education experience that motivates students to engage with them. Social, teaching and cognitive presences all play a role in fostering motivation among students.

3. *Learning Management System*: Researchers state that when online courses are not properly implemented with the use of the LMS, they can have a negative impact on course quality and effectiveness. Educational institutions would like to have LMSs that can be seamlessly integrated with existing technology, and that meet lecturers and students' expectations and needs. Lecturers require training on LMS application to be able to support its usability

and accessibility by all students. However, further research is required on technological issues that have arisen as a result of the widespread implementation of LMSs in educational institutions worldwide.

4. *Online pedagogy*: Researchers argue that some lecturers add content online without applying sound pedagogical principles. According to the literature, LMS implementation has not been fully successful because lecturers have not received training in pedagogical aspects. Students worldwide bring their distinctive ways of learning, making it necessary to create a pedagogy that caters for cultural diversity. Different educational theories can be applied within online environments. Further research is required on current pedagogical strategies applied by online lecturers worldwide. The question on current pedagogies applied by lecturers in Australia, Brazil, Canada, Norway, Spain and U.S.A., with their challenges and successes are explored in this research.

To extend the current knowledge on retention and online engagement strategies, other factors, such as types of eTools used in online environments and their effect on motivation and engagement, barriers and successes of lecturers' chosen pedagogy, are also explored in this research (see Chapters 5 and 6). Constructivism and connectivism, as learning theories, are presented in the Methodology section in further detail. The following section presents the research question.

2.7. Research question

There are wide ranging discussions in the literature about engagement and retention, focusing on students' perspectives and their reasons for not finishing their online degree programs. Research on online retention has been predominantly undertaken by interviewing students who did not complete their online studies or who were not actively interacting with online content and/or with their peers. The recurring themes in research on student online retention were culture, motivation, the use of LMSs and online pedagogy. These themes are presented in detail in the Literature Review.

The four main areas for the case studies in this research (culture, motivation, LMS' effectiveness and online pedagogies) emerged as a result of a gap, in the literature review, for not being presented from the lecturer's view of their impact in online courses but only by having students as participants. This guided the researcher in the formulation of the following questions:

- 1) Main research question - *What are the effective engagement strategies applied by online lecturers in order to increase the retention rate?*

Associated with this main question, there are several sub-questions:

- 1.1 How do lecturers engage online students?
- 1.2 What are the strategies applied to achieve high online interaction?
- 1.3 How do lecturers make use of LMSs to foster online engagement?

1.4 What is the predominant online pedagogy adopted by online lecturers?

The next chapter presents the methodology used in this research. It presents how a qualitative research using case studies was applied and data collection methods. It also presents constructivism and connectivism as learning theories, considering that they are the theories lecturers apply to their online classes.

Chapter 3. Methodology

3.1 Introduction

This chapter provides the rationale for the research approach. The choice of case study is described and it includes an overview of learning theories chosen for this research. The formulation of the research questions based on the four themes, presented in the previous chapter, is also described.

3.2 Theoretical framework

This section explains the research design and justifies why it was considered well suited to explore the research questions. It presents the choice of Qualitative study, Case Study approach, Learning Theories and the four themes as basis for the Case Studies. The last section brings the ethical considerations. The research settings, recruiting and sampling, rigour, credibility, transferability and dependability of the research are presented in Chapter 4, which also describes the data collection phases (two methods) and steps of data analysis. Next section describes the choice for qualitative research and its suitability for exploring the attrition issue.

3.3 Qualitative research

In view of the aims of the research to investigate the experience of online lecturers, consideration was given to the method most likely to enable rich data collection for analysis. Qualitative case studies are one of the methods used in education research, utilising an intensive and holistic approach to investigate the different methods applied in an educational setting (Merriam, 1998). In qualitative studies, data is collected as an open-ended form, allowing for the development of themes that can be interpreted to reach to conclusions (Creswell, 2003). The main characteristic of qualitative enquiry is that individuals construct their reality while interacting within their social worlds; hence it is the researcher's role to interpret people's experiences and the meanings they attribute to them (Merriam & Tisdell, 2015). According to Creswell (2003, p. 9):

Qualitative research is a means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem. The process of research involves emerging questions and procedures, data typically collected in the participant's setting, data analysis inductively building from particulars to general themes, and the researcher making interpretations of the meaning of the data.

Qualitative research is a suitable approach for developing a clear understanding of an issue under examination, by allowing the researcher to revise themes and concepts with the research participants (Miles & Huberman, 1994). Participants' perception and approaches are exposed to the researcher, who attempts to

recognise experiences in terms of their meaning. According to Creswell (2003), the qualitative approach describes the process by which social meaning is constructed. This happens because the researcher identifies individuals' interactions with their environment, while collecting data through interviews, which is the opportunity participants have to share their ideas and perceptions (Seale, Silverman, Gubrium, & Gobo, 2006). Qualitative case studies are becoming the preferred method of research in the education sector for being a tool used to describe and comprehend human experiences (Polkinghorne, 2005).

According to Denzin and Lincoln (2007), qualitative research enables the researcher to analyse individuals' interactions within their environment, their attitudes and behaviours. This can be undertaken by collecting their views and opinions through questions during interviews or open-ended questions in a web-based questionnaire, which was used in this research. There are significant amount of qualitative studies on the benefits and challenges of online education, or eLearning, and attrition issues that focus mainly on students' experiences and reasons for dropping out of their courses. Published research, with online students as participants, has used similar data collection methods applied in this research: web-based questionnaires and interviews. However, lecturers' perceptions and challenges in teaching online have not been widely explored through the lecturers' perspectives. The choice for qualitative research appeared the most suited, as it enabled the investigation of lecturers' views and experiences when teaching online degree courses. The choice for a case study approach and an outline of its characteristics are described in the next section.

3.4 Case study approach

Johnson and Christensen (2004) present four major types of qualitative research: phenomenology, ethnography, grounded theory and case study. These are their differences:

- a) Phenomenology describes one or more individuals' experiences of a phenomenon and requires in-depths interviews where the report focuses on a rich description of common characteristics of the experience;
- b) Ethnography focuses on describing cultural characteristics of a group of people and data collection is performed by participant observation over an extended period of time. Data analysis and narrative focuses on cultural themes;
- c) Grounded theory describes and explains a phenomenon, requiring observations and describes topics and people being studied so the grounded theory can be formulated;
- d) Case studies are used to address research questions using multiple methods of data collection. It searches and discusses themes emerging from cross-case analysis and presents their implications.

Case studies appeared more aligned with the purpose of this research, as there were four themes emerging from the literature review that required further investigation. It also allowed for the use of cross-case analysis, which was intended in this research so as to compare lecturers' views and opinions. Case studies allow for different research methods and multiple data sources to explore the questions posed to participants, facilitating triangulation (Denscombe, 2014).

Research methods and rules for selection of data sources are not stipulated within a case study approach. Bassey (1999) states that case studies are chosen when there is a need to explore educational behaviours in order to improve educators' thinking. This is aligned with the purpose of this research as it relates to these same elements. Merriam (1998) described qualitative case study as a holistic and intensive approach that can be used to analyse educational settings, highlighting interviews as a source of data collection to be used for analysis.

This research aimed to determine successful online engagement strategies applied by lecturers in six universities. The universities in this research are located in different countries, facilitating cross-case analysis between lecturers' responses and triangulation of data, which can be used to increase research credibility (Hall, 2008; Gorard & Taylor, 2004). Denscombe (2014) explains that triangulation is the process of using multiple means to answer a specific research question. It enables the researcher to determine the differences and similarities of responses collected through different methods. In this research, the methods used are a web-based questionnaire and semi-structured interviews. As a consequence of triangulation, the research gains greater credibility.

A case study approach is adequate for small-scale research through concentrating effort on just a few sites (Denscombe, 2014), which, for this research, is six universities located in different countries. The case study approach is a strategy applied to test a certain social phenomenon in its natural setting, and facilitates holistic analysis of social phenomena (Yin, 2003). Case studies are intensive

analysis of a single unit for the purpose of understanding a larger class of units (Gerring, 2004). They can be conducted on an event, institution, person or group of people (Cohen, Manion, & Morrison, 2007). According to Yin (2003), the most common approach is the analysis of a number of people as separate cases, or as a group. Depending on the issue in question, researchers can apply single or multiple case designs. In this research a multiple case study analysis was used.

For a holistic and in-depth investigation of complex issues, case studies can be an excellent tool, permitting researchers to look closely into real life phenomenon on a limited number of events, allowing for the analysis of the relationship between them (Zainal, 2007). Case studies are a helpful tool as they assist researchers and participants to develop a rich understanding of issues, because, during the process of communicating their point of view, participants have the opportunity to reflect deeper on their perceptions of the issues (Eisenhardt, 1989). Eisenhardt (1989) also highlights the fact that case studies allow for cross-case analysis, which enhances the probability of new findings, which was undertaken in this research by comparing lecturers' opinions.

Case studies allow for data to be examined within a specific context (Yin, 2003) and by using accounts from real-life situations, they can assist with further exploring and explaining their complexities. However, there are a few misconceptions and criticism about case studies, as discussed by Flyvbjerg (2006). This research takes into account these limitations:

- a) Theoretical knowledge can be considered better than practical knowledge. In fact, the closer researchers get to a real-life situation, the deeper they are able to understand it, as when studying human behaviour, knowledge that comes from context-dependent environments is more useful than predictive theories, and this is the reason online lecturers were chosen in six international universities;
- b) The strategic choice of multiple case studies for this research, as well as the type of problems being studied, are elements that contribute to generalisation; engagement strategies used can be applied in other online courses with attrition issues.
- c) Specific case studies are difficult to be summarised and that is the reason why multiple case studies prove to be efficient, as they should be read as narratives, with all their complexities, allowing readership to come to their own conclusions and interpretations. This is ideal when there are multiple settings, which in this research are six universities, each one in a different country, with their different institutional cultures, and engagement strategies.

Cavaye (1996) points out that researchers need to plan very carefully before deciding to use case studies, as collection of data is time consuming. Darke, Shanks, and Broadbent (1998) advise researchers to gather as much background information as possible about a case study before starting the process of collecting data. For this reason, care was taken to only select lecturers who teach fully online core subjects, so their experience is not mixed with lecturers who teach in blended mode environments. The learning theories that underpin this research are outlined in the next section.

3.5 Learning theories

Constructivism and connectivism are the learning theories applied in this research. The reason for this is that eLearning, or online teaching, is based on the concept of online interactivity, which assumes engagement, collaboration and communication (Meier, 2007). Accordingly, constructivist learners construct their own meaning and are not passive recipients of knowledge (Petegem, De Loght, & Shortridge, 2004; Doolittle & Hicks, 2003). Constructivism focuses on active learning and cooperation through discussions (Rovai, 2007; Haythornthwaite, 2006).

This pedagogical strategy has been used in conjunction with technology, where students learn online while socially interacting with their peers. Considering that this research investigates online environments, it is imperative to also explore emerging learning theories, such as connectivism, that explore online teaching and learning, even though not yet widely accepted among researchers. For constructivists, collaboration among students supports knowledge building, and for connectivists, it is through technology that the connection-making, collaboration and learning processes occur. Both learning theories are explored in more detail on the next two sections.

3.5.1 Constructivist learning theory

Constructivism is the learning theory that advocates that knowledge is acquired through the interaction with others and the environment, and that is why many researchers note that online environments have a constructivist focus as it is learner-centred, provides social interaction activities and group work, and students have an active role constructing their own knowledge (Rovai, 2007). This is based on the fact that the use of technology in teaching makes lecturers approach the design and delivery of courses with a constructivist approach, considering online education shifts the focus from knowledge transmission to knowledge building (Vrasidas, 2000). Most constructivists share an interest in the role of technology in knowledge construction (Oliver et al., 2006), as they use curricula customised to students' prior knowledge, and teaching approaches are tailored according to learners' background and needs (Rovai, 2007).

Constructivist pedagogy recognises the importance of the social nature of knowledge and how it is created, where learners construct meaning by integrating it with what they already know (Rovai, 2007). Tinio (2003) presents ways that teaching is designed on constructivist principles, where learners create their own knowledge while interacting with their environment, at the same time that they assess their own learning. The integration of constructivism and technology promotes learning that is:

- **Collaborative:** peers within a diverse cohort interact and cooperate, enhancing their global awareness and communication skills;

- **Active:** learners can choose what to learn within a contextualised and collaborative learning environment, where there is analysis and construction of knowledge;
- **Creative:** with the discussion about the information available to them, learners create real-world knowledge;
- **Integrative:** there is no separation between theory and practice;
- **Evaluative:** students can evaluate own learning.

Constructivism has been criticised because students constructing their own knowledge can indicate a lack of specific learning objectives and outcomes; and it is also difficult to assess students learning due to the different perspectives that can emerge (Tam, 2000). Criticism of constructivism in distance education pedagogies are centred upon the fact that the focus on human interaction are a limitation in accessibility for that type of interaction, and the models are becoming similar to the passive lecture delivery (Anderson & Dron, 2011). However, the use of technology as a means of communication has given rise to constructivist computer-based programs, enhancing communication capabilities and eliminating problems with distance, space and time (Tangney, FitzGibbon, Savage, Mehan, & Holmes, 2001). Constructivist learning provides students with the opportunity to find alternative and creative solutions to problems and by using computer systems, they have a variety of eTools to support them in this process (Ally, 2008).

With learning that increasingly happens within online environments, researchers are looking for new terms to describe it. For example, the term communal constructivist has been used to describe the way knowledge is constructed,

reconstructed and shared in online environments (Tangney, FitzGibbon, Savage, Mehan, & Holmes, 2001). Students benefit other students and learning communities, as they are not only engaged in acquiring their own information but actively involved in creating knowledge (Leask & Younie, 2006). To add to the debate, Siemens (2005) introduces the idea of connectivism, which will be discussed next.

3.5.2 Connectivist learning theory

According to Ally (2008), connectivism is a more appropriate term that refers to learning that happens within the globalised and networked world we live in today. Connectivism represents the way knowledge is acquired in our digital age, by enabling students to be more independent and research information on a continual basis, from different sources and networks. However, connectivism has attracted criticism from scholars for not being validated and for lacking criteria to be considered a learning theory.

With the use of the Internet in learning, students receive new information from a variety of sources, including through the interaction with other students. They process new knowledge according to their own perspective, and personalise it according to their own concepts and ideas. An important aspect of connectivism is that information is always changing, and as a result, people are continuously presented with new aspects of reality from different people and sources (Al-Shehri, 2011). Siemens (2005) describes connectivism as a learning theory for the new technological age. According to Siemens (2005), we now have constant access to

information, and from a variety of networks, so students need, first, to distinguish between what is relevant and what is not. Then, they need to relate the new information to what is already known, changing opinions they had in the past and creating new concepts as new information is acquired (Strong & Hutchins, 2009). Previous learning theories (behaviourism, cognitivism and constructivism) were developed before the world became networked and did not consider the acquisition of knowledge through online social interactions (Al-Shehri, 2011).

As this research explores online learning environments, such as LMSs, it is imperative to explore emerging learning theories that explore online teaching and learning, even though not yet widely accepted among researchers. A connectivist approach to online design acknowledges the complexities of knowledge building and management in the digital age, where students can leverage knowledge networks for sharing, collaborating and generating personal knowledge in online environments (Couros, 2009).

Educators have been applying a connectivist approach in teaching strategies long before the emergence of the formal theory of connectivism, and it provides an 'ideological framework' that can impact how lecturers plan and develop pedagogical tools for their online courses (Darrow, 2009). There is still debate on the validity of connectivism. However, it is slowly getting strength as a learning theory that is dependent on learning environments for teaching and learning (Kop & Hill, 2008). According to Siemens, knowledge is provided and stored by technology (Siemens, 2005). The difference between connectivism and other learning theories is that in connectivism learning not only happens in the mind, but

outside of it as well, in the digital environment. After outlining constructivism and connectivism, their application in this research is described in the next section.

3.6 Application of learning theories in this research

Constructivism and connectivism learning theories present many similarities and a few differences. The transfer of knowledge happens through socialisation in both learning theories. The difference is that in connectivism, learning happens within a networked environment or digital space. This means that, the engagement and social participation existent in constructivism, presents itself in online environments in connectivism. For example, students learn by browsing the Internet and connecting with other students with the use of eTools, such as wikis, emails, blogs and discussion forums (Seitzinger, 2006). For constructivists, the network is considered, exclusively, as a social medium for interaction, while for connectivists, the network itself is considered as an extension of the mind (Kop & Hill, 2008).

Connectivism goes beyond the construction of knowledge in the mind, explaining that it also resides outside of the individual, being stored and manipulated by technology (Siemens, 2005). It is a more recent theoretical framework and describes learning in the way it happens in our digital age. The Internet allows people to interact with others on global networks, integrating totally new and different information streams never before available without the Internet (Kim & Bhawuk, 2008). After presenting both learning theories, it is important to outline

their relevance for this research in reference to the four themes: culture, motivation, LMS and online pedagogy.

1. Culture: According to constructivists, students construct knowledge into existing structures relating to what they already know, and cognitively process information. Constructivists place a strong emphasis on students' developing personal meaning through reflection, analysis, and construction of knowledge through their mental activities (Tam, 2000). This process works effectively through online social interaction (connectivism) within a diverse cohort, allowing students to test their own knowledge and challenge their own preconceived ideas through the interaction with other students. Learning is perceived as essentially a social process that requires communication among students and their peers, lecturers and other collaborators. It is through this communication process that cultural sensitivity and respect to the opinion of others is developed (Fleming, 2009). This is presented in further detail in Chapter 5, Section 5.3 and Chapter 6, Section 6.1.

2. Motivation to learn: Social interaction (constructivism) has been included in online environments through collaborative activities, as they involve teamwork via the online classroom (connectivism). In this research, collaboration is said to increase motivation to learn in students. The importance of motivation for high engagement and retention is presented in Chapter 5, Section 5.4 and Chapter 6, Section 6.2. In the context of this research, technology is used not only in the construction of knowledge (connectivism), but it is part of the social process (constructivism), which in turn, leads to increased motivation to learn.

3. LMS: For constructivists, learning is an interactive process, supports students in

the development of personal meaning and encourages them to reflect upon their experiences. This interactive process (constructivism) can be provided to students through the use of a variety of synchronous and asynchronous online activities that are delivered online through the use of LMSs, also reflecting connectivist principles. In this research, lecturers give students a variety of activities to choose from, giving them the feeling that they are control of their learning (connectivist principle). LMSs and their use are presented in Chapter 5, Section 5.5 and Chapter 6, Section 6.3.

4. Online pedagogies: As presented earlier, the lecturers who participated in this research stated that they choose to apply constructivist and connectivist principles to their online teaching. Constructivists look for what allows students to extract meaning from what they are learning. In order to achieve this, lecturers who participated in this research adopt a variety of collaborative activities, also described as authentic activities. These are very effective in creating engagement in online classroom environments. This is because authentic learning supports the transfer of knowledge from formal education to practice (Leppisaari, Herrington, Vainio, & Im, 2011; Herrington, 2006). For connectivists, learning is a process supported by the use of a network, which involves socialisation and the use of technology by students (Siemens, 2005). These networks are not only communications that happen digitally (connectivism), but also based on the internal processing of knowledge (constructivism). The application of online pedagogies, as presented by lecturers who participated in this research, is presented in Chapter 5, Section 5.6 and Chapter 6, Section 6.4.

The aim of this research was to investigate engagement strategies applied by lecturers in online teaching in six countries and their contexts of:

- a) culture;
- b) motivation;
- c) use of LMSs;
- d) choice of online pedagogies.

It is through the application of constructivist and connectivist principles, as described in Chapter 5, Section 5.6, that lecturers in this research presented how they address the needs of their diverse cohorts to achieve good online engagement and retention. They achieve this by creating strategies that motivate students with the use of appropriate LMSs' activities and the use of sound online pedagogical principles. The type of strategies and activities are described in detail in Chapters 5 and 6.

In constructivism, learning is not a pure transmission of knowledge; students have to create meanings from what they read, learn and experience. Studying is an active process that leads to long-term retention of information. In connectivism, students acquire new information constantly and are active participants of the global network of learning. With the accessibility given by the Internet, students are able to explore and research information, they learn in a networked world and are able to create new mental models that reflect new and current information.

3.7 Four themes as the basis for the case studies

The contexts considered as main reasons for low retention led this researcher to analyse four main themes in this research which were explored through four case studies: culture, motivation to learn, LMS, and online pedagogy. The conceptual framework that underpins this research and led to the exploration of online retention was through these four case studies. This research adopts a qualitative approach, using a case study research framework. According to Yin (2003), there are five components to a case study:

- The research questions;
- Its propositions;
- Its unit(s) of analysis;
- A determination of how the data are linked to the propositions;
- Criteria to interpret the findings.

The type of case study design chosen is a multi-case (embedded) design as proposed by Yin (2003). The unit of analysis will be the lecturers' explanations of their views and experience on online retention. As there are eighteen lecturers in the research this will be a multi-case study through the four themes of culture, motivation, effectiveness of LMSs and online pedagogy. Multiple-case study designs allow for more rigour, and they may be preferred over single-case study designs because conclusions that independently arise from more than one case will be more powerful than conclusions rising from only a single case study (Yin, 2003).

Case studies allow for a holistic and in-depth investigation of complex issues, permitting researchers to look closely into real life phenomenon (Yin, 2003) on a limited number of events, allowing for the analysis of the relationship between them (Zainal, 2007; Johnson & Christensen, 2004; Savin-Baden & Major, 2013). Therefore, the 'phenomenon' of online retention was explored through the four case studies of the participating 18 lecturers in six international universities, to uncover lecturers' views and perceptions of the phenomenon, and, critically, what it meant to them (Savin-Baden & Major, 2013).

Data collection for the case studies was conducted through a web-based questionnaire and semi-structured interviews. This allowed the researcher to explore the lecturers' experiences on the application of online engagement strategies and how this has affected student retention in online courses. The four case studies are discussed separately, followed by a visual representation in Figure 3.1.

Cultural aspects were presented in Chapter 2, Section 2.2. The literature suggests that diversity is an aspect to be considered during the design and planning stages of online programs and educators are required to develop cultural awareness to be able to foster collaboration among students (Godwin-Jones, 2012). Courses need to cater for different learning styles, providing flexible and accessible online environments (Downey, Wentling, Wentling, & Wadsworth, 2005). Lecturers should adapt their teaching styles to cater for cohort diversity that brings different learning preferences with it. The research reviewed thus far

provide evidence that online interactions can only be successful if lecturers foster collaboration among students, and when cultural diversity is taken into consideration during the design process. This can be achieved by developing cultural awareness, and an appreciation for cultural differences (Weber, 2003). However, researchers assert that most online courses ignore the cultural and sub-cultural differences in learning behaviour, and fail to address the diversity of their learners (Mushtaha & Troyer, 2007; Fletcher, 2006; Hughes & Bruce, 2006; Downey, Wentling, Wentling, & Wadsworth, 2005).

Review of literature on student **motivation** presented lack of motivation as a cause for low engagement and low retention. This was presented on Chapter 2, Section 2.3. Students engage with online content when it is meaningful to them and they feel more motivated when what they are learning can be applied to their real lives (Holder, 2007). Students also feel more motivated when they are able to work in collaboration and are socially engaged with their peers (Jung, Choi, Lim, & Leem, 2002). According to literature, motivation emerges as one of the main causes for low online retention (Herbert, 2006; Levy, 2007; Jones, 2013).

Literature review on **LMS integration** and their use by online lecturers were presented on Chapter 2, Section 2.4. Educational institutions would like to have LMSs that can be seamlessly integrated with existing technology, and that meet lecturers and students' expectations and needs (Jones, 2013). Lecturers require training on LMS application, to be able to support its usability and accessibility by all students (McGill, Klobas, & Renzi, 2008). However, further studies are required on technological issues that have arisen as a result of the widespread

implementation of LMSs in educational institutions worldwide. Researchers state that when LMSs are not properly implemented, they can have a negative impact on course quality and effectiveness (McGill, Klobas, & Renzi, 2008).

Online pedagogy and how it related to online retention was presented on Chapter 2, Section 2.5. According to literature, online courses can only be successful if lecturers receive training in pedagogical aspects of online teaching (Breen, Cohen, & Chang, 2003). Students worldwide bring their distinctive ways of learning, making it necessary to create a pedagogy that caters for cultural diversity (Weinstein, Tomlinson-Clarke, & Curran, 2004). Another aspect that emerged in the literature review was that different teaching approaches can be applied within online environments (Rutherford & Kerr, 2014), however there is a general lack of good pedagogical approaches applied online (Douglas & Cormier, 2010).

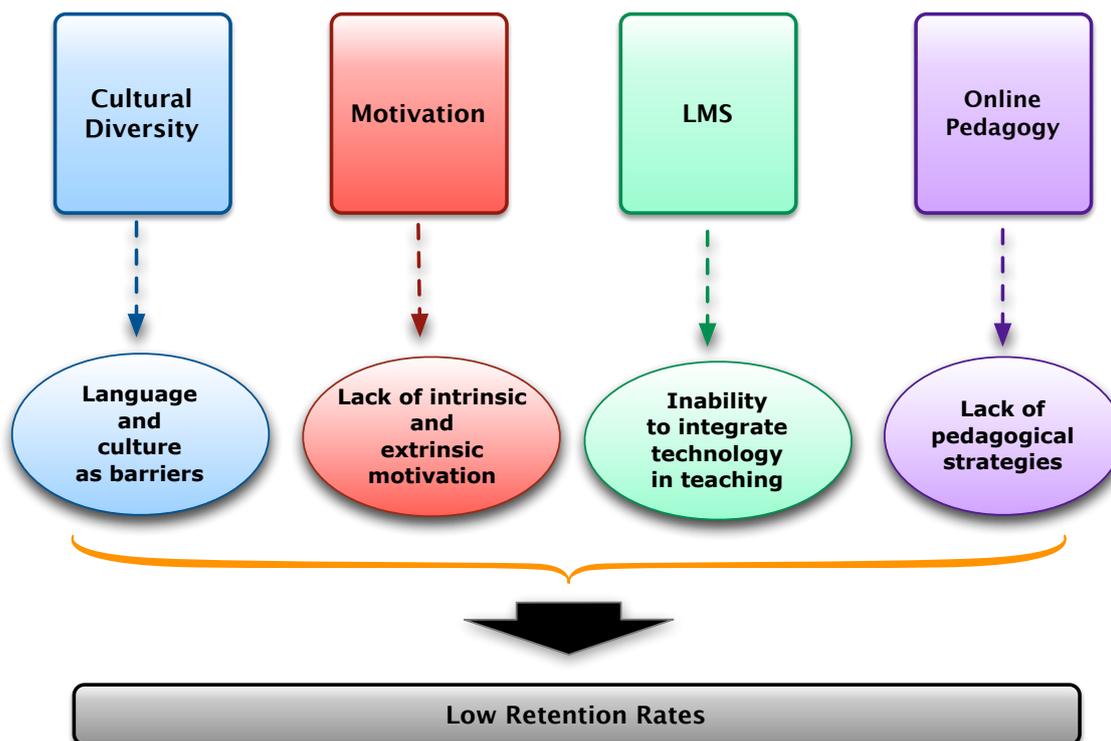


Figure 3.1: Conceptual framework – four case studies

In this research, these four elements are explored from the lecturers' point of view. These elements are used for the design of questions used in the web-based questionnaire and semi-structured interviews. These four main areas guided the researcher in the formulation of research questions, repeated here for convenience:

- 1) Main research question - *What are the effective engagement strategies used by online lecturers in order to increase the retention rate?*

Associated with this main question, there are several sub-questions:

- 1.1 How do lecturers engage online students?
- 1.2 What are the strategies applied to achieve high online interaction?
- 1.3 How do lecturers make use of LMSs to foster online engagement?
- 1.4 What is the predominant online pedagogy adopted by online lecturers?

3.8 Ethical considerations

Ethics approval from the University of New England was received before any contact was made with prospective participants. Diccico-Bloom and Crabtree (2006) consider four ethical issues related to the interview process:

1. Reducing the risk of unexpected harm;
2. Protecting the interviewee's information;
3. Effectively informing interviewees about the nature of the research, and
4. Reducing the risk of exploitation.

During interviews, this researcher encouraged lecturers to speak and avoided reflecting personal opinions and perspectives back to the interviewees. Anonymity of lecturers who participated in the data collection was maintained at all times while presenting results. The lecturers had the choice to disengage at any time during the research, so they were asked for consent a few times during the whole process to ensure they were aware that they could cease to be involved in the research at any time without consequence. To minimise the risk of exploiting participants, and to avoid it, all lecturers were acknowledged in writing to thank

them for their contribution, mentioning the importance of their participation for the success of this research.

Lecturers who volunteered to participate in the online questionnaire and interview signed a written Consent form, which stated that anonymity of individuals is protected in the reporting through the use of pseudonyms or codes to maintain confidentiality, and that they could withdraw at any time during the process. A Participant Information Sheet [Appendix C] was sent via email before participation in the web-based questionnaire and interview, providing further detail about the research, such as aims, confidentiality, use, storage and disposal of information and contact details of supervisors and Ethics Department at University of New England, where the researcher student is based. All transcriptions are kept in a password-protected computer, and will be deleted five years after the research is completed.

3.9 Conclusion

This chapter presented the methodology applied in this research. The theoretical framework, qualitative approach, case study and learning theories underpinning the research were outlined. The application of learning theories and the four themes, used as basis for the case studies, were also described. It finalises by presenting the ethical considerations. The next chapter describes the research settings, recruitment, sampling, pilot study, rigour and trustworthiness of the research, as well as its credibility, transferability and dependability. The data

collection process for the web-based questionnaire and the semi-structured interviews are also outlined.

Chapter 4. Research procedure and method

4.1 Introduction

This chapter begins with a brief background of the six overseas universities that participated in this research. This provides an overview of the eLearning settings that reflect the answers provided by the lecturers in this research. The procedure used for the pilot study as well as recruitment and sampling of lecturers are also provided. The research credibility, transferability and dependability are outlined. Its final section describes the data collection process for the two phases of this research.

4.2 Research settings

The settings for this research were six universities that offer online courses, one in each country: Australia, Brazil, Canada, Norway, Spain and U.S.A. These countries were chosen because they had universities offering fully online courses and it was intentional to have countries from different continents to provide a broader view of online courses, worldwide. Cohorts represented in this research ranged from 54 to 350 online students. The following are brief descriptions of the universities where lecturers deliver their online courses:

1. **University A:** Ranked as the most prestigious University in the country. This university has currently about 28,000 students and employs about 4,800 people. It has consistently been ranked among the world's top 100 universities by the Academic Ranking of World Universities;
2. **University B:** Internationally recognised online university with a community of over 60,000 students and over 8,300 virtual classrooms. One of the world's first Internet-based open universities;
3. **University C:** this University has 220,000 students and more than 170,000 faculty and staff, with more than 1.5 million alumni living and working around the world. This university has 80% of degree courses offered online;
4. **University D:** The largest university in the country, with over 95,000 enrolled students in eleven campuses. The university is the country's most prestigious educational institution, producing over 25% of scientific papers in the country;
5. **University E:** A university known for its flexible online course offerings, with over 40,000 students and 1,350 faculty and staff members. This university is considered a leader in flexible online post-secondary education reaching over 87 countries;
6. **University F:** with over 50,000 students and than 6,750 staff. This university has 45% of degree courses offered online. Offer MOOC courses with over 70,000 students currently attending.

4.3 Recruiting and sampling

Lecturers were chosen using purposive sampling, as they needed to be carefully selected on the basis of their experience (Parahoo, 2006). The researcher sought for universities, through the use of the Internet, in a variety of countries that offer online degree courses in English. The countries selected (Australia, Brazil, Canada, Spain, Norway and U.S.A.) were the ones fitting this criterion. This selection allowed for the exploration of online courses delivered in English by non-English speaking countries for exploration of any emerging cultural or language issues. For this research, the choice was to select only lecturers who were currently teaching core subjects in Education, fully online, and achieving high student retention rates, regardless of their age or years of experience teaching online. The other requirement was that the online classes had to be fully delivered in the English Language. This was mentioned during the first contact with each university and before they provided lecturers' contacts. The choice of having Education related subjects only, delivered fully in English, was to keep consistency throughout the research.

Contact was made with the Teaching and Learning Centre or Online Departments within these universities via email. The requirements for participation were provided on the first contact, clarifying that the research purpose was to invite three lecturers to participate in a research on engagement strategies and online retention in degree courses. A list of three lecturers' contacts and their respective webpage links were provided to the researcher by the universities, together with the lecturer's email. An email inviting participation was sent to a total of 18

lecturers. From the 18 lecturers who were initially contacted, two of them did not reply. Contact was made a second time with the respective universities to solicit two extra contacts. An email inviting the remaining two lecturers, whose contacts were provided by their Online Departments, proved successful. The time taken from first contact with the universities until confirmation of everyone's participation was two and a half weeks.

Bluff and Cluett's (2006) suggest that a smaller sample size is more manageable in qualitative studies, hence, the choice of 18 lecturers (three in each university). Data developed upon from multiple sources, in this case, different countries, was sufficient to collect relevant information and cross-check their consistency in order to increase the sturdiness of findings (Wahyuni, 2012). The aim is not for generalisation of results, but the discovery of best practices in terms of the four themes that emerged from the literature review (cultural diversity, motivation, use of LMSs, and online pedagogy).

4.4 Rigour and trustworthiness

Bluff and Cluett (2006) state that 'trustworthiness' is a better term to be used in qualitative studies, instead of validity and reliability, considering it brings a more subjective interpretation. Researchers need to reveal how they came to their conclusions, explaining categories or codes identified, being able to generalise results when supported by literature with similar findings. These strategies were used to ensure rigour and trustworthiness of the research.

4.5 Credibility, transferability and dependability

Credibility is demonstrated by indicators such as authenticity and trustworthiness (O’Leary, 2004), which demonstrate that the research has been approached as rigorous inquiry and is therefore likely to be accepted as a valued contribution to knowledge. This project collected data from 18 web-based questionnaires and 18 semi-structured interviews over a six-month period and from lecturers who currently teach online degree courses. Common themes were grouped and after analysis of interviews, results were compared with data collected from the web-based questionnaire. Having lecturers in six universities in different countries and using two different data collection methods permitted cross-case analysis and triangulation of data, which ensured research credibility. For this research, triangulation of data was performed by comparing lecturers’ answers given during the first data collection (Phase 1, web-based questionnaire) to the second one (Phase 2, interviews).

Considering the contextual nature of qualitative research, there is a need to carefully consider the potential transferability of results to other settings. Although the resonance of findings with published literature is discussed, it is up to readership to assess the transferability to their own contexts (Kuper, Lingard, & Levinson, 2008). Some research results may advance theoretical understandings that are relevant to multiple situations. Results cannot always be generalised, but they can be applicable in alternative settings or across populations (O’Leary, 2004). For this research, results can be applicable to other online courses (and not

only Education related, which is represented in this research) and in other countries and universities offering online courses.

Dependability is related to changes that can happen in a setting that could alter findings. It can be achieved by explaining the research design and process in detail, to allow future researchers to follow a similar research framework, even considering they may come to different conclusions (Wahyuni, 2012). To maximise the dependability of data, the research design and procedures were described in detail.

4.6 Data collection

This research applied a web-based questionnaire on the first part of data collection. At the end of the questionnaire, lecturers were invited to participate on a subsequent interview via Skype (considering this research had participants in six countries) and to provide their email address if agreeing to do so. The research was based on identifying patterns presented by lecturers when presenting information about online student engagement successes and challenges. The design of questions for both the web-based questionnaire and the interviews were based on the four themes as presented In Chapter 1 (Literature review) and in Chapter 4, Section 4.9. This was a multi-case study through the four themes of culture, motivation, effectiveness of LMSs and online pedagogy. This is because these four themes reflected reasons for students' attrition and lack of engagement

as presented by the literature that required further investigation with a focus on lecturers' view of the issue.

The second part of data collection had semi-structured interviews, as they have the advantage of providing suggested themes and questions, while allowing the interviewees to present their views about the topic (Wahyuni, 2012). This researcher transcribed and reviewed transcripts of the responses, identifying text segments and looking for similar patterns. Codes were used for tagging segments of text, and similar content was sorted into separate categories for a final distillation into major themes (Dicicco-Bloom & Crabtree, 2006).

All recorded interviews were transcribed by the researcher, saved as Microsoft Word documents and sent to lecturers for review. This was undertaken to validate the transcripts by allowing lecturers who participated in the interviews to confirm what was written, preserving research ethics. Responses were grouped and coded. Items that were mentioned more than others received priority in analysis. This is based on the assumption that, if items are mentioned more frequently, they may be considered significant. The results are discussed in detail but also integrated in the conclusion.

The interviews allowed lecturers to expand their views on the four themes: culture, motivation, LMS effectiveness and online pedagogy. Denscombe (2014) highlights the benefits of using the Internet to conduct interviews, which in this research was used through the use of Skype as it included lecturers in six countries. According to Denscombe (2014), the Internet allows the researcher to reach participants in

distant locations without the need for travel, saving a great deal of travel expenses and time.

4.6.1 Phase 1: Web-based Questionnaire

The web-based questionnaire [see Appendix A] was developed as a result of themes that emerged from the gaps in the literature review. The questionnaire comprised of 38 questions distributed in four sections, consistent with the four themes, presented in the literature review: cultural diversity, motivation, LMSs and online pedagogy. The questionnaire included demographic questions about lecturers' gender and age group. They were related to cultural issues, motivation to learn, effectiveness of LMSs and online pedagogy. Questions were multiple-choice, open-ended, closed, and partially closed. The open-ended questions gave lecturers the opportunity to express their opinions. The web-questionnaire gathered specific information on the use of eLearning tools by the lecturers and reflections on their experiences with online learning and teaching. According to Denscombe (2014), there are two main advantages of web-based questionnaires. The first is that participants can answer questions that are posed in different formats (open, closed, multiple choice) and submit the complete form at one keystroke. The second is that all answers can be downloaded into a spreadsheet, which allows for accuracy and speed in terms of data collection.

The questionnaire data were collected using Qualtrics, which is a web-based software that allows users to create questionnaires and generate reports. Leximancer was also used for the creation of content analysis, which is a research tool that determines the presence of words or concepts in textual documents. The questionnaire, which had key open-ended questions, provided the opportunity to explore issues further (Johnson & Christensen, 2004). The web-based questionnaire took approximately 20 minutes to complete. An email was sent to lecturers requesting participation with a link to access it online at a time that was convenient for them.

The background information section requested lecturers' name, age, job title, subject taught online, years of experience teaching online and questions on student engagement, which included engagement strategies applied and their effectiveness. The cultural diversity section had questions on diversity of classes, online activities and strategies adopted. The motivation section asked about lecturers' views on motivation, strategies they apply online to keep motivation high and their effectiveness. The section on LMSs had questions on lecturers' experience on their use, whether it addresses cohorts' needs and any training received on using LMS to teach online. The last section had questions on lecturers' online pedagogy of choice, its characteristics and significant barriers and success they experience as a result of this.

4.6.2 Phase 2: Semi-structured Interviews

The second part of the data collection included semi-structured interviews with lecturers who also responded to the web-based questionnaire and indicated their willingness to participate in a follow-up interview [See Appendix B]. The questions were designed to collect more specific, targeted and in-depth information about selected aspects of online teaching, such as lecturers' views and beliefs about using eLearning for university teaching, the use of eTools (problems, effectiveness) and their observations and reflections on the use of e-learning for teaching. The interviews took approximately 30 minutes. Considering the number of lecturers to be small, this researcher tried to seek as much information as possible with the use of semi-structured interviews, which allow for in-depth data to be collected by taking into account every detail presented by lecturers.

4.6.3 Steps for analysis of qualitative data

The following were the steps used by the researcher during the process of analysing data collected from the web-based questionnaires and semi-structured interviews:

Step 1 Getting to know the data

- Phase 1 of data collection: Analysis of web-based questionnaire after exporting data from Qualtrics to excel

- Phase 2 of data collection: Listening to voice recordings and transcribing data for the interviews
- Information was categorised per university
- Patterns were identified and connections within and between categories were made – a pattern emerged of similarities between universities
- Interpretation of data per university and per theme
- Reading and re-reading the texts - making sense of connections
- Checking the quality of the data to find any gaps. Many similarities were found.

Step 2 Focusing the analysis

- Reviewing the four themes and look for any new ones

Step 3 Categorising information

- Reading the data and giving labels or codes to the themes (culture, motivation, LMS, online pedagogies). These were pre-set categories. Emergent ones were created under these same pre-set categories.
- Use of Leximancer to support interpretation

Step 4 Identifying patterns within and between categories

- Data was sorted to show relationships among categories

Step 5 Interpretation

- Data was checked for relevance.

4.7 Pilot study

Before contacting prospective participants and initiating data collection, a pilot study was undertaken with lecturers from the University of New England, who were selected because they teach online courses, just like the lecturers of this research. This was undertaken with the intent of detecting any questions that were not sufficiently clear or produced ambiguous responses (Parfitt, 2005) and any technical issues. An email presenting the research and explaining its aims and context was provided to a small group of lecturers inviting them to participate. A total of three lecturers volunteered. According to the participants in the Pilot Study, there were no glitches or suggested changes.

4.8 Conclusion

The research explored strategies used by lecturers in six countries to engage online students, contributing to successful course completion and, consequently, increasing retention. It was based upon a multiple case study approach, and it relied on the analysis of qualitative data. As most research undertaken in the field have predominantly included students' perspectives, the choice of researching from the lecturers' perspective enabled new insights that can contribute to the existing knowledge.

This research used a web-based questionnaire and semi-structured interviews for data collection. The aim of this research was to investigate the creation of effective student engagement strategies used by lecturers in online teaching in six countries. The conclusions drawn by this research allows lecturers to look at the attrition problem and online engagement with a new perspective, thereby allowing them to plan in advance to avoid hindrances and help increase course retention. This should benefit the student cohort, lecturers and educational institutions across a worldwide higher educational sector.

Chapter 5. Web-based questionnaire results and discussion

5.1 Introduction

This chapter presents findings of a web-based questionnaire undertaken for this research. The questionnaire data was collected through a web-based questionnaire using Qualtrics software, which is a web-based software allowing users to create questionnaires and generate reports (see www.qualtrics.com). Leximancer was also used for the creation of content analysis, which is a tool that determines the presence of words, concepts, and themes in textual documents reports (see www.leximancer.com). The web-based questionnaire is provided in Appendix A.

As presented in Chapter 1, Section 1.2, this research aimed to examine successful engagement strategies specifically applied to increase online retention by 18 online lecturers in six countries, three lecturers per country and per university in Australia, Brazil, Canada, Norway, Spain and The United States of America, who teach online courses. The intention was to focus in one area of research, and as online pedagogical aspects were going to be explored, choosing lecturers in Education allowed for in depth discussions on lecturers' specific pedagogical choice. In view of the aims of the research to investigate the experience of online lecturers, consideration was given to the method most likely to enable rich data

collection for analysis. For this reason, this research follows a qualitative methodology, using a case study approach and relying on qualitative data collection methods and analysis.

The four questionnaire sections are discussed separately and reflect the four main themes in case studies, that emerged from the literature review, which include:

1. Cultural diversity;
2. Motivation to learn;
3. Effectiveness of LMSs; and
4. Online pedagogy.

5.2 Background information

5.2.1 General information – overview of lecturers

The choice of universities in Australia, Brazil, Canada, Spain, Norway and U.S.A. was to explore online engagement strategies used in different countries. Therefore, the universities had to be held in high regard in relation to online teaching. An overview of universities that participated in this research is provided in Chapter 4, Section 4.2. Lecturers' ages ranged from 26 to 56 years old and over (see Table 5.1).

Table 5.1: Lecturers' age (n=18)

Age	Response	Percent
25 and under	0	0%
26-35	2	11%
36-45	5	28%
46-55	8	44%
Over 56	3	17%

There were a total of ten female and eight male lecturers. When lecturer's responses were grouped according to gender, no pattern of themes emerged from the different gender groups. This could be due to the small number of participants in this research which might have been too small to show any pattern in how male and female lecturers differed in their perceptions of retention in eLearning.

The online subjects are presented in Table 5.2. Subjects were education related. Issues in Education is the subject taught by the majority of surveyed lecturers, with a total of eight lecturers (44%), followed by Educational Psychology (22%), with a total of four lecturers. The other subjects represented in this research were Pedagogy, Education Technology, Teaching English as a Second Language and English Language.

Table 5.2: Subjects taught (n=18)

Subjects	Response	Percent
English Language	1	6%
Teaching English as a Second Language (TESOL)	1	6%
Education Technology	2	11%
Issues in Education	8	44%
Educational Psychology	4	22%
Pedagogy	2	11%

A total of six lecturers teach postgraduate courses online (see Table 5.3). Responses indicate that the majority of online core subjects represented in this research are at an undergraduate level, with a total of 12 lecturers (67%).

Table 5.3: Level of online courses (n=18)

Degree	Response	Percent
Undergraduate	12	67%
Postgraduate	6	33%

The lecturers surveyed in this research have many years experience in their university careers. The lowest number of years teaching at university level reported is eight, and the highest 30 years. The lowest number of years teaching online reported is four, with 16 being the highest (see Figure 5.1).

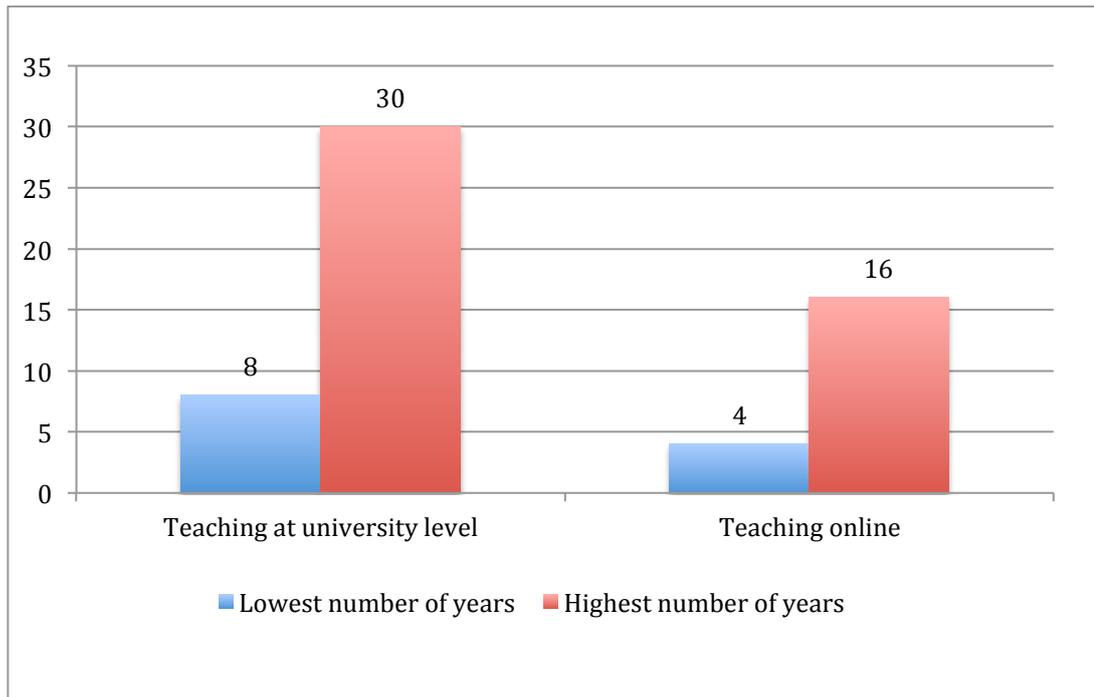


Figure 5.1: Number of years teaching at university level and teaching online

Through a comparison of the six universities in the sample, lecturers in Brazil, Canada, and U.S.A. had the highest number of years teaching online, ranging from 11 to 16 years, while in the other countries (Australia, Norway and Spain), experience teaching online ranged from four to eight years. There is no published research found that reflects or explains reasons for this. There are universities that still do not offer core online subjects. Hence, the results presented here reflect the specific group of lecturers who participated in this research.

5.2.2 Definition of student engagement

Engagement is the participation students have with online content and other students. It refers to participation and motivation (Kerr et al., 2008) in online classrooms, but also the interaction between students and lecturers (Rovai, 2007). Before exploring how lecturers establish their online activities to achieve engagement, it was imperative to ask them an open-ended question on the definition of engagement so that they could provide their viewpoint of what engagement meant instead of being guided by a list of closed question:

How do you define student engagement in online environments, particularly for increasing retention?

Lecturers presented multiple answers to this question, ranging from active online participation by students to the willingness to successfully complete courses. Here follows their answers in further detail:

- Eight lecturers (44%) defined engagement as the active participation of students with online content;
- Five lecturers (28%) related engagement with active participation in online activities and discussions, which, according to them, includes non-compulsory activities;
- Three lecturers (17%) defined engagement as participation in activities with other students; and,
- Two lecturers (11%) defined engagement as the willingness to be successful in an online course and consequently attending to all tasks required, adding that

engagement is also demonstrated by a genuine interest in the subject being studied.

Leximancer software was used for content analysis to add to the descriptive analysis of the results of the above-mentioned open-ended question. The software extracts information visually via a concept map. When the engagement definition provided by all lecturers was loaded into the program, active online participation in tasks and discussions was clearly shown (see Figure 5.2). The size of a concept circle on the map is indicative of the concept's strength, where bigger demonstrates a higher frequency for a word used in the text.

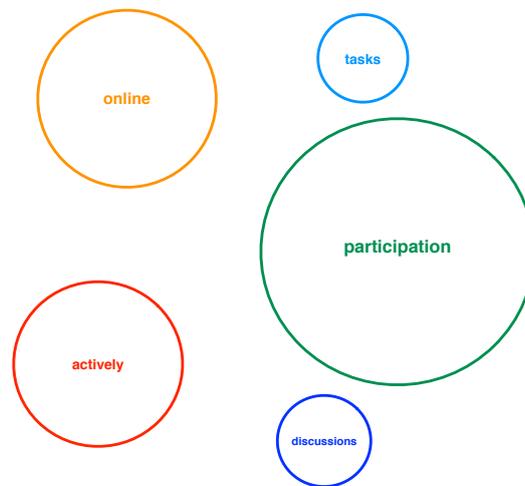


Figure 5.2: Student engagement definition

These results confirm the findings of Anderson (2001) and Garrison (2007), as presented in the literature review, is that higher engagement is a result of interactions between students and content, among students, and between students and lecturers. These types of engagement are described by Garrison

(2007) as evidence of three types of online presence: social, teaching and cognitive presence, as described in the Literature Review, Chapter 2. The engagement students have with peer students and with their online learning environments, according to lecturers' views, is described in further detail in the next section.

5.2.3 Engagement with peers

Some students feel more motivated when they are able to work in collaboration and are socially engaged with their peers (Jung, Choi, Lim, & Leem, 2002). Learning in a collaborative environment serves as a means to create a group of people with common goals who are developing knowledge by the use of cooperative efforts (Hiltz & Turoff, 2002; Woods, Barker, & Daly, 2004). Published research has emphasised the importance of student engagement with their peers while learning online (LaPointe & Reissetter, 2008). Hence, it was necessary to ascertain whether student engagement with other students is important for online learning for the lecturers in this research. They were asked the following open-ended question:

Do you think student engagement with other students is important for online learning? Please comment.

A total of 12 out of 18 (67%) lecturers confirmed that engagement with peer students is not essential for learning. This is a surprising finding and differs from

some published studies (Hiltz & Turoff, 2002; Herbert, 2006; Hannon & D'Netto, 2007). Nevertheless, four (22%) out of the same 12 lecturers explained that collaborating with other students helps to reduce the feeling of isolation and increases motivation. These results are consistent with the findings by Garrison (2007) in which social presence allows students to develop interpersonal relationships and leads to increased motivation to learn.

Six out of 18 lecturers (33%) said that engagement with peers is crucial for online learning, with two lecturers, one from Brazil and another from Australia, explaining that it is through engaging in online discussions and activities with others that students develop critical thinking that is essential for learning. This is in line with Rovai's (2007) advice on the creation of online courses that stimulate student interaction through online discussions as a way of generating motivation. According to Rovai (2007), the main aim of online discussions is the development of deeper knowledge of a subject.

5.2.4 Engagement with content

After analysing lecturers' views on engagement with other students, it was also important to explore their opinions on students' engagement with content. According to Hartnett (2012), students engage with online content when it is meaningful to them. The validity of learning what is applicable to students' daily lives is vital to keeping them motivated, as it increases the meaningfulness of learning activities (Hartnett, 2012; Kimberly, Stephanie, & Amanda, 2011). Lecturers were asked the following open-ended question in the web-based

questionnaire:

Do you think student engagement with content is enough in the construction of subject knowledge?

A total of seven lecturers (39%) confirmed that engagement with content can be enough, while 11 out of 18 lecturers (61%) stated that engagement with content is not enough for the construction of subject knowledge. Lecturers clarify how they see engagement with content and with other students, as an answer to the above open-ended question in the web-based questionnaire:

Lecturer 1 from Canada (teaching an undergraduate course, *Issues in Education*): *Yes, but it is imperative that it is relevant and provide enough information about the subject in question. Relevance involves how the content might affect students' futures and aspirations, how it applies to their everyday lives and interests, and even current events.*

Lecturer 1 from U.S.A. (teaching a postgraduate course, *Pedagogy*): *For my postgraduate online courses, I can see far less interaction among students than in my undergraduate ones. Postgraduate students are very independent learners. I have had students who are very rarely active online and there is little or no interaction with other students, but they have been successful in completing their postgraduate courses, which to means the interaction with peers was not an essential element for their learning.*

Lecturer III from Brazil (teaching an undergraduate courses, *Issues in Education*): No, online engagement with content only is not enough. The students who are participants of collaborative activities, even if not mandatory, and online discussions are the ones presenting better grades. This to me demonstrates how important the interaction with other students is in the acquisition of knowledge.

Lecturer II from Norway (teaching an undergraduate course, *Education Technology*): I cannot see how students can improve their knowledge of a subject without engaging with other students. This is part of what eLearning is about: interaction and sharing ideas so you are able to achieve an understanding of what you are studying.

Lecturers who stated that engagement with content can be enough for the construction of knowledge (total of 39%) mentioned that these students are independent learners. For the 61% of lecturers who stated that engagement with content is not enough, they emphasised the importance of collaborative activities and the sharing of information when learning online as elements that support the construction of subject knowledge.

5.2.5 Delivery mode

With the discussion on engagement, it was important to explore whether the online subject, represented by the responses through the web-based questionnaire, had

any face-to-face component as part of the course requirements. The delivery mode of 16 out of 18 (89%) lecturers is online only with no face-to-face contact, with only two lecturers from Australia saying that they teach online with one single optional face-to-face residential workshop within that subject they teach online, which attracts only 15 per cent of students enrolled within that subject.

5.2.6 Effectiveness of engagement strategies

After exploring lecturers' views on engagement with content and peers in an online environment through the web-based questionnaire, they were asked about the effectiveness of the engagement strategies they apply. It is important to establish what has been effective for them, considering the focus of this research is investigating successful online engagement strategies:

How effective are the engagement strategies you apply in the online courses you teach? Please elaborate.

Twelve lecturers (67%) confirmed that their strategies are very effective, with two lecturers, one from Canada and another from Norway, explaining that, when engagement is low, they change or add a different type of activity that is more appropriate to that specific cohort. Some of the lecturers clarify:

Lecturer 1 from Norway (teaching a postgraduate course, *Educational Psychology*): *When an activity is not effective and there is low participation in it, I change it or add a different one. I cannot just*

leave activities that are not helpful and wait until next time to change them. I normally do it as soon as I can see it's not working.

Lecturer II from Canada (teaching an undergraduate course, Education Technology): *In our teaching team we have our personal pedagogical preferences when designing online activities. What has proved really effective is that each one of us designs a number of different styles of activities, which end up catering for a variety of learning styles as well. It is a win-win situation, as we all have a chance to contribute to the online activities and the students benefit from the variety of activities being available for their learning.*

The remaining six lecturers (33%) stated that their activities are not always effective and sometimes just a few students engage in them. Three of these lecturers, one from Australia and two from Canada, explain that this only happens when the activities provided are not compulsory ones, like participating in online discussions. Some lecturers share their views:

Lecturer II from Spain (teaching an undergraduate course, Teaching English as a Second Language): *I have used a wide range of strategies across the many, many units. I have been involved in both teaching and designing for other people to teach. I think the strategies I have used are, on the whole, very effective. But, sometimes things don't work as well as I would have liked them to.*

Lecturer II from Australia (teaching a postgraduate course: Issues in

Education): Somewhat effective, sometimes I cannot pinpoint why students are not participating, logging into the portal every few days, or leaving their quizzes and other activities to the last minute.

Lecturer III from USA (teaching an undergraduate course: *Issues in Education*): *As much as we try to provide the best eLearning experience to our students, sometimes things do not go as well as planned. I have noticed that some activities are really effective with a group of learners, but they do not provide the same engagement and effectiveness with another. There is no point in judging your pedagogical skills, as in reality, learners are stating their preferences, in a indirect way. It is up to us to read the signs and make changes accordingly.*

Considering the 67% of lecturers who said that their online activities are effective, this needs to be interpreted with caution. The only measurement these lecturers may be referring to is the fact that their online courses attract a high retention rate. No specific measurement of engagement has been considered other than an overall high retention rate for these courses; hence they purely reflect lecturer's overall view.

For further clarification, Chapter 5, Section 5.5.3 presents in more detail the types of eTools that foster engagement, according to and used by the lecturers who participated in this research. Research on online learning indicates that the main element for the level of engagement with content is learner autonomy, and, when

there is lack of it, engagement level is low (Kop & Hill, 2008). Jones (2013) states that when LMS provide activities that are interesting for students and it is a place that allows them to continuously interact with other students, it ensures good online engagement for students.

5.2.7 Summary

This section presented an overview of the lecturers in the web-based questionnaire. Responses indicate that the majority of online core subjects represented in this research are at an undergraduate level, with a total of 12 lecturers (67%). The lecturers surveyed in this research have many years' experience on the use of eLearning, ranging from four to 16 years. Lecturers in Brazil, Canada, and U.S.A. had the highest number of years teaching online, ranging from 11 to 16 years, while in the other countries (Australia, Norway and Spain), experience in teaching online ranged from four to eight years.

Student engagement was described as the engagement with online content and with other students. A total of 12 out of 18 (67%) lecturers confirmed that engagement with peer students is not essential for learning while six out of 18 lecturers (33%) said that engagement with peers is crucial for online learning. Lecturers also stated that engagement with content can be enough for the construction of knowledge for independent learners. Participants stated that their engagement strategies are mostly successful, and that they apply changes to them when they are not effective, always readjusting to their cohorts' needs.

The online classes represented in this research are fully online, with the exception of two lecturers offering optional face-to-face workshops for their subjects. Lecturers said that the engagement strategies they apply online are very effective; however they added that being flexible and knowledgeable on their application is essential for their success.

5.3 Theme 1: culture

The issue of culture and its impact on online courses was presented in the Literature Review (Section 1.2.2 Cultural aspects). The diversity of online classes and engagement strategy types are explored in more detail in this section.

5.3.1 Diversity of cohorts

Lecturers in this research stated that their online subject classes are culturally diverse. Diversity is mostly described, by the surveyed lecturers, as students from different cultural and/or linguistic backgrounds. To explore the diversity of classes, the following question was asked:

Do you teach culturally diverse cohorts in your online course?

Yes () No () If 'Yes', please provide brief details - how diverse are they?

Three lecturers were more specific about the main regions their students are from:

Lecturer I from Australia (teaching a postgraduate course, *Educational Psychology*): *Students in my online class are mainly Chinese, West Indian, Aboriginal, Caucasian, Saudi Arabian, Indian (sub-continent) and Brazilian.*

Lecturer III from Spain (teaching a postgraduate course, *Educational Psychology*): *Students in my online course are from Europe, North and South America, Asia and Oceania.*

Lecturer II from Canada (teaching an undergraduate course, *Issues in Education*): *(...) From many countries and beliefs. Students are from South America and Europe and speak many different languages: main ones: French, Portuguese, Spanish and Italian.*

Cultural aspects are discussed in more detail, in this chapter, under the following Sections: 5.3.3 (Cultural differences and motivation to learn), 5.4.4 (LMSs and the needs of culturally diverse students) and 5.5.5 (Culture in online courses). Lack of cultural inclusivity and its impact on online attrition has been widely discussed by published research (Oubenaïssa-Giardina & Bhattacharya, 2007; Parrish & Linder-VanBerschoot, 2010; Mushtaha & Troyer, 2007; Leppisaari, Herrington, Vainio, & Im, 2011). Researchers assert that most online courses ignore the cultural and sub-cultural differences in learning behaviour, and fail to address the diversity of their learners (Fletcher, 2006; Hughes & Bruce, 2006; Downey, Wentling, Wentling, & Wadsworth, 2005; Mushtaha & Troyer, 2007).

It is paramount that online environments provide accessible environments that lead to higher engagement and motivation to learn (Kerr et al., 2008). Research conducted by Hannon and D'Netto (2007), with 241 online students in an Australian university, indicated that cultural aspects may affect not only students' satisfaction with their online courses, but also the way they perceive the technological and organisational components of them. Hence the problem appeared to be not only with the delivery of courses, but also with their online design. According to Gay (2010), when lecturers are able to work alongside course designers, it becomes easier to create a flexible learning environment that caters for the diversity of online students.

Considering that the courses represented in this research are fully online, as described in a previous section, they allow students of different geographical locations, including international students, to enrol. The online courses represented in this research are taught in the English language. These courses are undergraduate and postgraduate, as described in the background information section, which pre-determines that students need to have proficiency in speaking, reading and writing English to be able to enrol in the course.

5.3.2 Diverse cohorts and engagement

Some researchers state that engagement among culturally diverse students can be challenging in an online environment, creating a need for lecturers to be aware that students have different learning needs (Hannon & D'Netto, 2007; Cools,

Evans, & Redmond, 2009). Lecturers were asked about their views on strategies required to engage a diverse cohort in the web-based questionnaire with the following question:

In your experience, do culturally diverse cohorts need specific strategies to foster student engagement when learning through an online course?

Yes () No () If 'Yes', please provide brief details.

A total of 16 out of 18 (89%) lecturers confirmed that diverse cohorts do not require specific engagement strategies if the online environment is culturally inclusive, caters for different learning styles and provides a range of different collaborative activities. Two out of 18 lecturers (11%) stated a similar view, however, they explained that, if they notice engagement is low among a diverse cohort, they change or add different collaborative activities, and that this is more related to a specific cohorts' needs than students' cultural background. Considering engagement for the online classes represented here are high, exploring the types of activities applied is of interest. For clarification, Section 5.5.4 in this chapter explores and describes the type of activities these lecturers apply online.

Three lecturers (17%), one from Brazil and two from Norway, explain that they make use of thought-provoking questions or statements that challenge ideas for students to start a discussion. One lecturer from Australia (6%) adds that moderation on the part of the lecturer is important to keep ideas flowing within a diverse cohort without criticism. Some interesting comments from lecturers' open-ended responses to the questionnaire highlighted the fact that courses should

always have a multicultural focus. Provided below are three examples:

Lecturer I from Canada (teaching an undergraduate course, *Issues in Education*): *Multiculturalism and online classes are almost synonym. It is important to design a course that offers variety and choice of activities for the different learning types so to please a wider audience.*

Lecture III from U.S.A. (teaching a postgraduate course, *Educational Psychology*): *We are living in a modern world, with most higher degree institutions offering online courses. Online classes are global and diverse, and they are expected to be that way.*

Lecturer III from Australia (teaching an undergraduate course, *Pedagogy*): *I have students from different parts of the globe and I strive to provide an online learning environment that is cultural inclusive and caters for the diversity of students. At the beginning of courses I create an area for students to introduce themselves. There is an area, which is very popular among students, where they are able to share their interests, which range from sports, food, music, etc. This allows them to get to know their peers which in the end leads to higher engagement. And yes, I consider my online classes as multicultural ones with all its richness.*

Lecturers in this research confirmed that online environments attract students worldwide and with this, a richness of cultural differences adds to the online

discussions and interactions among peers. This is in line with Rovai and Downey (2007) who state that online classrooms that are culturally diverse support students in the achievement of global experience and academic development.

One important aspect of multicultural online environments refers to the multicultural competency for lecturers. This can be challenging, as they need to manage and monitor students while they participate in activities and discussions. The multicultural context is challenging for lecturers as they are expected to have an understanding of cultural domains. A knowledge about multicultural contexts allows them to monitor students while considering their different modes of perception (Oubenaïssa-Giardina & Bhattacharya, 2007). According to Gay (2002) lecturers' teaching practices need to take into account students' cultural characteristics and perspectives for teaching to be effective.

This section explored lecturers' views on engagement within a culturally diverse online classroom. The next section provides an overview of reasons why lecturers stated that cultural diversity does not play a role in online retention in the online classes they teach.

5.3.3 Cultural diversity and online retention

The previous section presented lecturers' perspectives on student engagement within online classes. It showed that a total of 16 out of 18 (89%) lecturers confirmed that diverse cohorts do not require culturally specific engagement strategies. While answering that same question on engagement and cultural diversity in the previous section, lecturers provided some information on why they believe cultural diversity does not have any negative impact on their online classes. Following are some of their answers that may help clarify the issue:

Lecturer II from Norway (teaching an undergraduate course: *Issues in Education*): *I do not see the need to provide activities that would engage specific cultural backgrounds any better than they already do. This is because engagement and retention is already high for my online classroom. If I had students dropping out of my courses, I would certainly need to find out what is not working. It could be a problem with my pedagogical approach, for example. Or it could mean students do not feel comfortable expressing their views. Then I would not be providing a culturally inclusive approach in my teaching.*

Lecturer III from Spain (teaching a postgraduate course, *Educational Psychology*): *My students are from all over the world. The only way for these students to work within groups is feeling that they have something to contribute, without being judged. If students do not feel at easy in the online environment, they lose interest and drop out of their courses. It is a*

lecturer's role to provide an environment where everyone participates and learns, regardless of their cultural background.

Lecturer 1 from Canada (teaching an undergraduate course, *Issues in Education*): *Cultural diversity is the norm in online classes, as we have students from many different countries studying online. Classes are designed to cater for this diversity and allow students to develop effective intercultural skills. Fostering a culturally inclusive environment means that everyone feels safe to express their views and opinions, regardless of their socio-economic status, political beliefs, religious affiliation, gender and ethnicity. None of this seems to have an impact on student engagement and retention in my online class as I choose to create a collaborative, culturally inclusive environment for my students.*

These results conflict with research findings by Hannon and D'Netto (2007) that cultural differences have an impact on student online attrition. The fact that the lecturers in this research state that their online student engagement is high and that cultural diversity does not have a negative impact on online retention, may be a reflection that they are already using their skills of multicultural competency, as described in the previous section. With the increased offerings of eLearning courses in the higher education sector, reaching students from different countries and geographical locations, it has become essential for lecturers to accommodate online classes to the diversity of their students (Parrish & Linder-VanBerschoot, 2010). According to lecturers' answers on cultural diversity and its impact on online engagement and retention, it is essential to explore the type of online

activities these lecturers apply online. The following section presents an overview of types of activities chosen with some examples for clarification.

5.3.4 Engagement activities

Engagement strategies lecturers adopt in their online environments were also explored through the web-based questionnaire. This research focused on online engagement activities applied by lecturers to increase retention. The lecturers in this research were asked the following open-ended question:

What types of activities do you use to foster student engagement within a diverse student cohort when teaching online courses?

This question provided lecturers with the opportunity to expand on their previous explanation of diversity and engagement through the answers to the open-ended question. Four main activities clearly emerged from the responses, which are: collaborative activities; exchange of ideas through social interaction; case studies for group activities; videos and mini lectures for team work. These elements are described in detail separately and are visually represented in Figure 5.3:

- **Collaborative activities** – All lecturers from the six countries agreed that by providing different collaborative activities to cater for different learning styles, they are able to foster students' engagement, as there are more options and opportunities for students to engage with others. Nine out of 18 lecturers (50%) used synchronous and asynchronous activities for group-work. Some of the

activities they used were: team projects, group debates, blogging, peer editing and/or review, questions and answers (students pose questions) and portfolios (presented as group-work).

- **Social interaction** - A total of 12 out of 18 lecturers (67%) – four from Australia, three from Brazil, three from Canada and two from Norway, listed social interaction through the use to blogs, chat rooms, wikis and forums, as efficient tools used in their online environment, where students can share their thoughts and ideas. Three of these lecturers mentioned that, as lecturers, they tend to participate in these activities with thought-provoking questions, because, as noted by Lecturer I from Canada (teaching an undergraduate course, Issues in Education): “this makes students view the issue with a broader, and more diverse perspective”. Social interaction among students has been widely applied in online environments, however, adding a lecturer’s online presence as part of those interactions appears to be an added advantage.
- **Videos and mini lectures** - Six out of 18 lecturers (33%), two from Canada, three from Brazil, and one from Spain, mentioned the use of pre-recorded videos and live streaming as learning activities, where they presented a mini-lecture or topic for discussion. They explained that they use videos and/or live streaming related to the subject matter, not only of themselves, but also from other lecturers whom they work in collaboration with, as a way of enriching the class and fostering student engagement and interaction with online content.
- **Case studies for group activities** – Although also considered a collaborative activity performed mostly in groups, the use of case studies were listed and provided as a specific example of activities used by four out of 18 lecturers (22%), one from each of the following countries: Australia, Canada, Norway

and Spain. They mentioned that multiple case studies were used as a way of creating meaningful group activities that are more related to students' future work life, thus fostering engagement due to an increased interest in the subject. Three of the lecturers (17%) mentioned that groups could be formed by students' interest in the case study topic. Therefore, providing a few case studies and allowing students to choose which ones interested them was the chosen way for these lecturers to foster engagement.

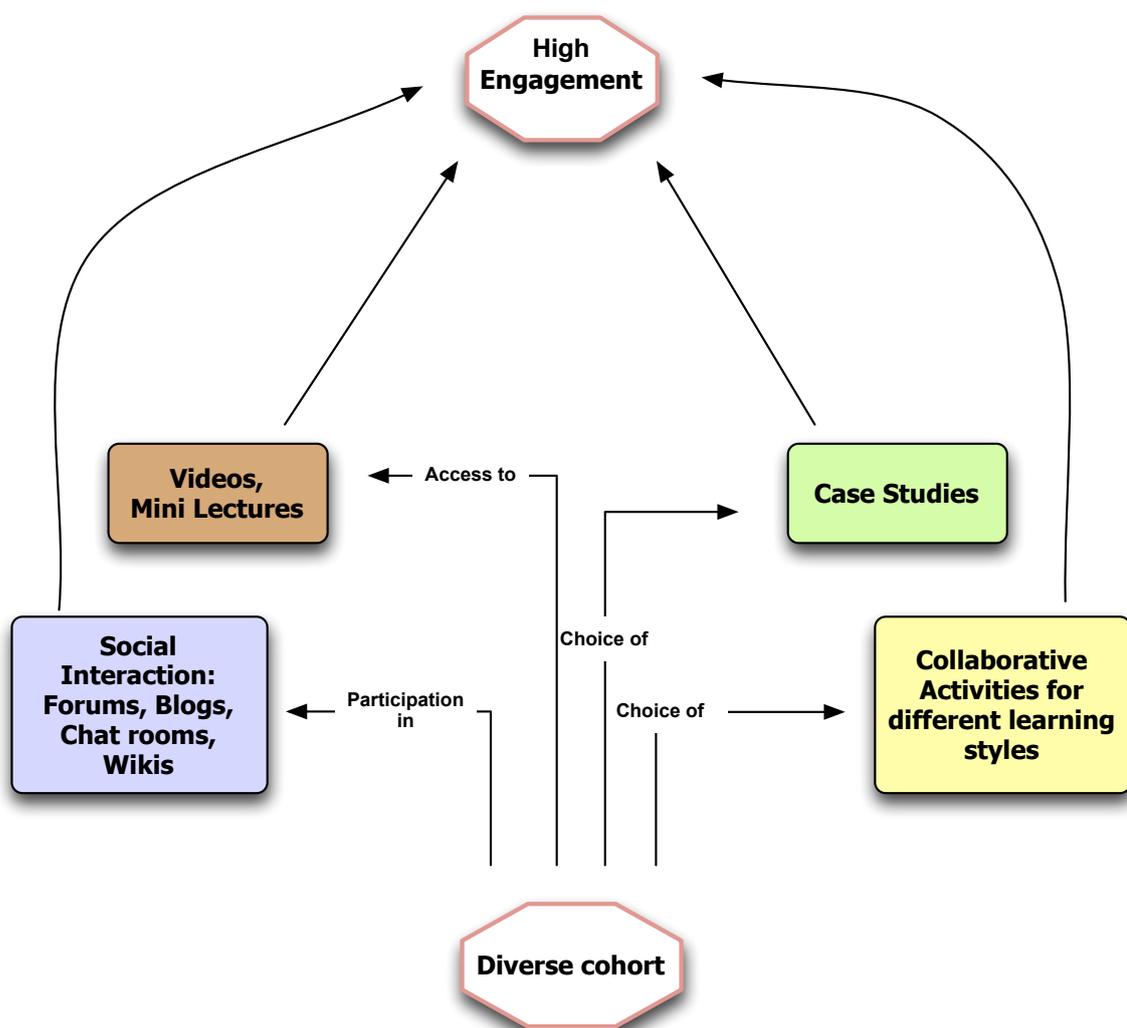


Figure 5.3: Fostering engagement within a diverse cohort

These results reflect the need to create a variety of engagement activities considering that these are large cohorts, ranging from 54 to 350 online students,

as described in the background section. This is in line with suggestions provided by researchers such as Leask and Yarnie (2006), Morse (2003) and Rogers, Graham, and Mayes (2007), who proposed that online programs should provide a variety of collaborative strategies as they promote culture awareness and cross-cultural communication among peers.

Zaharias (2009) lists the following as activities that foster online engagement: case studies, role-playing, quizzes, access to a range of resources and media. Courses should be in line with students' objectives. These are similar to the activities and strategies the surveyed lecturers presented as answers to the web-based questionnaire with the added advantage that the lecturers state they work successfully in creating engagement within a diverse online cohort.

5.3.5 Summary

This section on cultural diversity (Case Study 1) outlined what lecturers define as diverse cohorts. Diversity is described as students from different cultural and/or linguistic backgrounds. Engaging diverse cohorts does not require additional specific strategies if the environment is already culturally diverse, considering students work in collaboration. The engagement activities and strategies mentioned to play a role in maintaining or increasing engagement within a diverse cohort were collaborative activities, social interaction, videos, mini lectures and case studies.

5.4 Theme 2: motivation to learn

Motivation, its role and how it affects online students are discussed in this section. This is the second element of focus in this research because in online environments lack of motivation emerges as one of the main causes for online attrition (Herbert, 2006; Jones, 2013). The importance of motivation and its impact on engagement and retention in online courses was discussed in the literature review (Chapter 2, Section 2.3).

5.4.1 Reasons for low motivation

This research investigates motivational strategies lecturers apply online to achieve higher engagement and increase retention. Before exploring them in more detail, it was important to ask lecturers' overall views and opinions on the causes of low motivation of online students to explore what the lecturers actually do to minimise them. Lecturers were asked the following:

In your experience, why do some students show low motivation when learning in online environments?

Eight out of 18 lecturers (44%) said that low motivation is present when students are studying a core subject that is not their main interest. The second main cause, according to seven lecturers (39%), is when students have too much work or personal commitments, which minimise the time they have available for their

studies. From their previous experience teaching online, three lecturers (17%) mentioned that in the past, poor online design and lack of a sound pedagogical approach were listed as causes for low motivation in students after an internal satisfaction survey (not available for this research) was conducted at the end of their classes. These lecturers mentioned that they now work extensively on their online design and pedagogical approach when they set up their current courses. These results, reflecting lecturer's responses, are visually portrayed in Figure 5.4.

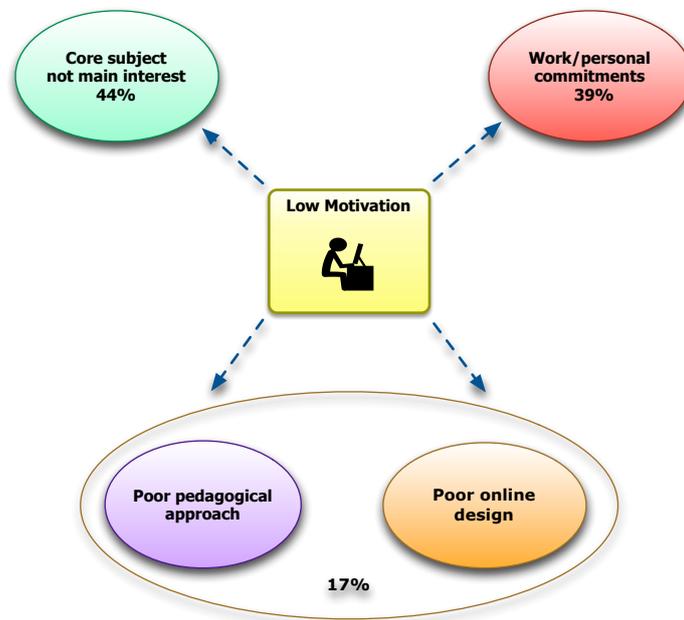


Figure 5.4: Causes of low motivation

Understanding the causes of low motivation is of extreme importance for online classes where their type of learners are the ones with a tendency to drop out or fail their courses (Jung, Choi, Lim, & Leem, 2002). Motivation can be extrinsic or intrinsic. Extrinsic motivation is performance-driven (Ally, 2008), while intrinsic motivation is the one that comes from personal interest and enjoyment (Rovai, 2007). To increase extrinsic motivation, Rovai suggests grading online

communication activities as a way to motivate students to engage in online discussions, which consequently increases the sense of community, overall motivation and critical thinking. Herbert (2006) states that there is a need for more research to identify students' dissatisfaction with their courses and suggests an increase in interaction between lecturers and students to improve overall motivation. After exploring lecturer's views and opinions on low motivation in online students, it is important to determine what strategies can be applied to increase motivation, which is the focus of the following section.

5.4.2 Motivational strategies

In online environments, motivation emerges as one of the main causes for low online retention (Kim & Frick, 2011; Herbert, 2006; Levy, 2007; Jones, 2013), therefore it was crucial to explore what type of activities foster students' motivation to learn. Lecturers who participated in the web-based questionnaire were asked the following open-ended question:

What strategies do you use to keep students motivated in your online course? In each one, please comment how effective they are.

From the responses received, multimedia resources, lecturers' online presence, problem-solving, authentic and challenging activities are the main strategies and activities that, according to the lecturers in this research, are effective in keeping online student motivation high:

- **Multimedia resources:** The use of multiple forms of presentation (text, audio, video) are considered very important to keep motivation high, considering students present different preferences when learning a new subject (Mandernach, 2009). All lecturers (100%) listed the use of different multimedia resources as a way of keeping students motivated. Most common examples used were: images, video-lectures, live streaming video, audio, PowerPoint presentations and slideshows. These findings further support the importance of multimedia for increased motivation in online activities, which had been previously reported by Jones (2005), Couros (2008), as well as Anderson and Dron (2011);
- **Lecturer's online presence:** A total of 15 lecturers (83%) - five from Australia, four from Brazil, three from Canada and three from Norway - mentioned that they are able to effectively motivate their students through the use of ongoing presence and encouragement via participation in chat rooms and forums, by providing announcements to the whole class or using email. According to two lecturers, one from Canada and one from Australia, students appear to engage more in discussions when lecturers participate in the forums. This corresponds to findings by Visser, Plomp, Amirault, and Kuiper (2002), who tested the use of motivational strategies with students in distant learning settings. Their results indicated an improvement in students' overall satisfaction and completion rates when lecturers had a more constant online contact with students. Lecturers who participated in this research were adamant that ongoing online presence is crucial for increased motivation and asserted that they have applied this successfully with their students;
- **Problem-solving activities:** According to 13 out of 18 lecturers (72%), - four

from Brazil, four from U.S.A., three from Spain and two from Norway - problem-solving is another effective way of keeping students motivated, considering that, in this type of activity, students demonstrate higher participation as they are encouraged to express their views. A lecturer from Spain exemplified the use of brainstorming and brainwriting activities that can be developed with the use of wikis or discussion forums as effective activities to foster student engagement using small groups. The use of problem-solving activities in online courses were previously stated to lead to online course success by Ally (2008);

- **Authentic activities:** A total of 12 out of 18 lecturers (67%) - five from Brazil, three from Canada and four from Norway - listed the use of activities featuring possible real-life scenarios, where students need to provide solutions, as effective ways to promote engagement and motivation to learn. A lecturer from Brazil gave the example of an authentic activity given for his online class where students needed to discuss a scenario that is highly probable for them, where they discussed possible challenges for an English as a Second Language teacher gaining employment overseas and having to relocate for a few years. Leppisaari, Herrington, Vainio, and Im (2011) also discussed the importance of providing authentic activities and tasks, explaining that they provide real-world relevance for students;
- **Challenging activities:** Five lecturers from Brazil, three from U.S.A. and three from Norway - a total of 11 out of 18 lecturers (61%), explained that when they provide challenging activities for discussions where students need to discuss and find solutions, motivation is increased. Some of these lecturers stated that these types of activities stimulate critical thinking. One lecturer from Australia gave the example of scenarios that reflect what future educators will face in the

classroom, such as bullying or racist behaviour among students, and how they would deal with that situation. According to the lecturer, this is the type of activity that attracts discussion and increases student engagement.

Lecturers gave examples of synchronous and asynchronous activities applied as authentic and challenging activities: blogging (referring to students' own views and experiences), team projects, group debates, peer editing, peer review and portfolios.

Figure 5.5 shows the strategies applied to successfully increase students' motivation in online degree courses with the corresponding percentage of lecturers listing them as effective. Answers indicate that lecturers use a combination of them, and not one single strategy. For this reason, percentages can be up to 100% each, meaning that they were mentioned by all lecturers.

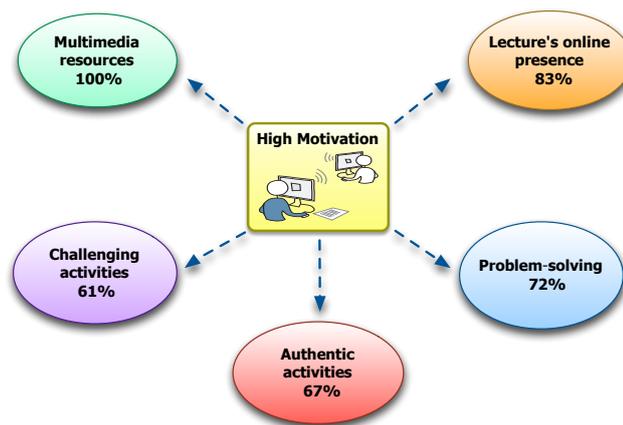


Figure 5.5: Motivational strategies

Lecturers who participated in this research apply these strategies to achieve increased student motivation in their online courses. There is no marked difference

or preferences between countries of the choice of the above-mentioned activities. This indicates that lecturers, in general, apply a combination of them, regardless of the country the university is located in. This could mean that lecturers are becoming proficient in choosing online activities that work, and may be applying knowledge already shared in publicised literature, such as the use of multimedia resources (Couros, 2009; Dron, 2011); problem-solving activities (Ally, 2008); authentic activities (Leppisaari, Herrington, Vainio, & Im, 2011) and challenging activities (Downes, 2012). Strategies have been successfully used to improve motivation of distance-learning students through the use of motivational messages, timely feedback and discussing problems related to their studies (Visser, Plomp, Amirault, & Kuiper, 2002), which matches the strategies outlined by the participants in this research as mentioned previously. According to Herbert (2006) students expect timely feedback from lecturers, which becomes a critical element to student's motivation and academic success. This section described the types of activities lecturers apply online for increased engagement. The next section presents how lecturers are able to use cultural differences as a motivator to learn in students.

5.4.3 Cultural differences as a motivator to learn

Diversity should be considered during the design and planning stages of a course, and educators need to develop cultural awareness to be able to foster collaboration among students (Rutherford & Kerr, 2014). When lecturers and course designers are knowledgeable about cultural differences, it becomes easier

to create an inclusive, accessible and flexible learning environment (Gay, 2010), where students feel motivated to learn. To have a better understanding of the impact of culture on motivation to learn, lecturers were presented with the following question:

In your view, does culture affect motivation to learn in an online environment?

Yes () No () If 'Yes', please provide brief details:

Lecturers unanimously stated that culture does not play a negative role in motivation to learn, with the exception of one lecturer (6%), who explained:

Lecturer III from Canada (teaching an undergraduate course, *Issues in Education*): *Yes, somewhat ... some aboriginal learners and learners from more socially-oriented cultures are more responsive and more motivated when participating in synchronous sessions and group work. Some other cultures seem more competitive or independent and are less enthusiastic about group work, though may be faster in responses to forum postings.*

It is important to add some of the comments for clarification for the reasons these lecturers believe that culture does not play a role in motivation to learn. Lecturers described how having students from different cultural backgrounds impact into their online classrooms:

Lecturer I from Brazil (teaching an undergraduate course: *English Language*): *When I have international students in my online classes,*

discussions are more meaningful and thought-provoking compared to when the majority of students are from Brazil only.

Lecturer II from Norway (teaching a postgraduate course: *Educational Psychology*): *Cultural diversity helps to keep discussions interesting, as students present their different views and approach to what's been discussed. It also helps students expand their views about the worlds, other cultures and the differences in perceptions of reality. It helps students grow as individuals who respect differences and learn to appreciate them.*

Lecturer II from Australia (teaching a postgraduate course: *Issues in Education*): *As my subject refers to issues in Education, the more international students I have in my classes, the richer its context becomes, as these students are the ones bringing a wealth of knowledge of different issues in education in their home countries. This opens students' minds and it allows them to be more flexible in their thinking.*

According to lecturers, cultural diversity only affects motivation to learn in a positive way and are not as challenging as reported by Hannon and D'Netto (2007). Lecturers in this research presented some explanations on how they can use diversity to the benefit of their students, by allowing them to have online discussions and work in activities that allow them to share their diverse views. As explained by the three lecturers (Lecturers I from Brazil, II from Norway and II from

Australia), students' view of the world may be expanded as a result, and they become more appreciative of cultural differences.

It is important to explore what types of strategies these lecturers apply online, that they affirm to be so effective, to further understand their pedagogical choices within a diverse cohort. These are explored in the online pedagogy section in this chapter (Section 5.5). The next section presents lecturers' views on the effect of motivation on online retention.

5.4.4 Motivation and retention

Researchers assert that motivation can have an impact on online retention. For example, Yukselturk and Inan (2006), after examining student dropout reasons in online courses, found that students' motivation was the main cause. Yukselturk and Inan (2006, p. 06), in one of their studies on online motivation, discovered the following:

Although many participants registered for the program with high motivation, some dropout participants expressed that their motivation decreased gradually. One participant reported that the program was very compact and short (eight courses within nine months) so they expected more activities to increase their motivation throughout the program.

Lecturers in this research state that they provide a variety of activities that support student motivation which, consequently, keeps retention high. Following are some

of the lecturers' explanations:

Lecturer II from Canada (teaching an undergraduate course, *Issues in Education*): *The best way to keep retention high and keep students motivated is by providing a range of different activities, be it synchronous or asynchronous types. Not all activities should force students to work in groups, as you cannot forget the students who prefer to perform activities on their own. You cannot guess whether your students prefer one or the other; provide both so everyone feels motivated to learn.*

Lecturer II from Norway (teaching an undergraduate course, *Education Technology*): *Allowing students to communicate amongst themselves is essential. This should be provided by the use of forums and chats, for example. These activities are not graded and they are not supposed to be considered, by students, as mandatory activities, but an opportunity to interact with others. These activities allow students to get to know their peers, and keep them motivated to log in daily and connect with other students.*

Lecturer II from Spain (teaching an undergraduate course, *Teaching English as a Second Language*): *It is motivation that leads students to complete their courses. People have different motivations for doing a course online, and depending on lives' circumstances, motivation can be higher or lower at times. Lecturers need to make use of strategies that make students feel supported throughout the duration of their course, be it by providing an exciting and engaging online classroom or by posting*

messages or sending group emails to students that have supportive messages, inviting them to ask for help with their studies any time they need.

From the answers provided by lecturers, it shows that they keep students motivated is by: providing a range of different activities (synchronous or asynchronous), forums and chats so students can communicate amongst themselves (these should not be graded activities) and making students feel supported throughout their course by posting messages or sending group emails to students that have supportive messages. Three lecturers, one from Brazil and two from Norway, mentioned that lecturers need to keep in mind that not all students like to engage with others, so catering for independent students is also essential when designing online classes, for example, by providing activities that do not require working within a group to be completed.

Providing opportunities for continuous communication among students, and between students and their lecturers, is essential for high retention; these opportunities should address the affective needs of students and not only their cognitive needs (Visser, Plomp, Amirault, & Kuiper, 2002). The affective aspect of online learning was also mentioned by Zaharias (2009), who explained that it is an essential element for the success of online classes. For Zaharias (2009), lecturers need to cater for students' learning styles, characteristics and also on what motivates them to learn, in order to keep dropout rates low.

5.4.5 Summary

This section on motivation (Case Study 2) presented lecturers' views and perceptions of motivation in online environments. Their answers were gathered in a web-based questionnaire. The first section presented lecturers' views on reasons for low motivation, where eight out of 18 lecturers (44%) stated that low motivation is present when students are studying a core subject that is not their main interest. The second main cause (seven lecturers, 39%) is when students have too many work hours or have personal commitments that take priority, and only three lecturers (17%) mentioned poor online design and lack of a sound pedagogical approach.

The motivational strategies that lead to higher online engagement were mentioned as: multimedia resources, lecturer's online presence, problem-solving, authentic and challenging activities. Lecturers explained that cultural diversity only affects motivation to learn in a positive way as it brings cultural richness to the online environment. They also emphasised the importance of providing activities and support that keep students motivation high, leading them to complete their online courses. The last section describes the connection between motivation and online retention. The web-based questionnaire results and discussion on Learning Management Systems are presented next.

5.5 Theme 3: Learning Management Systems

The use of LMSs brings with it pedagogical and technological issues that need to be considered. These elements were presented in the Literature Review, Chapter 2. Lecturers are required to plan and coordinate online activities, just as they do for on campus students, and understand that only migrating content to the online environment is not sufficient for its success and to ensure high engagement and online retention. It was imperative to explore lecturers' technical skill level and the types of training and support they receive, if any, on the delivery of their courses.

5.5.1 Types of LMSs

As this research discusses the use of LMSs, knowing which ones they are referring to becomes essential, as there are many different types of LMSs available today. Institutions use LMS software to implement, facilitate, assess and monitor student learning (Wright, Montgomerie, Reju, & Schmoller, 2014). The LMSs used to deliver online classes, represented in this research, are Moodle, used by 13 out of 18 lecturers (72%), Blackboard by four lecturers (22%), and only one lecturer (6%) used Desire2Learn. There are a range of other LMSs available in the market, the main difference is that Open Source LMSs, such as Moodle, is available to be downloaded by anyone online and it has no running costs involved. The advantages are that its content and design can be customised and continuously updated and changed by the user. The other type of LMS is a commercial LMS, such as Blackboard and Desire2Learn, that requires a yearly fee

to enable its use and is paid by the educational institutions. According to Joh (2013), Moodle is the most popular LMS as it is offered as an open source software system, and it is widely used by many universities. Apart from attracting no costs for its implementation and use, it allows the “creation of powerful, flexible and engaging online courses and experiences” (Romero, Espejo, Zafra, Romero, & Ventura, 2013, p. 138). Blackboard is Moodle’s commercial counterpart, and the choice of its use within universities is due to being a less vulnerable system when compared to Moodle, where Joh “found that Moodle has higher number of vulnerabilities compared to its commercial counterpart, Blackboard.” (2013, p. 02),

5.5.2 Technical skill level

In the discussion of effectiveness of LMSs in increasing retention, it becomes imperative to understand lecturer’s technical level. This technical level refers to the use of LMSs to teach and not basic computer skills. LMSs have become the software commonly used by universities for the delivery of online courses (Steel, 2009; Rutkowski & Moscinska, 2010). Lecturers were asked:

In terms of your use of computers and the Internet for university teaching, how would you rate your technical skill level? Beginner / Novice / Intermediate / Advanced / Expert

According to the results, 15 lecturers (83%) are at an intermediate level, with two (11%) stating they are at an advanced level and only one (6%) considering him/herself an expert. None stated to be at beginner level (see Table 5.4). It

should be noted that results can be problematic with self-reporting. In relation to level of technical skill, some people deem themselves technically incompetent, but when compared to others they are more skilled than they have reported themselves to be. And, of course, the reverse can happen when some people report their skill level higher than it is when compared to others. However, as outlined in Table 5.4, all lecturers reported to be at Intermediate or above level in relation to their technological skill. This is an important attribute for an online teacher.

Table 5.4: Technical skill level (n=18)

Level	Response	Percent	Age
Beginner	0	0	n/a
Intermediate	15	83%	26-55
Advanced	2	11%	26-51
Expert	1	6%	38

Lecturers from 26-55 years of age stated to be at an intermediate level, while one at 26 and another at 51 said that they have an advanced level and only one lecturer stated to be expert on the use of LMSs, at age 38. The results reflecting levels of expertise are not out of the ordinary considering that these lecturers have a minimum of four and a maximum of 16 years teaching online degree courses, as presented in Section 4.1 (Background information). The two lecturers (11%) who said that they are at an advanced level are from Norway, and the one (6%) at an expert level is from Canada. All other lecturers (83%) mentioned to be at an intermediate level.

Considering that the universities in this sample, located in Norway and Canada, mostly offer degree programs exclusively online, it can be one of the reasons why these lecturers consider themselves as being at an advanced level or being experts in online teaching. It may also reflect the fact that the two lecturers at an advanced level teach Education Technology; hence ICT is their area of expertise. The one at an expert level teaches Issues in Education (please refer to Subjects being taught, Table 5.5 in this chapter). The next section presents lecturers' views on LMS training, according to the responses received during the web-based questionnaire.

5.5.3 LMS training

The application of different pedagogical approaches in online teaching is dependent on lecturers' expertise (Tyler-Smith, 2006; Steel, 2009; Godwin-Jones, 2012). Researchers assert that the use of LMSs has not been fully successful because lecturers have not received training in the design and pedagogical use of its capacity (Christie & Jurado, 2009). Therefore, after exploring lecturers' technical level, it was important to investigate how they acquired their skills in the use of LMSs or whether they have achieved this from experience only. A subsequent question was asked:

Have you had any specific training in the use of the LMS platform (with the choice of)?

- a) *Formal training*
- b) *I learn as I go*
- c) *I have technical support during the design stage*
- d) *I set up my own courses without any assistance*

According to responses, five out of 18 lecturers (28%), three from Canada, one from Norway and one from Brazil, had formal training in the use of LMSs, while two (11%) said that they are able set up their own courses (both from U.S.A). Only two (11%), both from Australia, declared that they learn as they go and nine (50%), receive technical support (see Table 5.5).

Table 5.5: LMS training (n=18)

eLearning	Response	Percent
Formal Training	5	28%
I set up my own courses	2	11%
I learn as I go	2	11%
I have technical support	9	50%

It is important to note that none of the lecturers from Canada require technical support to set up their courses and all lecturers from Spain need assistance with it. With such a high number of lecturers (50%) having technical support to set up their courses, it is imperative to explore the challenges they faced and their views on this. Lecturers' responses to the interview questions on eLearning barriers are discussed in more detail in Chapter 5, Section 5.5.6 (Barriers of chosen

pedagogy).

Following McGill, Klobas, and Renzi (2008) and Tyler-Smith's (2006) suggestions that more research was required on the performance impacts of the use of LMSs, this research intended to explore this issue. Although some lecturers assert to be experts in integrating learning activities in online environments, which reflects their pedagogical skills, there is still a lot of dependence on specialised technical support. According to McGill, Klobas, and Renzi (2008) lecturers need to acquire expertise in making use of technology to be more independent in the creation of their own courses. After describing lecturers' perceptions on the use of LMS for teaching, the next section presents their views on the use of LMS within culturally diverse cohorts.

5.5.4 LMS and the needs of culturally diverse students

As presented in the literature review chapter, students' distinctive ways of learning are not always taken into account during the design and planning stages of online programs (Rogers, Graham, & Mayes, 2007; Zaharias, 2009; Norton, 2013). According to Downey, Wentling, Wentling, and Wadsworth (2005), the effectiveness of online programs is partially dependent on cultural awareness and knowledge of how cultural differences affect online learner. In order to explore this, the lecturers who participated in this research were asked to comment on how the LMS they use addresses needs of culturally diverse students:

Question: Does this LMS address the need of a culturally diverse cohort?

Yes () No () If 'Yes', please provide brief details

All lecturers (100%) agreed that the LMS is just a tool and it depends on the lecturer's ability to apply pedagogical skills to create activities that are engaging and appropriate for a diverse cohort and different learning styles. LMSs do not teach students, but lecturers make use of them to teach. Below are selected comments provided by the lecturers:

Lecturer II from Australia (teaching a postgraduate course: *Issues in Education*): *An LMS can be used to create any activity I have in mind, so I can apply my culturally diverse approach using elements of the LMS.*

Lecturer I from Norway (teaching an undergraduate course: *Issues in Education*): *It depends on the type of activities I choose, it is not only about diversity as in culture, but diversity as in different learning styles. We live in a diverse world; online courses are most always diverse as we have students from all over the world.*

Lecturer III from Brazil (teaching an undergraduate course, *Issues in Education*): *I do not consider that an LMS (software) is responsible for meeting the needs of students. It is a pedagogical proposal and selection of adequate resources that cater for the different cultures.*

Lecturer I from Canada (teaching an undergraduate course, Issues in Education): *The use of a specific LMS by itself does not lead to learning. It depends on the pedagogical proposal, the infrastructure of the school and the continuing education of lecturers. If all these aspects are met, the involvement and motivation of students occur without difficulty.*

It is important to explore how lecturers create engagement within the online classroom. A comment from a lecturer demonstrates how he/she creates an engaging and diverse online environment:

Lecturer III from Canada (teaching a postgraduate course, Educational Psychology): *I work in conjunction with lecturers in other universities, including overseas. We swap pre-recorded video-lecture sessions, which usually have a maximum of 30 minutes each. Students feel that their learning is globalised, which, for this generation, is a very important component when acquiring a qualification.*

The lecturers' online classes represented in this research are diverse, with students from different countries and language backgrounds. These lecturers stated to understand that their pedagogical approach is what caters for diversity, and, as explained by them, this cannot be automatically provided by LMSs. The lecturers explained that they cater for the diversity of their learners by using the LMS to create

activities that are suitable for creating student engagement and increased interest in the subject. As Lecturer III from Canada explained, by providing pre-recorded videos of other lecturers overseas and not only of themselves teaching, they create a culturally inclusive online environment. As the other lecturers' answers given above explain, the LMS is only a tool, as it is lecturers' pedagogical proposal that supports the diversity of learners. The next section explores the relation between LMS and online retention.

5.5.5 LMS and retention

When providing answers to the LMS use, lecturers expressed their views on the importance of being able to use the LMS effectively to avoid student attrition.

Three of the lecturers explained:

***Lecturer I from Norway** (teaching a postgraduate course: Educational Psychology): Lecturers who do not know how to make good use of the LMS are leading their students to drop out of classes, as they do not know how to make full use of its capabilities. Some people need formal training, but I have learned by using it every day, during the last few years. Experience in the use of the LMS is essential, as you need to plan the course design, which includes easy navigation and different types of activities catering for the different learning styles.*

Lecturer II from Spain (teaching an undergraduate course, Teaching English as a Second Language): *I have spoken to lecturers who do not think there is a need to learn anything new, as they have been teaching for decades. The reality is that, without proper knowledge on what you can use and create with the LMS you are using to teach, you end up using very limited aspects of it; activities are not varied and it can lead to low student satisfaction and high attrition rates.*

Lecturer I from Norway (teaching a postgraduate course: Educational Psychology): *When I started teaching online I made a huge effort in trying to make the online classroom be exactly as my on-campus one. It did not take long for me to realise my mistake. Students were not happy, as there was little or no interaction. These were my old days and first experience using an LMS to teach, which can reflect the realities of lecturers who are starting to teach online for the first time.*

According to the participants in this research, lecturers need to know how to use the LMS and carefully select the course design and learning activities to make sure that they cater for different learning styles. If this is not addressed, there is a risk of using only limited aspects of the LMS, which may lead to student dissatisfaction and low retention rates. Literature presented the importance of making good use of LMSs to keep good student retention. This was presented in Chapter 2, section 2.4.3. Providing different teaching methods and presentation formats that cater for different learners' abilities is essential in online courses (Kerr et al., 2008). By making the online course efficient and tailoring it to students'

needs and abilities, lecturers can ensure they are taking the essential steps that increase retention (Knowlton, 2000).

5.5.6 Summary

This section on LMSs (Case Study 3) presented lecturers skill level in terms of their use of computers and the Internet for university teaching. According to the results, 15 lecturers (83%) are at an intermediate level, with two (11%) stating they are at an advanced level and only one (6%) considering him/herself an expert. Another element described was lecturers' ages, which showed no correlation between age and technical skill level.

In reference to LMS training, five lecturers (28%) had formal training, while two (11%) said that they are able set up their own courses. Only two (11%) declared that they learn as they go and nine (50%) receive technical support. The types of LMSs used were described as Moodle (13 lecturers, 72%), Blackboard (four lecturers, 22%), and only one lecturer (6%) uses Desire2Learn. Lecturers agreed that lecturer's ability to apply pedagogical skills is essential for the success of online classes, as the LMS they use is just a tool that they can utilise to create activities that are engaging and appropriate for a diverse cohort and different learning styles. Lack of knowledge on using LMSs can lead to student attrition, as lecturers end up not making full use of its capabilities and functionalities. The next section explores online pedagogy as presented by lecturers on the web-based questionnaire.

5.6 Theme 4: online pedagogy

Good eLearning planning and design is the core of high-quality online teaching (Davies & Barak, 2013), where students' learning styles and needs should be considered, before and during the delivery of programs, regardless of cohort's size. The issue of attrition in online environments, from a pedagogical perspective, is only one of the variables identified by recent research, which highlights the need for a better understanding of online teaching skills and pedagogy (Tyler-Smith, 2006). This section reviews the choice of learning theory by the lecturers in this research, and the key features it presents.

5.6.1 Learning theory

The literature review presented the challenges of transitioning from traditional to online teaching environments, and the different and most common online pedagogies applied by lecturers who teach online. Constructivism and connectivism are the learning theories applied in this research. This was presented in more detail on Chapter 3, Section 3.4. These educational theories, their principles and application within online environments, highlight the fact that they can complement one another, bringing a distinctive quality to the online environment. To explore lecturers' choices of online learning theories, they were asked about the learning theory they base their online courses on. Results indicate that a mix of constructivism and connectivism is the main theory of choice (11

lecturers, 61%); three lecturers (17%) follow a connectivist approach and four (22%) a constructivist approach, as seen in Table 5.6.

Table 5.6: Learning theories (n=18)

Learning Theory	Response	Percent
Constructivism and Connectivism	11	61%
Connectivism	3	17%
Constructivism	4	22%

Following is a brief description of these learning theories, which were discussed in more detail in Chapter 3, Section 3.5 (Learning Theories):

- **Constructivism:** learning is active, collaborative and contextualised, where the learner makes use of past knowledge and experiences.
- **Connectivism:** learning is created from the online connections made with other students and resources (not always human).

As the results above indicate, some lecturers who participated in this research made the choice of using one learning theory, and the majority of them chose to apply a combination of two. To explore how the lecturers in this research apply their pedagogical principles online, they were asked about the key features of their online pedagogy, which is presented in the following section.

Constructivism focuses on active learning and cooperation through discussions (Rovai, 2007; Haythornthwaite, 2006). Constructivists state that learners construct

their own meaning and are not passive recipients of knowledge (Petegem, De Loght, & Shortridge, 2004). This pedagogical strategy has been applied by lecturers in conjunction with technology, where students learn online while socially interacting with their peers.

Siemens (2005) describes connectivism as a learning theory for the new technological age. Learning nowadays happens within a globalised and networked world (Hafsa, 2003); hence connectivism is a more appropriate term to describe this new way of acquiring and constructing knowledge (Ally, 2008). With connectivism, students are more independent learners and able to research information on a continual basis, from different sources and networks. Next section presents the key features of online pedagogy presented by the lecturers who participated in this research.

5.6.2 Key features of online pedagogy

It is important to explore the key features of the online pedagogy applied by the lecturers, which in this research reflects the lecturers' choice of constructivism, connectivism or a combination of the two learning theories. Investigating these features may provide some light on strategies that can be applied by other online lecturers who intend to achieve good online engagement. The following question was asked:

Briefly explain the key features of your online pedagogy.

Lecturers' responses were analysed through Leximancer to explore which concepts (themes) emerged. Results can be seen in Figure 5.6. Circles and their respective size demonstrate that the main feature of lecturers' online pedagogy is the application of collaborative learning with the use of problem solving activities, which lead to the development of critical thinking and a globalised view.



Figure 5.6: Key features of online pedagogy

Other aspects of the online pedagogy mentioned by lecturers can be directly related to these same themes:

Lecturer III from Australia (teaching a postgraduate course, *Educational Psychology*): Some activities entail the learners having to explore, critically reflect, document and learn through the experience.

Lecturer I from Brazil (teaching an undergraduate course: *English Language*): Providing and incorporating a combination of individual and group/networked learning opportunities.

Lecturers mentioned the importance of offering up-to-date learning material (articles, videos), being adaptable to cohorts' needs and catering for different learning styles as important elements in their online pedagogy. These results are in line with published research. Jung, Choi, Lim and Leem (2002) explained that some students need more than engagement with online content, and that they feel more motivated when they are able to work in collaboration and are socially engaged with their peers. Collaborative learning serves as a means to create a group of people with common goals who are learning together by the use of cooperative efforts (Hiltz & Turoff, 2002; Dalsgaard, 2006). After presenting the key features of lecturers' online pedagogy, the next section outlines the type of eTools they apply online, within their pedagogy of choice, that foster high student engagement.

5.6.3 eTools for higher engagement

After exploring the learning theories and type of activities used online to achieve higher engagement, it was important to find out which eTools are mostly used for those activities; hence lecturers who participated on the web-based questionnaire were asked which eTools and other elements they apply to foster higher engagement among peers within the online environment. According to six lecturers (33%), the most successful eTools used for creating higher engagement online is forums, followed by wikis (five lecturers, 28%), asynchronous video sessions (three lecturers, 17%), blogs (two lecturers, 11%) and, under 'other

elements' two lecturers (11%) listed up-to-date content. Figure 5.7 provides a visual representation of the results. A brief description of the eTools mentioned by lecturers assists in explaining why they are considered best choices for higher student interaction:

Forums provide students with the opportunity to share their ideas, reply to other students' questions and comments. It is usually started by adding (posting) a theme for discussion by the online lecturer, who may choose to post comments and act as a moderator. It is not surprising that forums are the main choice for the lecturers in this research, as it is an easy-to-use tool where a discussion is started with only one posting. As it is easy to post a comment, interaction is facilitated and happens automatically. Forums allow time for reflection and opportunity for students to provide extensive contribution (Kerr et al., 2008).

Wikis are tools that are easy to access and use, where individuals are able to work in collaboration. It is set up as a web page where every contribution is recorded, and there is a log of who contributed and what time new information was added, facilitating lecturers to explore which students have contributed more than others in a specific project (Zanjani, Nykvist, & Geva, 2012).

Blogs are online journals that enable collaborative content creation and promote critical and analytical thinking (Duffy & Bruns, 2006). Students use blogs to express their opinions and views about a subject and are able to add photos, videos and links to other sites. A blog is usually updated regularly and it is an inviting tool for sharing ideas.

Asynchronous video sessions are tools for bringing the lecturer's presence into the online environment and it is an important element for auditory and visual learning styles. Brecht (2012) asserts that videos are a formal supplemental form of instruction that improve student grades and reduce failure rate, by providing students with the opportunity to watch pre-recorded lectures.

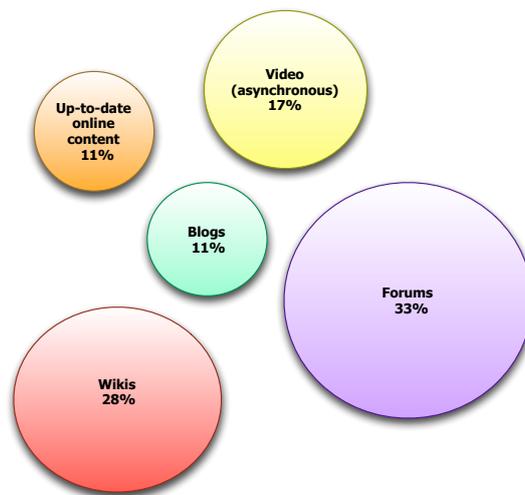


Figure 5.7: eTools and other elements for higher engagement

The choice of eTools used by lecturers in their online environments provides evidence that traditional online collaboration eTools, together with keeping the online environment up to date, can be efficient in achieving student engagement. The following section presents the types of pedagogical strategies that the lecturers, who participated in this research, apply online.

5.6.4 Pedagogical strategies for cultural inclusivity

Lecturers should adapt their teaching styles to cater for the demands of culturally diverse groups of online students, as well as the demands of the always-evolving technological tools (Howell, 2001; Jones, 2005). In order to investigate the characteristics of lecturers' chosen online pedagogy that help create a culturally inclusive online environment, they were asked:

What pedagogical strategies do you use to create a culturally inclusive online environment?

Ten lecturers (56%) stated that a combination of collaborative activities that include problem solving and real-life scenarios are the ones mainly used in their teaching, as they require students to share views within a learning environment that is already diverse. This corresponds to the answers provided for the question on motivational strategies used online, as discussed under Section 5.4.2 (Motivational strategies). The remaining 8 lecturers (44%) explained that their pedagogical strategy is based on creating an equitable environment where students share their diverse views. Some examples are outlined:

Lecturer I from Australia (teaching a postgraduate course, *Issues in Education*): *My strategy involves ensuring that an impartial online environment exists for different cultures and learning styles, minimising barriers to communication and participation.*

Lecturer II from U.S.A. (teaching a postgraduate course, *Pedagogy*):

Activities and examples need to be directly related to how other cultures deal with certain situations, related to the subject students are learning. I also like to apply case studies that reflect real life scenarios students may need to face in their future working lives. These activities contribute to the creation of a culturally inclusive online environment as well as lead to high online engagement.

Lecturer II from Norway (teaching a postgraduate course: Educational Psychology): *My main pedagogical strategy is to offer a globalised-view and promote diversity in a safe environment without criticism, but acceptance. Students are made aware of the regulations regarding their participation in online discussions and collaborative activities and assessment with other students. Discussions involving cultural differences are promoted, so students learn to develop cultural sensitivity and respect for others.*

The detailed qualitative responses from lecturers show the importance of equitable pedagogies in online learning environments. With the use of Leximancer, all statements given by the lecturers who participated in the web-based questionnaire were uploaded for the creation of a concept map. It clearly shows 'problem solving' as the main activity mentioned by lecturers in their answers, and the concept map also shows all its related entities. Hence, 'problem solving' is the strategy of choice for the lecturers who participated in this research (see Figure 5.8).

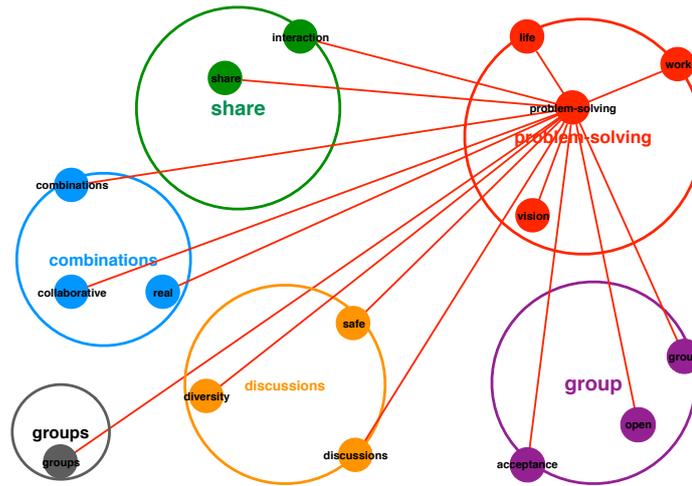


Figure 5.8: Main concept for cultural inclusivity

According to lecturers' responses, as presented earlier in this section, a way of minimising cultural barriers is by creating an inclusive environment and catering for the different learning styles. By providing problem solving activities that reflect real life scenarios, students are able to find solutions while communicating and working in collaboration with students from diverse cultural backgrounds. This allows them to develop a globalised view of the subject they are learning, while they also develop cultural sensitivity, which, according to lecturers leads to cultural inclusivity in online environments. The strategy of providing real-life scenarios and problem solving activities show that these strategies are designed to extract culturally diverse responses. After describing the strategies lecturers apply online within diverse cohorts, next section presents lecturers' views on the barriers they face when applying their chosen pedagogy online.

5.6.5 Barriers to online teaching

It is important to investigate lecturers' views on barriers they face when teaching online, if any, so ways of overcoming them can also be explored. Lecturers were presented with the following question:

Please list what you believe to be the three most significant barriers for the use of your chosen pedagogy in online courses?

According to eight lecturers (44%), two from Australia, two from Brazil, three from Canada, and one from Norway, adding multimedia resources is becoming much easier in LMSs, but systems need to be made simpler to use, not only during the design stage, but for the duration of a course, its updating and general online maintenance, as it is still too complex. Six lecturers (33%), two from U.S.A., one from Australia, one from Brazil and two from Norway said that they should have access to templates that could be easily changed and updated. Lack of training in the use of LMSs was pointed out by four out of 18 lecturers (22%) three from Spain and one from U.S.A., explaining that this leads to the frustration of having to rely on staff with expertise. Figure 5.9 graphically represents the barriers mentioned by lecturers. They explain in more detail their frustrations, as follows:

***Lecturer III from Australia** (teaching a postgraduate course, Educational Psychology): Not having total administration rights to my own courses prevents me from changing or updating certain things on the online classroom environment. I would prefer to have unlimited*

access to my own online classes so I to work on them any time I need.

Lecturer II from Norway (teaching a postgraduate course: *Educational Psychology*): *I need to rely on IT support to make changes and adjustments to my courses - It should be something that I can do it myself, considering IT staff do not have pedagogical expertise and sometimes our ideas clash.*

Lecturer III from Norway (teaching a postgraduate course: *Educational Psychology*): *I still don't understand why some areas of the LMS are so complex. My main issues are when grading students, and even worse when they are re-submitting assignments. Sometimes the system gives me errors and I require IT assistance, which is very frustrating and time consuming.*

Hence, lecturers feel that they do not have total administration of their LMSs and they also lack some of the technical knowledge to deal with some of the errors that the LMS gives. Lecturers would prefer to be able to be more independent on the LMS's use without relying on technical staff.

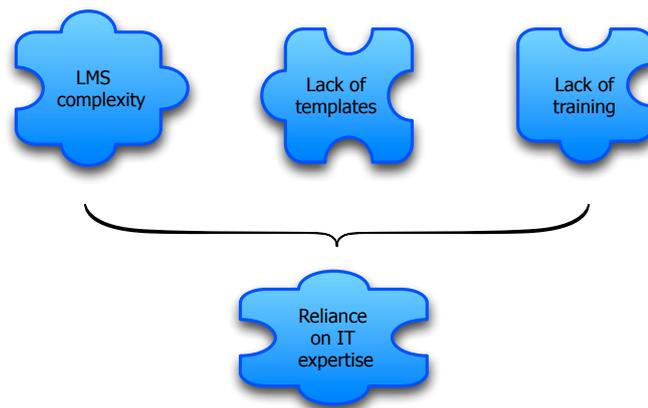


Figure 5.9: Barriers of chosen pedagogy

These results are consistent with studies by McGill, Klobas, and Renzi (2008), who emphasised that lecturers can successfully integrate technology into their teaching with the use of their pedagogical skills but are still very dependent on technical support. At times it can be due to lack of control and autonomy when it comes to LMS access, as explained in Chapter 5, Section 5.4.2 (Technical skill level). One of the major factors impacting negatively on the use of the LMS by lecturers, which is similar to the one presented in the literature, is the need for support when using LMSs (McGill, Klobas, & Renzi, 2008). The next section presents the positive aspects and successes, lecturers experience, on the application of their chosen pedagogy in their online courses.

5.6.6 Successes of chosen pedagogy

Exploring the successes of lecturers' chosen pedagogy was an important element of this research, as the main focus is in successful engagement strategies that lead to higher online student retention. Lecturers were asked the following

question:

What do you consider to be the main positive aspects, or successes, for the use of your chosen pedagogy in online courses?

Lecturers listed the following as successes of their chosen pedagogy: high retention rates (12 lecturers, 67%), good student feedback (eight lecturers, 44%), high online interaction (five lecturers, 28%) and increase in the number of enrolments for their courses (five lecturers, 28%). Please see Figure 5.10 for a visual representation of results.



Figure 5.10: Successes of chosen pedagogy

These results demonstrate that lecturers consider higher retention rates and increase in number of enrolments as good measures for the success of their online programs. However, high online interactions (Swan, 2002), and good student feedback (Couros, 2009) were already mentioned in literature as good measures of online course successes. Chapter 5, Section 5.6.7 described the high interactivity of the online classes represented in this research. Lecturers emphasised the importance of applying suitable, innovative pedagogical strategies as a way to ensure high engagement, student satisfaction and high retention rates. Next section focuses on lecturers' perceptions of the relationship between online

pedagogy and retention.

5.6.7 Online pedagogy and retention

The previous sections presented some strategies and examples of activities lecturers use to keep students engaged and, consequently, increase retention. Lecturers who participated in this research stressed the importance of knowing what works best for each cohort and make adjustments when necessary to avoid students not engaging with online content, or with other students. They also emphasised that this can only be achieved when lecturers are knowledgeable on online pedagogies. Following are the views of three of the lecturers:

Lecturer I from USA (teaching an undergraduate course: *Issues in Education*): *I always say that the only solution for online retention is to apply pedagogical strategies that are suitable for online environments. This is because many lecturers try to adapt their old ways of teaching to the online environment and it does not work this way. eLearning can be very interactive and motivating, but one needs to know how to use its capabilities and capacities.*

Lecturer II from Brazil (teaching an undergraduate course, *Education Technology*): *It is crucial to keep abreast of developments in eLearning pedagogies, so you can keep updating the way you present your material and providing new ways for students to interact with what they are learning.*

This has a great impact on student satisfaction and retention.

Lecturer III from Spain (teaching a postgraduate course, *Educational Psychology*): *In the past I did have problems to achieve good retention rates for my online classes. It was only after learning about the different and new online pedagogical strategies I could use, that I managed to start creating classes that kept engagement and retention high.*

Lecturers emphasised the importance of applying suitable, innovative pedagogical strategies as a way to ensure high engagement, student satisfaction and high retention rates. Low retention rates are caused by a lack of sound pedagogical principles applied online (Elliott, Adams, & Hayes, 2013), and this continues to be one of the main challenges faced by lecturers (Boston, Díaz, Gibson, & Ice, 2014). It is imperative that lecturers receive training on eLearning pedagogies so they are able to create effective online environments (Hughes & Bruce, 2006; Uden, 2007; Godwin-Jones, 2012).

5.6.8 Summary

This section presented Case Study 4 (Online pedagogy). It defined the learning theory applied online by the surveyed lecturers, where 61% of lecturers adopt a combination of constructivism and connectivism, 17% a connectivist approach and 22% a constructivist one. The key feature of lecturers' online pedagogy is the fact that they adopt collaborative tasks in their online environments. The eTools used for higher engagement are: forums, wikis, blogs and asynchronous video sessions.

Lecturers apply a combination of collaborative activities that include problem solving and real-life scenarios, as they require students to share views within a learning environment that is already diverse. They also explained that their pedagogical strategy is based on creating an equitable environment where students share their diverse views. The barriers of chosen pedagogy were mentioned as LMS complexity, lack of templates and lack of training. The successes of chosen pedagogy mentioned were high retention rates, good student feedback, high online interactions and more enrolments. The last section presented an overview of how lack of online pedagogical principles can have an impact on online retention.

5.7 Conclusion

This chapter presented and analysed the four questionnaire sections, which reflected the four main Case Studies that emerged from the literature review: cultural diversity, motivation, effectiveness LMSs and online pedagogy. After collecting information from 18 lecturers in six universities, located in different countries, results demonstrate the following in each of the main case studies:

Case Study 1: Cultural diversity - is present in the online courses represented in this research. Culture is an element that brings different views and perspectives presented by culturally diverse students. Lecturers allow students the choice of case studies and multiple collaborative activities, participation in social interaction (forums, blogs, chats, wikis) and access to videos and/or mini lectures to foster engagement within their diverse cohorts. According to lecturers, culture is a positive contributor to online engagement. This needs to be interpreted with caution, as they also commented on the need to create online environments that cater for the diversity of learners (be it cultural, or referring to different learning styles). Hence, cultural diversity can be a contributor if seen in a culturally inclusive online environment, where collaboration among students and sharing different views is fostered, but also mediated by lecturers.

Case Study 2: Motivation - To keep students' motivation high, lecturers make use of multimedia resources, authentic, challenging and problem solving activities and keep a constant online presence. Specific examples of activities given were: team projects, group debates, blogging, peer editing and/or review, questions and

answers (students pose questions) and portfolios (presented as group-work). These strategies have been proven successful in keeping students motivated to learn in an online environment.

Case Study 3: LMS - most lecturers make good use of their LMSs, although not having all the technical skills required for setting up or changing some aspects of the online environment. Lecturers stated that they are able to successfully use online activities to foster student engagement, even considering that not all of them received formal training. Lecturers agreed that they would like to be more independent on the use of the LMS, either by having easier systems or receiving technical training. What emerges is the need for professional training in the use of LMS, mostly in its technical application, and not only on the application of pedagogical aspects online, mainly for lecturers new to online teaching. The implications are that university policies should be considered, where an introduction of LMS training arises as necessary for its successful application.

Case Study 4: Online pedagogy - a combination of constructivism and connectivism learning theories are the main choice by lecturers of the questionnaire, followed by connectivism or constructivism only. These were stated to support good student engagement and high retention rates in online courses. Forums, wikis, blogs and asynchronous video sessions are eTools considered pedagogically successful to support engagement. Problem solving, real-life scenarios and case studies are activities chosen as part of the pedagogical strategies used to help create a culturally inclusive online environment. High retention rates, good student feedback, high online interactions and increase in the

number of enrolments are the main successes listed by the lecturers in this research.

The web-based questionnaire provided an overview of the current experience of online lecturers teaching diverse cohorts worldwide. The similarities and differences of their approach were highlighted in this chapter and comparisons made with previous studies.

All lecturers who responded to the web-based questionnaire agreed to participate in a follow-up semi-structured interview to enable them to discuss and raise issues related to the four case studies outlined in this chapter. This process is beneficial as it allows the researcher to understand the implications of issues relating to online engagement and how they could be improved. The semi-structured interview combined a pre-determined set of open questions with the opportunity for the interviewer to explore particular themes or responses further. Interview results are discussed in the next chapter.

Chapter 6. Analysis of interview results and discussion

Introduction

This research focuses on lecturers' views and experiences on successful engagement of students in online courses in six countries (Brazil, Australia, U.S.A., Canada, Norway and Spain). The previous chapter presented results and analysis of the answers provided by lecturers in the web-based questionnaire. The 18 lecturers who answered the questionnaire also participated in semi-structured interviews. This chapter presents and analyses lecturers' responses provided during the interviews in relation to the four main case studies that emerged from the literature review as causes for low retention: culture, motivation, LMS application and online pedagogies. Interviews were necessary as they allowed lecturers to explain their views and experiences in more detail. During the web-based survey they could state what they think regarding a particular question, but a semi-structured interview allowed them to provide extra information on how they come to some of the conclusions. Also, other questions could be asked for further clarification of their thoughts, when necessary in relation to the themes mentioned previously. The next section presents the analysis of the responses to the influence of culture in online course environments.

6.1 Theme 1: culture

Cultural diversity has been identified as one of the challenges lecturers need to take into account when designing and teaching online courses for culturally diverse students. Understanding the challenges of the use of eLearning can assist educators when planning and designing online courses, leading them to focus on particular program characteristics, as well as students' specific needs (Patterson & McFadden, 2009). The 18 surveyed lecturers were asked to present their views and beliefs on the use of eLearning with a focus on cultural aspects, with the opportunity to expand on what they had previously presented through their responses to the web-based questionnaire responses.

6.1.1 eLearning application in culturally diverse cohorts

As discussed in Chapter 5, the lecturers reflected the fact that the contexts they use to express their views in this research are culturally diverse. Their responses showed that the online classes they teach provide a richness of cultural differences, considering they have students from different parts of the globe. They stated that cultural differences are a contributor to student engagement and collaboration and also presented the strategies and activities they apply online to support high student engagement (Chapter 5, Section 5.2.3). During the semi-structured interviews, lecturers had the opportunity to expand their views on the use of eLearning within a culturally diverse cohort. They were asked the following question:

When is eLearning best applied in teaching culturally diverse cohorts?

According to 10 lecturers (56%), eLearning is best applied within culturally diverse cohorts when lecturers are able to create an environment where learning is enhanced by the diversity of thought, which means the diverse ideas and opinions students bring to the online classroom. A total of six lecturers (33%) stated that they believe eLearning is best applied when lecturers are knowledgeable about the application of eLearning strategies and incorporate cultural and individual learning style preferences. Two lecturers (11%) explained that eLearning is best applied when lecturers are able to foster cultural sensitivity among students. Lecturers who stated the importance of creating an environment where learning is enhanced by the diversity of thought presented some examples of how this is applied within the online environment. Lecturers' responses could add more information regarding culture in online environments, as they could explain the situations that they find beneficial when teaching diverse cohorts. Some of the lecturers explained:

Lecturer 1 from Norway (teaching an undergraduate course: *Issues in Education*): *One strategy that I like to use is to promote discussions on controversial issues, as that is when students are able to see how different everyone's perspectives are. I encourage students to express their views and respect the views of others, which leads to the development of cultural awareness, but also respect for differences.*

Lecturer 1 from Brazil (teaching an undergraduate course, *English*)

Language): I think that if you have students from different countries enrolled in your online course you need to offer a multicultural perspective of the course you are teaching so students can express their diverse opinions. For example, in my course, I provide a variety of case studies of English teachers working in China, India and Japan. Students reflect on those case studies and present different opinions as to how they would deal with those same situations. They understand that teaching English may lead them to another country where they will be required to teach while also maintaining culturally appropriate teaching material and behaviour. This is my way of allowing my classes to give students a multicultural perspective of their future careers and the implications of this.

Lecturer II from Norway (teaching an undergraduate course, Education Technology): *I created a world map where students can have their names within the countries they currently living in while studying online. I use that in my online activities when discussing the application of technology in teaching in the different countries and students need to comment according to the realities of the countries they are from. A student living in Argentina brings a total different perspective from another student from Spain. They are able to make comparisons and comments on those different realities and perspectives.*

From the lecturers' responses it can be affirmed that eLearning is best applied within culturally diverse cohorts when lecturers are able to encourage students to express their views and respect the views of others, leading to the development of cultural awareness. They also provide students with a multicultural perspective by creating opportunities for them to interact talking about their countries of origin and present their cultural perspectives.

Lecturers who participated in this research have experience teaching online and have been through challenging situations while learning what works best for their cohorts. They achieved knowledge by learning about eLearning pedagogical strategies they can apply online. As the above statements by interviewed lecturers show, by creating activities that stimulate students to share their different views and opinions, it can lead to the development of cultural awareness. Statements also show that, by offering a course with a multicultural perspective, students have opportunities to share their different realities and viewpoints. This corresponds with views of writers like Mayes (2007) and Leask (2006), who state that online programs should foster multiculturalism by adopting strategies that promote culture awareness and cross-cultural communication among peers. Respondents in this research not only foster student engagement by providing collaborative activities where students exchange ideas and opinions, but they also use that opportunity to enrich students' learning. They achieve this by leading students to share their diversity of opinions while developing cultural awareness. Another factor that contributes to the promotion of cultural awareness within online environments is the fact that Universities must prepare graduates to work and succeed in a globalised world (Rovai & Downey, 2010). A way to achieve this

is to promote opportunities for them to develop multicultural awareness and ethical values that are invaluable for responsible professionals in a multicultural society (Barr & Tagg, 1995). Some researchers even suggest that lecturers should provide students alternative choices of assessment and learning activities to cater for the diversity of students (Parrish & Linder-VanBerschoot, 2010). The results from interviews are broadly in agreement with these views.

As shown at the beginning of this section, a total of six lecturers (33%) stated that eLearning is best applied when lecturers become knowledgeable on the application of eLearning strategies and incorporate cultural and individual learning style preferences in the learning activities. Following statements further elaborate their views:

Lecturer II from U.S.A. (teaching a postgraduate course, Pedagogy):

When I started teaching online I was not familiar with the different ways I could present information and activities that worked well with my students, until I started applying different strategies to find out what works best for each individual cohort. Slowly I became familiar with the different eLearning pedagogical strategies I could apply with my students and only then I started to achieve great results with my students' performance.

Lecturer I from Canada (teaching an undergraduate course, Issues in Education): *The online environment needs to invite discussions, collaboration and overall engagement with learning material. Only by*

providing a variety of activities for the different learning styles you are able to cater for a wider number of students who will feel interested in the way you are teaching and engaging them.

Lecturer II from Australia (teaching a postgraduate course: *Issues in Education*): *You need to continuously learn new ways of presenting information online, which is related to eLearning course design. A well-designed online course caters for the diversity of learners and their different learning needs. You can incorporate activities for students to work in collaboration as well as individual activities that do not require working with others, but for that, you have to develop ways of presenting your material that is inviting and interesting. Students participate in activities when learning reflects the way they prefer to assimilate information. If they need to do what they do not enjoy, it makes it more difficult to engage them.*

Above statements correspond to the views of Brack, Samarawickrema, and Benson (2005) and Godwin-Jones (2012), that successful online teaching requires educators who are knowledgeable on the application of technology and have the ability to integrate it to their online environments by making use of their pedagogical skills. Online classes that reach high engagement demonstrate that lecturers are successfully applying strategies that cater for a culturally diverse environment where students work and learn together, while engaging with students and online content that is appealing to them. The two lecturers (11%) who explained that eLearning is best applied when lecturers are able to foster

cultural sensitivity among students, presented their views in the following terms:

Lecturer III from Brazil (teaching an undergraduate courses, *Issues in Education*): *During discussions of issues in education in different countries, I like to lead students to focus on the similarities among cultures first. Then it becomes easier to lead the discussion on differences. This leads students to understand the big picture while also appreciating the differences of issues that educators face in other countries.*

Lecturer II from Spain (teaching an undergraduate course, *Teaching English as a Second Language*): *My class presents material that is relevant to students' future careers. So I incorporate case studies where they can see themselves in the future, teaching English as a Second language in a variety of countries. They need to develop cultural sensitivity if they want to be successful teaching overseas. For example, I give them case studies, sometimes presented in videos, where they need to consider people's personal body space, facial expressions and even body language interpretation in order to take cues and never make assumptions.*

These statements contribute with more insights on cultural diversity in online classes, as lecturers are now clarifying that they foster cultural awareness by leading students to focus on similarities among cultures first, and only then discussing differences. Lecturers support the development of cultural sensitivity by providing case studies that reflect real life situations students will possibly face when working overseas, for example.

As these examples demonstrate, the students within these online classes are having the opportunity to develop a high level of cultural awareness and sensitivity that will be required for their future working lives. After analysing lecturers' views and strategies that they apply within a culturally diverse cohort, the following section presents the eLearning features present in culturally diverse cohorts.

6.1.2 eLearning features in culturally diverse cohorts

After exploring lecturers' views on eLearning within diverse cohorts, a subsequent question asked the types of features lecturers apply that they consider valuable for culturally diverse cohorts. Interviewed lecturers were asked the following question:

What features of eLearning makes it valuable for teaching culturally diverse cohorts?

A total of 10 out of 18 (56%) lecturers stated that the most valuable attribute of eLearning is the ability to provide different methods of instruction within the same online environment. Online courses should find an appropriate course model and use a curriculum design that is inclusive and addresses diverse students' needs, such as providing multiple opportunities for students to learn core concepts, and allowing them to make use of multiple modes of communication and opportunities for self-directed as well as collaborative learning, by taking into account their varied learning styles (Gaytan & McEwen, 2007). Two lecturers clarify their views

on the provision of different and flexible methods of instruction to suit the diversity in student population and their learning styles:

Lecturer I from Brazil (teaching an undergraduate course: *English Language*): *It is great to be able to set a course that provides a variety of activities for students to choose from. Some learners are more visual, and they have a range of videos on the subject they are learning. Others prefer listening to podcasts, which are also available in different languages. The online environment that I am able to create for my students is far richer than what I used to provide in my face-to-face classes and that is the beauty of teaching online.*

Lecturer II from Spain (teaching an undergraduate course, *Teaching English as a Second Language*): *Courses need to present information in a variety of ways. Lecturers need to make use of all possibilities available to them in eLearning environments. People have different ways they learn better and it is a lecturer's role to provide a flexible online environment where everyone feels comfortable and find their preferred way of learning a subject.*

These statements show that lecturers give students the opportunity to choose from a range of activities depending on their preferred learning style. Moreover, they state that the online environment is more versatile than face-to-face classes, for the variety of activities that can be made available to students.

Eight out of 18 lecturers (44%) commented that eLearning provides opportunities

for collaboration that lead students to develop a globalised view of the subject being taught. The following are further perspectives from lecturers' responses on the subject that provide additional insights on the significance of a culturally relevant eLearning environment for a global environment:

Lecturer III from Brazil (teaching an undergraduate course, *Issues in Education*): *Many of the students who graduate in Education in Brazil opt to teach overseas. Even if they remain in Brazil, they will be working within environments that require an awareness of the realities of the world out there. By making students role-play scenarios, they are able to understand how crucial it is to be knowledgeable of cultural differences and how they can work in the best professional way, demonstrating cultural respect.*

Lecturer II from Norway (teaching a postgraduate course: *Educational Psychology*): *It is essential that my students have a global perspective of what they are learning and its application, not only if they will be working in their countries of origin, but also internationally. I introduce activities where students can reflect on how they can apply Educational Psychology if teaching in Asia, for example. For that, I create collaborative activities where they can discuss this, share cultural information and find ways that they can best apply their knowledge if they were working in Asia tomorrow, for example. We are preparing future educators, we need to support them in creating a larger vision of what is possible for them.*

To support students in creating a globalised view, the lecturers provide online role-play activities reflecting real life situations students may encounter during their future working life. This allows them to develop a broader view of the world as well as cultural awareness.

This section provided two main eLearning features that the lecturers who participated in this research provided during the semi-structured interviews. The first one is the ability to provide different methods of instruction within the same online environment. Online courses that do not accommodate to a variety of learning styles and language skills make it very difficult for students to feel comfortable with them (Johari, Bentley, Tinney, & Chia, 2005). Making use of the principles established by the Universal Design for Learning (UDL), as presented in Chapter 2, Section 2.5.2, where the set of principles that are based on flexible methods of presentation, expression and engagement can further enhance such eLearning features.

The second feature was the ability to provide opportunities for collaboration that leads students to develop a globalised view of the subject being taught. These findings from interviews correspond to lecturers' responses on the importance of collaboration, during the web-based questionnaire on the key features on online pedagogy, which was presented on Chapter 5 (Case study 4: Online pedagogy). The next section presents lecturers' views on culture and its impact on online retention.

6.1.3 Culture and retention

Though a direct question was not asked on this topic, some answers provided by lecturers on the questions presented in the two previous sections, related to culture and retention. Following views from two lecturers highlight this aspect:

Lecturer II from Norway (teaching an undergraduate course: *Issues in Education*): *My online classes have a higher retention rate if compared to my on campus one. I attribute cultural diversity to this. My on campus classes have students that are local, and all students are from Norway. My online class has students from a range of different countries. I can see that students feel more inclined to present and explain their views to others, when they know that not everyone knows their realities, which they present during the online discussions and are always present in the collaborative activities and assessments.*

Lecturer III from Brazil (teaching an undergraduate courses, *Issues in Education*): *I think that culture contributes to high engagement, high student satisfaction and retention. Cultural diversity in online classes brings a multitude of colours and richness to the classroom. (...) It contributes to increase students' curiosity in learning more about a subject, which in turn leads them to continue with their courses.*

These responses show that cultural diversity and cultural perspectives can contribute to high engagement, as it leads students to increased interest in sharing

their different worldviews. These statements corroborate with the findings on the positive contribution of cultural diversity in online classroom environments, provided in the web-based questionnaire as presented in Chapter 5, Section 5.3.3 (Cultural diversity and online retention). These findings are important especially in view of the fact that reviewed literature highlighted the fact that lecturers are challenged by the diversity of online learners, and may not adapt their teaching strategies and activities to diverse cohorts (Downey, Wentling, Wentling, & Wadsworth, 2005; Mushtaha & Troyer, 2007). According to Järvelä, Volet, and Järvenoja (2010), lecturers need to take into account students' diversity and provide opportunities for them to learn using collaborative learning. Social presence is the basis of collaborative learning (Savvidou, 2013), and when it is present in online environments, attrition is minimised (Boston, Díaz, Gibson, & Ice, 2014). Findings from this research present a scenario in which lecturers stressed the importance of using cultural diversity to create a relevant learning environment, better engagement and retention, as per the responses presented in this section and also in Chapter 5, Section 5.3.3.

6.1.4 Summary

This section on culture (Case Study 1) presented the situations that demonstrate when eLearning is being best applied within diverse cohorts. It presented the results from the analysis of the semi-structured interviews.

Several useful points emerged from the analysis of responses from the interviews. It was found that it is imperative for lecturers to be able to create an environment where learning is enhanced by the diversity of thought (10 out of 18 lecturers, 56%), where they are knowledgeable on the application of eLearning strategies (six lecturers, 33%) and are able to foster cultural sensitivity among students (two lecturers, 11%). Lecturers also noted that the most valuable attributes of eLearning are the ability to provide different methods of instruction within the same online environment (10 out of 18, 56%) and the fact that eLearning provides opportunities for collaboration that lead students to develop a globalised view (eight out of 18 lecturers, 44%). The next section presents an analysis of lecturers' views and perspectives, as revealed through the semi-structured interviews on the theme of motivation and how to foster it in online classes.

6.2 Theme 2: motivation

The previous section presented lecturers' views on the main eLearning features and their application within a culturally diverse environment. The second theme explored in this research is motivation and its impact on student engagement and retention. This section explores the strategies lecturers apply to support student motivation within their online environments to increase student retention. They were asked the following question:

What strategies do you apply to support student motivation online?

Ten out of 18 lecturers (56%) reported that the main strategy they apply to foster student motivation is the use of collaborative activities that are engaging for their students. According to them, it is through engaging with other students that motivation is increased. The remaining eight lecturers (44%) stated that providing an online environment that is also suitable for independent learners are the strategy applied to cater for this type of learner style. According to the interviewed lecturers, this type of learners feel motivated to study online as they are able to complete their courses without the requirement of compulsory participation collaborative activities.

It is important to compare lecturers' answers given during the interviews with the ones they provided while answering the web-based questionnaire on types of online engagement (with content and/or with students). As described in Chapter 5, Section 5.2.3), a total of 11 out of 18 lecturers (61%) stated that engagement with content is not enough for the construction of subject knowledge and there is a need to engage with other students, while seven out of 18 lecturers (39%) had confirmed that engagement with content can be enough in the construction of knowledge. Hence, if a comparison is made between the answers provided by the lecturers during the web-based questionnaire and during the semi-structured interviews, it can be observed that the results are very similar and lecturers are only re-instating their views. The majority of them, represented by 11 out of 18 (61%) for the web-based questionnaire and 10 out of 18 lecturers (56%) for the semi-structured interviews, believe that collaborative activities are essential for high engagement and that this is what leads to higher motivation to learn in students. To investigate the topic in further detail, the two elements lecturers

stated that lead to student motivation are analysed: eLearning for higher collaboration and eLearning for independent learners. These are presented separately on the following two sections.

6.2.1 High motivation as a result of student engagement

During the semi-structured interviews, lecturers expressed their views saying that the eLearning environment they use leads to high motivation among students as a result of increased engagement. Here follows some of their answers:

Lecturer I from Norway (teaching a postgraduate course: *Educational Psychology*): *While students engage in a activity, their motivation is increased, so it is essential to provide collaborative activities that lead students to interact with each other. I will give the example of Wikis and online Portfolios, as they have proven to be effective in allowing students to work together in different types of projects that are developed within groups of 5 to 6 students. When I check the analytics for these activities I can see how many times students have contributed to the online activity and engagement is most certainly always high.*

Lecturer II from U.S.A. (teaching a postgraduate course, *Pedagogy*): *Online environments should provide a variety of activities and facilities for students to work with their peers. Motivation is increased when*

students are able to work together, share ideas and engage in discussions, be it via synchronous or non-synchronous activities.

Lecturer II from Canada (teaching an undergraduate course, Education Technology): *Collaboration is the heart of eLearning. Collaborative activities replace face-to-face interactions. eLearning features allow students to interact in a variety of ways, as they can discuss and learn together with the use of forums, chats, video, blogging, etc. These activities are becoming more similar to the interactions they have on social media, hence the fact that they increase collaboration. Learners in this generation make use of technology in their daily lives and it is part of how they share information and learn.*

As the above statements show, lecturers in this research stated that they have observed higher engagement when students are working in collaboration, and gave examples of Wikis and Portfolios. They stressed the importance of providing activities for students to work together, share ideas and engage in discussions, be it via synchronous or non-synchronous activities. Lecturers mentioned that online collaborative activities replace face-to-face interactions and gave examples of chats, blogs and forums where students engage in discussions and engagement is high. The application of collaborative activities has cognitive and motivational benefits for students (Järvelä, Volet, & Järvenoja, 2010), as they are able to acquire knowledge while interacting with others. For students who prefer to engage

with others while learning and acquiring knowledge, learning is a social act that leads them to actively engage with others (LaPointe & Reissetter, 2008). Thus, as shown in this research, these are the characteristics of the environment lecturers create and make available for their students. This type of online environment calls for a variety of collaborative activities as described in Chapter 5, Section 5.3.4. These were presented as activities that are suitable for different learning styles, which included synchronous and asynchronous activities for group-work: blogging, team projects, group debates, peer editing, peer review and portfolios (presented as group-work).

This section presented the characteristics of online environments that lead to motivation to learn in students by the provision of collaborative activities that are highly engaging. In a comparison of data from the web-based questionnaires and the semi-structured interviews, it can be confirmed that majority of lecturers who participated in this research are able to sustain good online engagement through the provision of a variety of collaborative activities that foster high motivation in students. The following section will present an analysis of the characteristics of eLearning environments that are suitable and lead to motivation to learn in independent learners.

6.2.2 Motivating independent learners

As mentioned at the beginning of Section 6.2, eight out of 18 lecturers (44%) who participated in the semi-structured interviews stated that it is essential to cater for

independent learners, who prefer activities that do not require them to engage with other students for the completion of mandatory activities and assessments. The answers lecturers presented during the web-based questionnaire are in line with answers provided on the semi-structured interviews. Lecturers in this research confirmed that eLearning environments should also present material and content in a way that is suitable for independent learners. Three lecturers present their views as follows:

Lecturer III from Canada (teaching an undergraduate course, *Issues in Education*): *I find it extremely important that students are able to learn independently. Not all students like to interact with their peers, as their learning style is a more independent one. As a lecturer, I provide a variety of different learning resources, and then it is up to students to find out more about it, and expand their vision. eLearning is the perfect environment for more autonomous learners and it is a motivation to learn for the ones who cannot attend classes on campus.*

Lecturer I from Brazil (teaching an undergraduate course: *English Language*): *Most of my students work full time and are only able to study a few hours every night. With an online environment that they can access at any time and all is available for them, it gives them the motivation to pursue a degree without the need to attend classes in the traditional way. It also allows them to complete activities on their own without compulsory participation in groups. These are independent learners who benefit from the fact that they can learn*

without having to attend formal lectures.

Lecturer II from Spain (teaching an undergraduate course, *Teaching English as a Second Language*): *What I have realised is that independent learners prefer a 'quiet' learning experience because they either have a very busy working life dealing with many people daily and/or they prefer interaction with others, online, only when using social media. One student made a comment to me that she receives so many messages on her phone and social media daily, that once she logs in to her online classes all she wants is to have a quiet time studying. These students are not anti-social types, they are just exhausted as a result of too much interaction online and via phone on a daily basis, and they know other students and lecturers can be reached in a similar way if any support is needed.*

Thus, as shown above, lecturers emphasised the importance of catering for independent learners, as some students work full time and are only able to study a few hours per day. Lecturers stated that this type of students may already be constantly engaged with social media and other forms of electronic communication, hence they prefer to study and complete activities on their own without compulsory participation in groups. Kerr et al. (2008) and Al-Shehri (2011) mentioned the benefits of eLearning for more independent learners. However, this has not been frequently highlighted in literature as a motivator to learn. The ability to provide online environments that are suitable for independent learners was presented in detail in Chapter 2, Section 2.3.1. Independent learners feel

motivated to learn when they are able to work autonomously, because they already have the qualities that lead to successful completion of their courses: persistence and strong academic goals (Holder, 2007). However, there are a few important elements that need to be considered. Students engage with online content when it is significant to them; hence the learning and assessment activities need to be inviting (Anderson, 2001). After exploring how eLearning can be applied for independent learners, the next section presents lecturers' perceptions on motivation and its impact on online retention.

6.2.3 Motivation and retention

Lecturers' responses to motivation and its effect on retention were presented in Chapter 4, Section 5.4.4, which highlighted that lecturers keep students motivated by providing a range of different activities (synchronous or asynchronous) so students can communicate amongst themselves, and by making them feel supported throughout their course by posting messages or sending group emails that have supportive messages. During the interviews, lecturers expanded on their views on how motivation impacts on online retention. Following are two of the lecturers' comments:

Lecturer II from Norway (teaching an undergraduate course, Education Technology): *When students are not motivated, there is nothing that makes them continue with their courses. You either plan your online classes and its design carefully, or you risk losing a good fraction of your students.*

Lecturer I from Canada (teaching an undergraduate course, Issues in Education): *It is essential that lecturers monitor students' online activities, for example, some students log in daily, while others log in weekly. There are some specific actions that a lecture can perform, to get the ones who log in weekly to feel the need to do this daily or every two days. It is by motivating students with new and exciting content that lecturers are able to keep motivation and retention high.*

Lecturer III from USA (teaching an undergraduate course: Issues in Education): *Motivation is the main element that keeps students interested in logging in and interacting with other students, and continuing to complete activities and assessments. When motivation is low, attrition is high. There are many strategies that can be applied, and it will depend on your pedagogical choices.*

The above stated responses highlight the importance of motivation in student retention and engagement. According to these answers presented by lecturers, it is important to carefully plan the learning environment and its design, which should have a focus on what can be applied to foster engagement. However, they explain that planning the learning environment is dependent on lecturers' pedagogical

choices. Lecturers emphasised that monitoring students online activities, can help them determine whether there is any need to create new strategies to attract students to the online class, for example by providing new and exciting material regularly, related to the subject students are learning.

Motivation is one of the main reasons behind students' decision to withdraw from their online courses (Packham, Jones, Miller, & Thomas, 2004). Lecturers in this research appear to be fully aware that they need to create strategies that keep student motivation high. The strategies they apply were described in detail in Chapter 5, Section 5.4.2 (Motivational strategies).

6.2.4 Summary

This section on motivation (Case Study 2) presented the strategies lecturers, who participated in the semi-structured interviews, apply online to foster student motivation. A total of 56% of lecturers reported that the main strategy they apply to foster student motivation is the use of collaborative activities that are engaging for them. The ability to provide an online environment that is suitable for independent learners was presented as a strategy applied by 44% of interviewed lecturers. Hence, it is essential that lecturers make use of both strategies to keep high engagement and retention, the creation of collaborative activities for group work but also a suitable learning environment for independent learners. The following section presents an analysis of lecturers' abilities on the use of LMSs and is a result of analysis of the semi-structured interviews with lecturers.

6.3 Theme 3: Learning Management Systems

The previous section presented lecturers' views on fostering motivation in online environments. The effectiveness of LMSs is the third element of focus in this research, by exploring the type of strategies lecturers apply to create higher engagement and retention within online environments. In this regard, one of the research sub-questions was:

What are the main negative aspects or problems you encountered in the use of eLearning in this subject/unit?

The answers presented during the web-based questionnaire were presented and analysed in Chapter 6, and included issues of large cohorts, technicality of LMSs and lack of training on LMS application. When presenting their answers to the above question, during the semi-structured interviews, similar issues mentioned during the web-based questionnaire re-emerged. Nine out of 18 lecturers (50%) mentioned the issue of large cohorts, while five out of 18 lecturers (28%) mentioned that LMSs are too technical. Four out of 18 lecturers (22%) commented on the issue of lack of training on the use of LMSs. The lecturers who mentioned that LMSs are too technical were from Norway and Brazil, and the ones who mentioned lack of training were all from Spain plus one from Australia. These results are in line with the lecturers' answers on the web-based questionnaire, which were presented in Chapter 5 and are discussed separately in the following sections. The issue of large cohorts is the first to be presented in the next section.

6.3.1 Large cohorts

As presented on the background information section in the literature review section, the online classes represented in this research are considered large ones, ranging from 54 to 350 online students. A total of nine out of 18 (50%) of lecturers who participated in the interviews stated that there is a need to work in collaboration with a team of lecturers to deliver their classes when cohorts are large ones, explaining that large cohorts are considered the ones having 50 or more students. Cohort in this thesis refers to the students who are attending the same subject class. Six lecturers (33%) mentioned that they have the support of assistant-lecturers who are non-permanent staff usually hired when online classes are over 50 students enrolled, which is the case of the online classes represented in this research. The only university that had not a team of lecturers working as a team for large cohorts was from Spain (three lecturers, 17%), who mentioned that they find it really challenging having to deliver classes for large cohorts by themselves, and not in a team of lecturers. However, they are allowed to have as many markers as needed to help with assessments. Cheng, Kulkarni, and Klemmer (2013) created strategies to support lecturers when teaching large cohorts, with the creation of a set of tools for predicting students' progress with their assignments. However, providing the support to the students who are not submitting assignments or not engaging online is where it becomes difficult and that is what the lecturers in this research mentioned as the main problem they have to deal with.

Lecturers who participated in the interviews confirmed that the number of students they teach online can be up to three to four times higher if compared to the same subject taught face-to-face. Lecturers explained that there has not been much consideration, on the part of university administrators, for lecturers who are now in charge of online classrooms. They clarified that teaching online is more time consuming, as apart from the time taken to create and deliver online classes, they need to have a constant online presence. The following are some of the views presented by lecturers:

***Lecturer II from Spain** (teaching an undergraduate course, Teaching English as a Second Language): My online classes can reach up to 300 students and it becomes impossible to reach every single one of them. It is also difficult to be able to reply or post on online forums that sometimes have questions related to the subject students are learning. There is a need for a small team to work together and share different lecturing tasks, otherwise it becomes difficult to maintain the provision of high quality education.*

***Lecturer I from Brazil** (teaching an undergraduate course: English Language): For me the main issue is to be able to follow the performance of individual students. I can make use of the analytics provided by the LMS but that does not mean that I am able to reach all students who are not logging in or not participating in activities. I cannot teach an online class that has more than 50 students, as it becomes impractical for one single lecturer.*

Lecturer III from Norway (teaching a postgraduate course: *Educational Psychology*): *If we can work as a team, it not only helps with the workload, but students also feel that they have more constant contact and feedback from lecturers, as students can become quite critical if they know that there is only one lecturer for a large group of students, which is what happened when I started teaching online years ago (...) This has now changed and I do work with a team of lecturers now, but it is important that I register here the importance of having an online team working together and I believe it is paramount for the success of online classes and in increasing retention.*

Lecturer II from USA (teaching a postgraduate course, *Pedagogy*): *In our university we had lecturers facing very low retention rates in their online classes in the past. There was one cohort that started with 236 students, and only 24 completed the course successfully. This created a lot of tension for the two lecturers involved. After many discussions with your respective departments, the decision was to have three lecturers per cohort with 50 students and over. Teaching in collaboration has been the best solution and it has worked really well when dealing with large cohorts.*

According to the lecturers who participated in this research, it becomes difficult, if not impossible, to reach every single student within a large cohort, reply to messages and check online engagement, if a team of lecturers per cohort is not available. Following students' performance and engagement can be done with the

use of the LMS's analytic systems, however, only with a team of lecturers working in collaboration, timely support can be provided to students. Lecturers suggest a team of lecturers so to be able to provide constant contact and feedback to students. Teaching in collaboration was stated to be the best solution for the issue of lecturers' online presence and the provision of constant support to students when dealing with large cohorts.

The issue of teaching a large number of students online has recently gained a lot of attention by researchers. However, recent studies have a stronger focus on MOOC environments, and not courses that are officially part of a degree program. However, the advice given to MOOC lecturers can be beneficial. As explained by Krause and Lowe (2014), MOOCs reach thousands of students worldwide and there are implications and important considerations when teaching on a large scale, such as finding new ways for lecturers to work in collaboration, while observing the different ways students learn in online environments and adjusting their online teaching strategies accordingly. After exploring the issue of large cohorts, the next section presents lecturers' views on the technicality of LMSs.

6.3.2 Technicality of LMSs

During the web-based survey, results demonstrated that 15 lecturers (83%) were at an intermediate level, with two (11%) stating that they were at an advanced level and only one (6%) considering him/herself an expert on the use of the LMS. None stated to be at beginner level. During the interviews, and as presented at the

beginning of Section 6.3, five out of 18 lecturers (28%) mentioned that LMSs are too technical. Lecturers who participated in this research had already presented their frustrations, while answering the questionnaire questions in regard to the technicality of LMS. This was presented in Chapter 5, Section 5.4.2. During the interviews, the lecturers shared some more in-depth comments on this issue.

The difficulties in adapting teaching content into tailored activities were brought up by lecturers. They mentioned that they would prefer a platform that is easy for them to set up and adapt their activities, without having to rely on technical staff. According to these lecturers, online education is a long way from becoming user-friendly. Following are some of the lecturers' comments in this respect:

Lecturer III from Brazil (teaching an undergraduate course, *Issues in Education*): *It is so frustrating. It's like you and the technical staff do not speak the same language and they normally do not understand why I want an activity a certain way, may it be the way the quizzes are graded, or why I want the page to be shown a different way for the different cohorts. I cannot explain my pedagogy to them, and they treat me like I am the one who doesn't know how things work. It is frustrating for both sides.*

Lecturer III from Spain (teaching a postgraduate course, *Educational Psychology*): *I have developed a real pleasure from teaching online. It has changed my daily routine and it is never boring. However, every time one of our courses becomes available online, there is a variety of*

technical issues that come up that can only be fixed with the support of specialised staff and it takes double the time for things to start flowing as they should.

Lecturer II from Norway *teaching an undergraduate course: Issues in Education): I feel that I need training on the technical side of the LMS I use, as I constantly have glitches in my online grading system and I do not know what to do about them. This happens as I have never received any training of the technical side of things and it may be a result of something that I do that is continuously creating that problem.*

Lecturers expressed their frustrations when they need to explain to technical staff their pedagogical views and why they prefer an activity designed a certain way. They still believe the LMS gives errors that create problems for their work to flow some days, as they require technical assistance. Lecturers suggested that they receive technical training to deal with minor problems instead of having to rely to outside assistance when working with LMSs. According to researchers, most lecturers have not received training in the design and pedagogical use of a LMSs capacity, which can have an impact on its successful application (McGill, Klobas, & Renzi, 2008). Lecturers should receive training to be able to integrate technology using their pedagogical skills (Hashim, Kayode, & Hassan, 2015; Christie & Jurado, 2009). Although lecturers in this research have, many times, expressed their positive views for the future of eLearning, they state that the platforms they use are far from making it easier for them to create online environments, as the LMSs do not always allow them to tailor the activities without

relying on specialised technical support. When asked to describe and clarify the main LMS technical issues lecturers find challenging, the following list emerges as the most frequent ones:

- Quizzes are manually graded, at times, due to the LMS platform not grading them automatically;
- Different types of error messages every time their online portal is updated by IT staff;
- Failure to successfully record online sessions, although the system gives the message 'recording started'; and
- Inability to update some of the content after it has been uploaded.

The above explanations were given after the lecturers mentioned, as an answer to the question posed on Section 6.3, to clarify why they mentioned the LMS was too technical (five out of 18 lecturers, 28%). This has implications for policies on professional development for lecturers. If eLearning becomes part of a lecturer's role, universities need to continuously provide training on its application or have educational developers assist them. The issue of lack of training is further explored in the next section.

6.3.3 Lack of training

During the web-based survey, nine out of 18 lecturers (50%) had mentioned that they receive technical support on the use of the LMS. This was presented in Chapter 5, Section 5.5.3. During the interviews, a total of four out of 18 lecturers

(22%) commented on the issue of lack of LMS training as an answer to the question posed on Section 6.3 regarding problems lecturers face on the use of eLearning. This section provides further information and analyses the responses provided by the interviewed lecturers. According to past research, lecturers do not always tailor courses according to students' needs because of lack of training on how to transition their traditional ways of teaching to online environments (Hughes & Bruce, 2006; Uden, 2007; Godwin-Jones, 2012). This results in low online retention, which continues to be one of the main challenges faced by lecturers worldwide (Boston, Díaz, Gibson, & Ice, 2014).

The issue of lack of training was previously mentioned by lecturers, while answering the web-based questionnaire, presented in Chapter 5, Section 5.4.3. Analysis of the questionnaire answers revealed that most lecturers rely on technical support. Hence, it is not surprising that, during the semi-structured interviews, lack of training was once again mentioned as one of the LMSs challenges lecturers face. Following are some of the lecturers' perceptions in this regard:

Lecturer 1 from U.S.A. (teaching an undergraduate course: *Issues in Education*): *I used to teach my subject on campus. Two years ago most of our courses that are theory based started to be available online. As lecturers, we had to adapt our courses to an eLearning environment. I honestly found it a very frustrating experience, considering most of my classroom activities relied on students working actively in groups in a face-to-face environment. It took me a good while to become more creative in*

designing engaging online activities.

Lecturer III from Spain (teaching a postgraduate course, *Educational Psychology*): *If I had received training on the use of LMSs I would feel more independent in creating my own classes. Although I am learning from my own experience of teaching online, there are some pedagogical aspects that I think would be useful for me to learn, in regards to their application in my online classes.*

Lecturer I from Norway (teaching a postgraduate course: *Educational Psychology*): I do not feel that I have sufficient training in the use of LMSs. Although I have learned a lot in recent years, and my course is considered a success for its high retention rates, I feel the need for formal training and think it should be made available to all lecturers. This type of training should be frequent, considering that technology also evolves very quickly.

During the semi-structured interviews, lecturers describe their challenges with the lack of technical training in the use of LMSs. This reinforces that this is a real challenge for them, considering it was already presented as one of the issues when they answered the web-based questionnaire. When lecturers start to teach online, they use what is more familiar to them, such as uploading presentations, providing course materials and creating web links, but there is a need for lecturers to go beyond the basics when creating engaging online courses, and they need to learn to make use of a variety of options available to them (Godwin-Jones, 2012). It is evident, from the lecturers' answers, that training should go beyond the

technical side of LMSs, but should also include updated information on pedagogical principles. This is in line with Douglas and Cormier (2010) advice that there is a need to provide trainers with knowledge on effective online pedagogies. Lecturers' answers on how LMS impacts online retention is presented in Section 6.4. Lecturers' views on the use of LMSs and their impact on retention are presented in the following section.

6.3.4 LMS and retention

The previous sections presented barriers and challenges that lecturers face in the use of LMS. Their views on LMS and retention, as reported below, reflect the link between having an efficient LMS and student retention, plus the need for LMS technical training in order to prevent attrition. This was also highlighted in the web-based questionnaire answers (Chapter 5, Section 5.5.5). It also emerged, from the interviews, that training should include pedagogical aspects to ensure lecturers are continuously upgrading their knowledge on innovative eLearning pedagogical principles that ensure successful online classes and high student retention. Two of the lecturers clarified:

Lecturer 1 from Canada (teaching an undergraduate course, *Issues in Education*): *Without proper training on the use of the LMS, it becomes really difficult to be creative with what you can develop, as online activities and content presentation. There are many elements that contribute to online attrition. Not knowing how to make good use of the LMS is one of them.*

***Lecturer II from Spain** (teaching an undergraduate course, Teaching English as a Second Language): The LMS is your main tool teaching online. If you are not knowledgeable on its use, the course will not offer lots of flexibility to students and it will also lack easy navigation. This can lead to student attrition, as students need content and visual material that is appealing to them and invite them to participate and learn.*

From the above responses, it can be seen that being knowledgeable on the use of LMS can contribute to student retention, as the LMS is the main tool lecturers use to teach online. While there are different pedagogical approaches that can be applied with the use of an LMS, lecturers need to learn how to apply sound pedagogical principles for its effective use (Godwin-Jones, 2012; McGill, Klobas, & Renzi, 2008; Steel, 2009) and to achieve successful online courses and high retention rates. The pedagogical principles lecturers apply are presented in the next section (6.4).

6.3.5 Summary

This section on LMS (Case Study 3) presented lectures' views on problems they face in the use of eLearning to deliver their subject class. A total of nine out of 18 (50%) of lecturers who participated in the interviews stated that they require a team of lecturers to deliver their classes when cohorts are large ones, explaining that large cohorts are considered the ones having 50 or more students. Six lecturers (33%) mentioned that they have the support of assistant-lecturers who

are non-permanent staff usually hired when online classes are over 50 students enrolled, which is the case of the online classes represented in this research. The only university that did not have a team of lecturers working as a team for large cohorts was from Spain (three lecturers, 17%), who mentioned that they find it really challenging having to deliver classes for large cohorts by themselves, and not in a team of lecturers. However, these lecturers receive the assistance of as many markers as needed to help with assessments. Lecturers who participated in the interviews confirmed that the number of students they teach online can be up to three to four times higher if compared to the same subject taught face-to-face. They explained that there has not been much consideration, on the part of university administrators, for lecturers who are now in charge of online classrooms. According to lecturers, it is difficult to maintain contact with students individually when cohorts are large ones. Having a team of lecturers in charge of teaching and assessing a large cohort was suggested as the best option for large student cohorts.

On the use of LMSs, five out of 18 lecturers (28%) mentioned that LMSs are too technical. Lecturers suggested an LMS platform that is easy for them to set up and adapt their activities, without having to rely on technical staff. They also mentioned technical issues that the LMS gives that also require technical assistance, such as: quizzes that give errors and end up needing to be manually graded; error messages every time their online portal is updated; failure to successfully record online sessions; inability to update some of the content after it has been uploaded.

During the interviews, a total of four out of 18 lecturers (22%) commented on the issue of lack of LMS training, which had already been presented as a challenge during the web-based survey. When lecturers start to teach online, they use what is more familiar to them, such as uploading presentations, providing course materials and creating web links, but there is a need for lecturers to go beyond the basics when creating engaging online courses, and they need to learn to make use of the variety of options available to them. Being knowledgeable on the use of LMS can contribute to student retention, as the LMS is the main tool lecturers use to teach online. Therefore, it is imperative that lecturers learn how to apply sound pedagogical principles for its effective use and to achieve high retention rates.

6.4 Theme 4: online pedagogy

Online pedagogy is the fourth Case Study explored in this research. During the web-based questionnaire, responses for the pedagogical questions highlighted the learning theories lecturers apply online, the main eTools used for higher engagement, issues of cultural inclusivity and the successes of lecturers' chosen pedagogy. During the semi-structured interviews lecturers were able to expand on their views on the importance of online pedagogical strategies in response to the following question:

What additional advice/recommendations, if any, do you have for other lecturers contemplating the use of eLearning for their courses?

A total of 10 out of 18 lecturers (56%) participants recommended lecturers teaching online to continuously improve their pedagogical skills by participating in as many professional development courses in eLearning as possible and working in collaboration with more experienced staff in eLearning delivery. Adopting new eLearning pedagogical strategies was the suggestion of 8 out of 18 lecturers (44%). These two elements are presented in further detail in the next two sections. The first one to be explored is eLearning training.

6.4.1 eLearning training

As mentioned previously, during the semi-structured interviews, a total of 10 out of 18 lecturers (56%) recommended participation in eLearning professional development and working in collaboration with more experienced staff for successful online classes delivery. Technology by itself does not promote online engagement or quality learning experiences, but it needs to be grounded in sound pedagogical principles for it to be successful (Douglas & Cormier, 2010). Reflecting this, views of three lecturers are given below:

***Lecturer III from Brazil** (teaching an undergraduate course, Issues in Education): I continuously participate in all types of eLearning courses that become available, and most of them are online, which makes it easier for a busy lecturer like me. My advice to other lecturers is to discuss ideas with other faculty staff, share experiences of what is working and what has been challenging in your online classes.*

Lecturer I from Norway (teaching a postgraduate course: *Educational Psychology*): *My recommendation for lecturers who are starting to teach online and do not have any formal training is to take charge! The best way is to create a network of lecturers who are able to share experiences and strategies that they have already applied within their online environments. Every cohort will have different requirements and courses are different too, so you need to be open to new pedagogical approaches and see what works best for your students.*

Lecturer II from Australia (teaching a postgraduate course: *Issues in Education*): *Some lecturers prefer the support of a more experience lecturer who has many years using eLearning, with whom some collaborative teaching can be a good learning experience. This is one of the strategies we apply in our university and it has worked well for new lecturers or the ones who are teaching online for the first time.*

Lecturers' recommendations include the participation in formal and informal training, working in collaboration with lecturers who are experienced in online teaching and also sharing online teaching experiences and ideas with other lecturers. These findings add important information to the web-based survey, as they explain how the participants continuously update their eLearning skills, keeping them abreast of eLearning developments and also contributing to the achievement of high student engagement and retention. The following section presents lecturers' advice on the use of new eLearning pedagogical strategies.

6.4.2 eLearning pedagogical strategies

The second element suggested by respondents, as a response to the interview question on eLearning recommendation, was for lecturers to apply online teaching pedagogies that are sound and effective (8 out of 18 lecturers, 44%). They emphasised the need to prepare online environments that cater for the different learning styles and diversity of learners, while also taking into consideration that our digital age brings important elements that reflect the use of technology made by learners. Their reasons for suggesting the adoption of new eLearning pedagogies are illustrate in the following answers:

***Lecturer II from Brazil** (teaching an undergraduate course: English Language): When I was at university my professors used blackboard and chalk to teach. We had to spend hours on the library searching for information and had to photocopy pages we needed to use in our research. Today our students have an online university and a global library with infinite resources at their reach on their computer screen, and with the use of the Internet. Information is easily accessible and it has changed the way we learn, exchange information and also teach. I cannot go back to my old ways of teaching but need to re-structure my pedagogy under very ample and innovative principles.*

***Lecturer II from Australia** (teaching a postgraduate course: Issues in Education): Regardless of how much formal training you had in*

eLearning and its pedagogies, in the past few years, new developments and new ideas have already emerged in eLearning pedagogies. As LMSs evolve, so do online pedagogies, as they both go together. It is very important to also consider that our learners adapt to new technology as well, as it is part of how they interact with everyone around them and [the LMS] is not a specific learning tool; it is a tool used to communicate with others, socialise, interact, have fun and also learn.

Lecturer II from Spain (teaching an undergraduate course, *Issues in Education*): *I have recently attended an international eLearning conference and it was a very enriching experience. I came back totally renewed in my views of eLearning pedagogical principles and learned many innovative applications of it that other international universities are using. We are having a meeting this week with faculty staff where I will be able to share some of those new developments.*

Lecturers explained that the eLearning environment is far from the old days of teaching without the use of computers. They suggested online lecturers learn about eLearning pedagogical strategies and how to make it interesting and engaging to students to keep high student retention. They also mentioned the importance of sharing new innovative ideas with other lecturers, considering there are always new pedagogical strategies being applied online that are successful.

The emphasis lecturers give to the use of sound, effective and innovative

pedagogical strategies is important, as it demonstrates that they are able to keep their eLearning environments continuously updated with new online teaching strategies, which are essential for a successful online classroom environment. It is similar to their previous advice (Section 6.4.2) on eLearning training, as it is through training, in the way suggested by them, that lecturers are able to learn sound pedagogical strategies that are applied online.

The views expressed by the lecturers in the semi-structured interviews are consistent with Tyler-Smith (2006) and Levy (2007), who stressed the importance of a sound pedagogical design in eLearning courses. For eLearning to be successfully implemented, it needs to be rooted in strong pedagogical foundations (Govindasamy, 2001). With the new developments in eLearning in recent years, lecturers have had to adapt quickly in the higher education sector, with the creation of new pedagogical principles that are more suited to eLearning environments. As a consequence, new pedagogical strategies have emerged. Teaching in a digital world has, inevitably, made lecturers more creative in the ways that they engage their students within the online environment.

For the lecturers who participated in this research, there is a need to continuously rethink how they can benefit from technology and its application into teaching in the higher education sector. New eLearning developments have created the need for constant training in the use of teaching technologies, which brings implications for universities' policies, in the provision of staff training. It also brings implications for teaching practice, as lecturers need to acquire new knowledge, learn and/or modify their pedagogical practice in a way that leads to increased student

retention. The transition from face-to-face to online may be challenging, but, according to lecturers in this research, a beneficial one, as explained by one lecturer:

Lecturer III from Spain (teaching a postgraduate course, Educational Psychology): *I used to have [teaching material] in different places and it was never consistent, apart from the difficulties I had to update them. After one year teaching online, I was asked to replace a fellow lecturer for a few months, on the same subject I was teaching online. I felt really old-fashioned and my classes were not really interesting. I suddenly realised that I did not have the time to show students all that I wanted to, so I ended up creating an online page with all the interesting things I wanted on campus students to have access to. I am now passionate about eLearning and hope to increase my knowledge in instructional technologies.*

Lecturers interviewed for this research stressed that using eLearning can be a pleasurable experience, but setting up online courses cannot warrant success if lecturers do not master eLearning pedagogical principles. There are fundamental issues that need to be considered, as explained by another lecturer:

Lecturer III from Australia (teaching an undergraduate course, Pedagogy): *Lecturers teaching online are making use of innovative ways of teaching and learning, and we need to look into a future that will bring even more challenges and transformations, as technology will not stop evolving. We need to detach ourselves from our old paradigms and*

our old-fashioned ways of teaching and embrace innovative ones with the use of eLearning.

Lecturers stated that keeping abreast of eLearning developments is essential for the success of online classes. Over a decade ago, Govindasamy (2001) discussed the importance of carefully considering the underlying pedagogies of online teaching, considering that if they are overlooked, it may compromise the success of online courses. The importance of adopting sound pedagogical instructional designs in eLearning was also discussed by Tyler-Smith (2006) and Levy (2007). It can be observed that the interview participants' answers correspond to the views expressed by Govindasamy, Tyler-Smith and Levy. Next section presents lecturers' views on online pedagogy and retention.

6.4.3 Online pedagogy and retention

The previous sections presented the importance of eLearning training and outlined pedagogical principles that can be applied online. In their responses, interviewed lecturers emphasised the impact that good and well-thought pedagogical strategies have in keeping student retention high. Given below are the views expressed by two of the lecturers on this topic:

Lecturer 1 from Brazil (teaching an undergraduate course: English Language): *The way we teach in face-to-face classes is very far from the realities of teaching online. You are required to plan your pedagogical*

strategy carefully, as the way you present your material and the way students interact are actually very different. I think that the online environment can provide a larger variety of learning and assessment activities, but without understanding online pedagogical principles, it becomes a real challenge and online retention can be really low. I've been in this situation during my first two years teaching online. Experience and formal training helps greatly.

Lecturer 1 from Australia (teaching a postgraduate course, Educational Psychology): *Making use of eLearning requires knowledge of its pedagogical principles. The same way lecturers learn proper strategies to engage students in face-to-face environments, to keep student retention high, they are required to learn different pedagogical models and frameworks that can be applied to online learning and teaching practices. This is the only way to achieve good student satisfaction with their courses and, consequently, low attrition rates.*

According to these views, teaching online is very far from the realities of teaching face-to-face classes. Lecturers provide a positive view, where online classes can provide a variety of learning and assessment activities. However, they explained the importance of developing good knowledge of eLearning pedagogical principles to keep courses successful and student retention high. Effective eLearning pedagogy is an essential element for the provision of high-quality online courses (Davies & Barak, 2013). This endorses the fact that online classes that have a sound pedagogical approach achieve high online retention, as explained by the lecturers from Brazil and Australia. These findings are a confirmation that, the

strategies applied by lecturers, as described in Sections 6.4.2 and 6.4.3 are essential for the achievement of high student retention. They also confirm the statements presented, during the web-based survey, that the pedagogical strategies applied lead to high student retention.

6.4.4 Summary

This section on online pedagogy (Case Study 4) presented the analysis of responses on pedagogy provided by lecturers during the semi-structured interviews. A total of 10 out of 18 lecturers (56%) participants recommended lecturers teaching online to continuously improve their pedagogical skills by participating in as many professional development courses in eLearning as possible and working in collaboration with more experienced staff in eLearning delivery. Adopting new eLearning pedagogical strategies was the suggestion of 8 out of 18 lecturers (44%).

Participants highlighted the importance for lecturers to continuously update their skills through working in collaboration with others, becoming members of eLearning associations and keeping abreast of online pedagogical developments. They also emphasised the need to continuously review the application of eLearning in the higher education sector.

Online courses cannot be successful if lecturers do not master eLearning pedagogical principles. New eLearning developments have created the need for constant training on the use of teaching technologies, which brings implications to

universities' policies, in the provision of staff training. It also brings implications for teaching practice, as lecturers need to learn and/or modify their pedagogical practice in a way that leads to increased student retention.

6.5 Conclusion

This chapter presented the results of analysis of lecturers' responses provided during the interviews through the same four Case Studies that emerged from the literature review as causes for low retention: culture, motivation, LMS application and online pedagogies. The section on culture (Theme 1) presented the situations that demonstrate when eLearning is best applied within diverse cohorts. It is imperative for lecturers to be able to create an environment where learning is enhanced by the diversity of thought (10 out of 18 lecturers, 56%), where they are informed on the application of eLearning strategies to integrate cultural and individual learning style preferences (six lecturers, 33%) and are able to foster cultural sensitivity among students (two lecturers, 11%). Lecturers also noted that the most valuable attributes of eLearning are the ability to provide different methods of instruction within the same online environment (10 out of 18, 56%) and the fact that eLearning provides opportunities for collaboration that lead students to develop a globalised view (eight out of 18 lecturers, 44%).

The section on motivation (Theme 2) presented the strategies lecturers apply online to foster student motivation. A total of 56% of lecturers reported that the main strategy they apply to foster student motivation is the use of collaborative activities that are engaging for them. The ability to provide an online environment

that is suitable for independent learners was presented as a strategy applied by 44% of interviewed lecturers. Therefore, it is crucial that lecturers make use of both strategies to keep high engagement and retention, the creation of collaborative activities for group work but also a suitable learning environment for independent learners.

The section on LMS (Theme 3) presented lecturers' views on problems they face in the use of eLearning to deliver their subject class. A total of nine out of 18 (50%) of lecturers who participated in the interviews stated that they require a team of lecturers to deliver their classes when cohorts are large ones, explaining that large cohorts are considered the ones having 50 or more students. Six lecturers (33%) mentioned that they have the support of assistant-lecturers who are non-permanent staff usually hired when online classes are over 50 students enrolled. The lecturers from Spain (three lecturers, 17%) are the only ones teaching large cohorts without any support in the delivery of classes, but only for the marking of assessments. Interviewed lecturers stated that it is challenging to maintain contact with students individually when cohorts are large ones and suggest a team of lecturers when teaching and assessing large cohorts. On the technicality of LMSs, five out of 18 lecturers (28%) mentioned that LMSs are too technical and suggested LMS platforms that are easy for them to set up and adapt their activities from, without having to rely on technical staff. They also mentioned that LMSs constantly require technical assistance. During the interviews, a total of four out of 18 lecturers (22%) commented on the issue of lack of LMS training and said that it should be made available for all online lecturers.

This section on online pedagogy (Theme 4) presented the analysis of responses

on pedagogy provided by lecturers during the semi-structured interviews. A total of 10 out of 18 lecturers (56%) participants recommended lecturers teaching online to continuously improve their pedagogical skills by participating in as many professional development courses in eLearning as possible and working in collaboration with more experienced staff in eLearning delivery. Adopting new eLearning pedagogical strategies was the suggestion of 8 out of 18 lecturers (44%). Participants emphasised the need to continuously review the application of eLearning in the higher education sector, considering that new eLearning developments have created the need for constant training on the use of teaching technologies.

These interview findings bring in depth information to the answers provided during the web-based survey. During the interviews participants had the opportunity to be more detailed on their answers and provide a variety of examples, as presented in this chapter. The findings expand and clarify strategies and challenges faced by the lecturers that were only mentioned during the web-based survey. These findings also present suggestions of successful approaches applied by participants that lead to high student engagement and retention. The next chapter outlines major findings in this research by comparing data resulting from both data collection methods, web-based questionnaires and interviews through the four case studies.

Chapter 7. Synthesis of research findings

7.1 Introduction

The advancements in technology, with easier accessibility to information provided by the Internet, has led to a development of a global knowledge. Universities are now able to enrol students from any geographical location, and the only requirements are Internet access for students and their fluency in the language that courses are being delivered. The increased availability of online courses has expanded opportunities for students to complete degrees from the comfort of their homes without having to attend on campus classes. This has opened a range of opportunities for people who live far from university campuses or who work full time, for example, in which time constraints would not allow them to attend classes during the day or afternoon. The growth of eLearning meant that flexible education programs started to become globally available and with it, there appears to be an increasing expectation, from students, that universities expand their offerings of online courses. On the other hand, there has been increased competition among universities worldwide as they attempt to reach a larger number of learners (Rovai & Downey, 2010). This chapter combines the responses provided by lecturers during the two phases of data collection so major features can be identified and described in the four Case Studies that were applied as basis for this research: culture, motivation, effectiveness of LMSs and online pedagogy.

7.2 Theme 1: culture

Online classes have become increasingly diverse. Diversity is mostly described, by the surveyed lecturers in this research, as students from different cultural and/or linguistic backgrounds. Past research had highlighted lack of cultural inclusivity in online courses (Leppisaari, Herrington, Vainio, & Im, 2011; Oubenaïssa-Giardina & Bhattacharya, 2007; Parrish & Linder-VanBerschot, 2010; Mushtaha & Troyer, 2007). However, results from this research present a different reality. Lecturers emphasised that cultural diversity is an important element in their online classes, leading to increased student engagement. They explain and exemplify how this is achieved. The following two sections present the cultural aspects and awareness that are present in eLearning environments, according to lecturers' views.

7.2.1 Cultural diversity in eLearning

As outlined and discussed in Chapter 6, lecturers' responses reflected the fact that their online environments are culturally diverse, and they confirmed that their classes provide a richness of cultural differences, considering they have students from different parts of the globe constantly working in collaboration. Lecturers stated that cultural differences are a contributor and not a hindrance to student engagement. The views expressed by the lecturers are very similar if a comparison is made between universities and countries. It was surprising that they all affirm that cultural diversity is a quality that is expected of online courses that

are open to international students. Moreover, they are able to design courses that are culturally inclusive by providing a variety of collaborative learning activities where students can exchange their diversity of thoughts and perspectives.

A finding of this research is that there are many similarities between lecturers' views, and it was one of the most unexpected findings. This could be explained by the fact that these courses are developed in the English language, bringing with them learning traditions of Western knowledge. In online degree courses delivered in the English language, it is expected that students are learning and writing assignments in English; learning material and general referencing are books and articles published in the English language. The vast majority of the material available in online classes that are open to students worldwide, including videos, links and video lecturers, come from Western academic systems. Thus it appears that, as Altbach (2014) states, students are not concerned about receiving training that reflects Western knowledge. The results from the research reflected the fact that courses are delivered in the English language, and they all present great similarities in the way teaching and learning happen. For comparative purposes, it could be useful if research were undertaken comparing an online course offered to domestic students only, where the language of instruction is not English, to one that delivers the program in English to students worldwide to see what differences in lecturers' perspectives emerge. The next section presents the importance of cultural awareness and how to achieve its development within eLearning environments.

7.2.2 Cultural awareness in eLearning

The strategies lecturers who participated in this research apply to engage their students becomes an essential part in understanding how they are able to keep their culturally diverse students engaged without issues of lack of collaboration. According to the lecturers who participated in this research, engagement of culturally diverse students within the online environment happens when:

- a) the lecturer is knowledgeable on the application of eLearning strategies;
- b) the online environment offers learning opportunities for different learning styles;
- c) a range of collaborative activities are provided to enable students to exchange ideas and opinions.

Lecturers emphasised that diversity should be used to enrich the overall learning experience of students. For this, it is essential that students are encouraged to share their different ideas and opinions with other students at the same time that they learn to respect different views and develop cultural awareness and sensitivity. These results correspond with past research on the promotion of multiculturalism by adopting strategies that promote culture awareness and cross-cultural communication among peers (Mayes, 2007; Leask, 2006).

Some students in our globalised world may look for degrees that expand their knowledge, skills and opportunities and allow them to work in other countries. Having a degree from an international university facilitates this process and

increases the probability of their degree being recognised outside their country of origin. Universities must prepare graduates to work and succeed in a globalised world (Rovai & Downey, 2010). Considering their eLearning environments, these students are gaining the opportunity to develop a high level of cultural awareness that will be required for their future working lives. The next section focuses on the types of activities that were presented as the main ones applied for increased online engagement.

7.2.3 Activities for increased engagement

Strategies lecturers adopt in their online environments were explored through the web-based questionnaire and semi-structured interviews. This research focused on online engagement activities applied by lecturers to increase retention within a culturally diverse cohort. It was found that four main activities are applied by lecturers to keep high engagement among culturally diverse students: collaborative activities, social interaction, videos and mini lectures (given as learning activities). Case studies are mentioned as main collaborative activity applied. These activities were described in detail in Chapter 5, section 5.3.4 (Engagement activities).

Providing different activities for high engagement within a diverse cohort has been suggested in past research. For example, Leask and Yarnie (2006), Morse (2003) and Rogers, Graham, and Mayes (2007), proposed that online programs should provide a variety of collaborative strategies as they promote culture awareness

and cross-cultural communication among peers. Lecturers in this research explained that one of the most valuable attributes of eLearning is the ability to provide different methods of instruction within the same online environment. They also stressed that by allowing students from different cultural backgrounds to work and learn together, eLearning makes it easier for lecturers to provide a globalised view of the subject being taught and supports the development of cultural awareness in students, as a result of their online interactions. The next section provides findings on the connection between cultural diversity and online retention.

7.2.4 Culture and retention

During both phases of data collection, lecturers emphasised that cultural diversity can be used to increase students' engagement, which leads to their increased interest to learn and complete their courses. The web-based questionnaire presented lecturers' views on cultural diversity (Chapter 5), and highlighted their perspectives on diverse cohorts and online retention, as well as engagement activities that are successfully applied online to keep diverse students engaged and working in collaboration. Lecturers' answers were similar from the interviews. Their perspectives were outlined in Chapter 6, where they presented eLearning application and features in culturally diverse cohorts and their views on culture and retention.

According to lecturers responses, cultural diversity is a significant element that leads to high student retention when proper pedagogical approaches are applied within the online environment. They stressed the importance of catering for the

different learning styles that are reflected by the diversity of learners. However, this is different from views from the literature review indicating that online lecturers sometimes lack strategies to cater for the diversity of learners, which can lead to low online retention (Parrish & Linder-VanBerschot, 2010; Hannon & D'Netto, 2007; Oubenaïssa-Giardina & Bhattacharya, 2007; Leppisaari, Herrington, Vainio, & Im, 2011). As described in Section 7.2.3, lecturers in this research provided their views and perspectives, as well as examples of strategies they apply online, to cater for the diversity of their learners, leading to high engagement and increasing retention. The next section explores the major findings on motivation, as a result of analysis of lecturers' answers to the web-based questionnaire and semi-structured interviews.

7.3 Theme 2: motivation

This section combines the analysis of the answers provided by the lecturers in responses to the questions in the web-based questionnaires and semi-structured interviews on motivation. Motivation emerged in the reviewed literature as one of the causes for low retention in online courses and highlighted the need students have to develop a sense of belonging so to feel connected with their peers, their lecturers and with the course content (Herbert, 2006).

7.3.1 Intrinsic and extrinsic motivation in knowledge construction

As found in the literature review chapter, Motivation can be extrinsic or intrinsic. Extrinsic motivation is performance-driven (Ally, 2008), while intrinsic motivation is the one that comes from personal interest and enjoyment (Rovai, 2007). Both intrinsic and extrinsic motivation depend on the interactions between students and content, among students, and between students and lecturers, through the three types of online presence: social, teaching and cognitive presence (Anderson, 2001). This is visible in lecturers' views and perceptions of motivation in online courses. Lecturers responding to the posed questions presented three types of online presence. These align with the reviewed literature (Chapter 2, Section 2.3.2), as follows:

1. Social presence is where the main engagement in online courses occurs. It is here that collaborative activities play a crucial role, as it is through collaboration that students learn together in the development of critical thinking and the acquisition of new knowledge. These elements are supported by constructivism and connectivist principles, which are the two learning theories underpinning this research (Chapter 5, Section 5.6.1) Students learn from the connections they make with other students (constructivism) and these connections are made with students from different geographical locations that is only possible through the networked environment students learn from (connectivism). This corresponds to the online classes represented in this research, as students are from different countries and are connected with one another through the online environment. In social presence, extrinsic motivation is strong, as it is through the social

interactions that learning happens, in the online environment. Social presence aligns with findings from this research on the use of collaborative activities, which brings the social element to the online class and has also a positive impact in students' motivation to learn, as described in Chapter 5, Section 5.4.2.

2. Teaching Presence is the facilitation and design of courses, with a focus on learning outcomes (Anderson, 2001). The creation of content that is meaningful for students is essential to keep students' motivation high. Not all students like to learn while collaborating with others. Some students are more independent learners and prefer minimum interaction. Lecturers emphasised the importance of creating an online class that caters for these two types of students: the ones who like to work in collaboration, and the independent ones, who like to learn without much interaction. The results from the analysis on this aspect, was presented in Chapter 6, Sections 6.2.1 and 6.2.2). Hence, the online content and presentation are paramount for these students to engage with content and embark on their own learning journey. Teaching presence is described as the “design, facilitation, and direction of cognitive and social processes for the purpose of accomplishing meaningful personal and educational learning outcomes” (Garrison, 2007, p. 08). Hence, these elements impact motivation in students on both extrinsic as well as intrinsic ways. For constructivists, learning is an interactive process, supports students in the development of personal meaning and encourages them to reflect upon their experiences. According to connectivism principles, students are able to create new mental models that reflect new and current information. According to the findings in this research, lecturers make use of constructivist and connectivist approaches, as described in Chapter 5, Section 5.6.1, and by doing so, achieve high student motivation and engagement.

3. Cognitive Presence is the exploration, reflection and construction of knowledge that happens while students work in collaboration (Garrison, 2007), which corresponds to constructivist principles, while making sense of what they see, read and discuss, through a digital networked process (connectivism). Lecturers' responses are consistent with this principle, as students are engaged in collaborative activities that lead them to the construction of knowledge (Chapter 5, Sections 5.3.4 and 5.6.4). They provided the following examples: synchronous and asynchronous activities for group work, such as blogging, team projects, group debates, peer editing, peer review and portfolios.

To support students in developing extrinsic motivation, some researchers suggest the creation of online communities, providing students with a sense of belonging and promoting the construction of knowledge via social interaction (LaPointe & Reissetter, 2008). Lecturers who responded to the research questions highlighted the importance of providing opportunities for students to socialise and interact with their peers through the use to blogs, chat rooms, wikis and forums, which were mentioned as efficient tools applied in their online environment, where students can share their thoughts and ideas.

In the development of intrinsic motivation, lecturers stressed that it is essential to cater for independent learners, who prefer activities that do not require them to engage with other students for the completion of mandatory activities and assessments. Lecturers expressed these views during the web-based questionnaire as well as the semi-structured interviews, emphasising the importance they place on independent students and how to cater for this type of

learners, by presenting material and content in an online environment in a way that is suitable for them. Independent learners feel motivated to engage with online content when it is meaningful to them. Students feel motivated to learn when they are able to work autonomously, because they already have the qualities that lead to successful completion of their courses, which are persistence and strong academic goals (Holder, 2007; Gagné & Deci, 2005). The next section presents lecturers' experiences on motivation strategies, and are a result of analysis of answers lecturers provided during the web-based questionnaire and semi-structured interviews.

7.3.2 Motivational strategies

The aim of this part of research was to explore successful engagement strategies that increase online retention. A key finding in the research is that engagement can only be achieved through highly motivated students. However, lecturers need to become familiar with what they can do to foster motivation in their students. When presenting the strategies they use to keep online motivation high, lecturers provided examples that included the type of activities, resources and other teaching related approaches they apply. The following were the main strategies provided by lecturers (presented and described during the analysis of data from both the questionnaires and semi-structured interviews):

1. **Multimedia resources** - Most common examples were: images, video-lectures, live streaming video, audio, PowerPoint presentations and

slideshows. The use of multiple forms of presentation (text, audio, video) were mentioned as being effective to keep motivation high, considering students present different preferences when learning a new subject. These findings support the importance of multimedia for increased motivation in online activities, as it had been previously reported by Jones (2005), Couros (2008), as well as Anderson and Dron (2011). Here it is important to note the presence of connectivist principles, where students engage with online content in the construction of knowledge.

- 2. Lecturer's online presence** – Lecturers are the ones who motivate students through the use of ongoing presence and encouragement via participation in chat rooms, forums and emails. According to reviewed research, there is usually an improvement in students' overall satisfaction and completion rates when lecturers have a more constant online contact with students (Visser, Plomp, Amirault, and Kuiper, 2002). Here both constructivist as well connectivist principles are reflected, in the ways that lecturers provide the social element, their online presence and interaction with students in the online environment.
- 3. Problem-solving activities** – Lecturers provided examples on the use of brainstorming and brainwriting activities that can be developed with the use of wikis or discussion forums as successful activities to foster student engagement when they collaborate in small groups. The use of problem-solving activities in online courses were previously stated to lead to online course success by Ally (2008). The construction of knowledge happens through the networked environment, where students feel motivated to exchange ideas to find solutions for the problems presented to them

(constructivism), while being able to create new mental models that reflect new and current information (connectivism).

4. Authentic activities – It was shown that the lecturers listed the use of real-life scenarios, where students need to provide solutions as effective ways to promote engagement and motivation to learn. Leppisaari, Herrington, Vainio, and Im (2011) have discussed the importance of providing authentic activities and tasks, explaining that they provide real-world relevance for students. Similar to the previous example on problem-solving activities, constructivist and connectivist principles are present in this case also. Students work together to find solutions to real-life situations (constructivism), while they contribute, during their online interactions, adding new information that adds to current knowledge (connectivism).

5. Challenging activities – These activities allow students to engage in online discussions (connectivist principles), and they are a motivator as they challenge students to search for solutions. Lecturers stated that these types of activities stimulate critical thinking, which is based on constructivist principles.

After presenting the frequently applied strategies for increased motivation online, it is important to present the recurring elements mentioned by lecturers, during both phases of data collection, in reference to diversity and its impact on motivation. The following section presents how diversity can foster motivation to learn in online environments.

7.3.3 Diversity and motivation to learn

According to Rutherford and Kerr (2014), educators need to develop cultural awareness to be able to foster collaboration among students. Gay (2010) states that when lecturers and course designers are knowledgeable about cultural differences, it becomes easier to create an inclusive, accessible and flexible learning environment, where students feel motivated to learn. A finding of this research is that lecturers are able to use diversity as a motivation to learn within the online classroom, which leads to increased engagement. It was seen that lecturers who participated in this research are able to promote cultural awareness and foster an interest, in students, in other people's different perspectives and views. They achieved this by integrating multiple cultural perspectives into the design of the collaborative activities. They support the idea that online courses must be designed in a way that allows variability and flexibility in learning by reflecting the multicultural realities of society and the multiple ways students learn. This pedagogical model requires a deep appreciation of cultural differences and philosophies, as well as the importance of designing multiple learning activities and assessment strategies that accommodate cultural diversity (McLoughlin & Oliver, 2000).

This finding is a contribution to current knowledge, as it makes lecturers reflect on the influence of cultural differences in online education, and in ways to foster intrinsic as well as extrinsic motivation in students. It can be concluded that lecturers do not achieve that by adapting online content to different cultures, but by

making content relevant to students regardless of their culture. They accomplish this by providing students authentic activities that reflect situations they will face in real life. When students discuss and present answers to challenging questions, for example, they bring their different perspectives to the online environment, which reflect their different personal and cultural-based views. As a result, students feel motivated to learn different ways to approach a situation or solve a problem. This whole process leads to increased cultural awareness and the development of cultural sensitivity in students that will benefit them as future professionals in a globalised, digital, and multicultural world we live in today. Next section presents lecturers' views on motivation and its impact on online retention.

7.3.4 Motivation and retention

Motivation was a key focus in this research. Hence the findings from this section assume significance in terms of the overall aims of the research. According to Yukselturk and Inan (2006) motivation is one of the main causes for low online retention. Literature reviewed highlighted the need to provide opportunities for continuous communication among students as an important element to keep high student retention (Visser, Plomp, Amirault, & Kuiper, 2002). The main finding on motivation is the type of strategies lecturers use for increased student motivation. These were described in detail in Chapter 5, Section 5.4.2 (Motivational strategies). Such strategies can be applied by other online lecturers interested in keeping their students' motivation high and achieve high retention. During the interviews, lecturers were able to expand their views on motivation, outlining how

eLearning can be successfully used by students who like to work in collaboration, as well as independent learners, for increased motivation to learn, which leads to higher student retention. It presents the importance for lecturers to have the flexibility to offer activities that motivate students to learn, either in groups or by themselves so they are able to complete their studies, keeping retention low. The next section presents lecturers main elements and barriers relating to the use they make of LMSs.

7.4 Theme 3: Learning Management Systems

The use of LMSs brings pedagogical and technological issues that need to be considered. The following are the recurring elements lecturers mentioned when presenting their answers on LMSs application during the web-based questionnaires and semi-structured interviews. Given below are the synthesis of main findings on various aspects of LMS and their significance.

7.4.1 LMS training

Reviewed literature states that the use of LMSs has not been fully successful because lecturers have not received training in the design and pedagogical use of its capacity (Christie & Jurado, 2009), as presented in Chapter 2, Section 2.4 The application of different pedagogical approaches in online teaching is dependent on lecturers' expertise (Tyler-Smith, 2006; Steel, 2009; Godwin-Jones, 2012). It was

found that there is popularity of online courses and increased offerings of them by universities. The results of this research found that behind the success of eLearning in higher education, there are still lecturers finding the use of LMSs a challenging process and the dependence on technical staff one of their frustrations. One would consider this as a normal part of the process that results from the introduction of eLearning within universities where lecturers can design their courses, according to their pedagogical preferences, and count on support from other specialised, technical staff. As previously noted by McGill, Klobas, and Renzi (2008) on Chapter 2, Section 2.4, lecturers need to acquire expertise in making use of technology to be more independent in the creation of their own courses. After analysis of the lecturers' answers to the questions on their use of LMSs, the following became evident:

- a) Lecturers are able to teach using LMSs and choose activities that reflect their pedagogical approaches;
- b) Their online classes are leading to higher motivation and engagement among students, which means they are making good use of LMSs;
- c) Frustration comes from not having technical knowledge of the functionality of LMSs;
- d) Lecturers would prefer to have training on technical knowledge of LMSs and not reliance on specialised staff.

At first, it seemed contradictory that lecturers affirmed to be experienced in teaching online and be achieving good online engagement and retention, while also expressing their frustration for not having formal training on the technicality of LMSs. A major finding in this research is in respect to the use lecturers make of

LMSs. Lecturers are becoming more pedagogically knowledgeable in eLearning, due to being increasingly involved in teaching online. However, the technical knowledge is getting behind and the only reason they express frustration is because they still require assistance in setting up their courses and in case of any technical issues or glitches that are presented to them while teaching. One positive sign is that, with the new developments on LMSs, they are becoming easier to use, enabling lecturers to build, import, assemble, deliver and track training content and events in one easy system without the glitches that require technical assistance. Hence, the need for training on the technical functionality of LMSs will hopefully be minimised by new developments in the LMSs available and being applied in higher education institutions. Another important concern expressed by lecturers is the issue of teaching large online cohorts. This is presented in the next section.

7.4.2 Large online cohorts

The online classes represented in this research are considered large ones, ranging from 54 to 350 online students. The concern and challenges lecturers have when teaching large cohorts has been a recurring theme in the exploration of causes for attrition (Cheng, Kulkarni, & Klemmer, 2013). After analysis of answers received from both data collection methods, it became evident that some lecturers are dealing with a very large number of online students in their individual classes, which, according to them, can be up to three to four times higher if compared to the same subject taught face-to-face. As mentioned in Chapter 5, Section 5.5.3,

the only university where the three lecturers do not work in a team of lecturers to deliver online classes with over 50 students is the one in Spain; however they can have a large group of markers assisting with assessments. These three lecturers expressed their difficulties and expressed that they would prefer to work in collaboration with other lecturers. Their classes range from 50 to 100 students, which are the online classes represented in this research. However one of the lecturers mentioned that they already had online classes, in the past, reaching up to 300 students (Chapter 6, Section 6.3.1).

Lecturers stated that teaching online is more time consuming, as apart from the time taken to create and deliver online classes, they need to have a constant online presence. Some expressed their frustration and explained that there has not been much consideration or support, on the part of university administrators, for lecturers who are now in charge of online classrooms. Following are the main points raised by lecturers:

- a) Lecturers' online classes can be three times larger in number of students if compared to their traditional face-to-face ones;
- b) There are lecturers who are required to deliver classes to a very large number of students without working in collaboration with other faculty staff due to a lack of changes in administration in dealing with large online cohorts;
- c) Lecturers who have the opportunity to teach in collaboration with other lecturers find it easier to share teaching and assessment tasks.

It is to be noted that the issue of teaching a large number of students online has

recently gained a lot of attention by researchers. There are implications and important considerations when teaching on a large scale, such as finding new ways for lecturers to work in collaboration with other lecturers (Krause & Lowe, 2014). The next section provides lecturers' view on the use of LMS and its impact on retention.

7.4.3 LMS and retention

As presented in Chapters 5 and 6, lecturers who participated in this research expressed their views on the importance of being able to use the LMS effectively to increase student retention. The importance of knowing how to create different presentation formats that cater for different learners' capabilities was highlighted by Kerr et al. (2008) and Knowlton (2000) as an important strategy to keep online retention high. Lecturers' views on LMS and retention reflected the necessity for LMS training. This was emphasised on the web-based questionnaire answers (Chapter 5, Section 5.5.5). There are different pedagogical approaches that can be applied with the use of an LMS for its effective use (Godwin-Jones, 2012; McGill; Steel, 2009) and in order to achieve high retention rates. These pedagogical approaches are presented under Section 7.5.1 (eLearning pedagogical principles) in this same chapter. The last section presents lecturers' online pedagogical principles, with the use of LMSs, as presented during both phases of data collection.

7.5 Theme 4: online pedagogy

The issue of low retention in online environments, from a pedagogical perspective, is only one of the variables identified by literature, which highlights the need for a better thoughtful consideration of online teaching skills and pedagogy (Tyler-Smith, 2006). After analysis of data from both collection methods, it became evident how lecturers make use of both constructivist and connectivist principles when teaching online. Careful eLearning planning and design is the core of high-quality online teaching (Davies & Barak, 2013), where students' learning styles and needs should be considered, before and during the delivery of programs, regardless of cohort's size. The following is a description of the eLearning pedagogical principles adopted by the lecturers who participated in this research.

7.5.1 eLearning pedagogical principles

As described in Chapter 3, Section 3.5, constructivism and connectivism are the learning theories applied in this research. These educational theories, their principles and application within online environments, highlight the fact that they can complement each another, bringing a distinctive quality to the online environment. Constructivism focuses on active learning and cooperation through discussions (Haythornthwaite, 2006; Rovai, 2007). According to constructivist

principles, learners construct their own meaning and are not passive recipients of knowledge (Petegem, De Loght, & Shortridge, 2004).

Learning nowadays happens within a globalised and networked world, and connectivism is the learning theory that reflects how learning happens in our technological age (Siemens, 2005), Students are more independent learners and able to research information on a continual basis, from different sources and networks. Lecturers who participated in this research apply online teaching pedagogies that are effective in creating high student retention. They emphasised the need to prepare online environments that cater for the different learning styles and diversity of learners (Chapter 5, Section 5.6), while also taking into consideration that our digital age brings important elements that reflect the use of technology made by learners.

For eLearning to be successfully implemented, it needs to have strong pedagogical foundations (Tyler-Smith, 2006; Levy, 2007; Govindasamy, 2001). Teaching in a digital world has inevitably made lecturers more creative in the ways that they engage their students within the online environment. With the new developments in eLearning in recent years, lecturers have had to adapt quickly in the higher education sector, with the creation of new pedagogical principles that are more suited to eLearning environments. As a consequence, new pedagogical strategies have emerged. For the lecturers who participated in this research, there are a several considerations about eLearning pedagogical approach and associated principles:

- a) eLearning and the use of LMSs are very dynamic and they will continue to change with the advancements of technology;
- b) Constructivism and connectivism are appropriate learning theories that can be applied within online diverse classrooms;
- c) Lecturers should work in collaboration with other lecturers who are experienced in online teaching and also keeping themselves informed as much as they can on new eLearning developments.

After the main findings on eLearning pedagogical principles, the next section focuses on lecturers' views on online pedagogy and retention, reflecting their answers on both data collection phases. Main findings resulting from both collection phases are presented.

7.5.2 Online pedagogy and retention

Lecturers who participated in this research stressed the importance of knowing what works best, pedagogically, for their online cohorts and making adjustments, when necessary, to keep high engagement and retention. They also emphasised that successful online classes can only be achieved when lecturers are knowledgeable on online pedagogies. According to Elliott, Adams, & Hayes (2013), low retention rates are caused by a lack of rigorous pedagogical principles applied online. This is still considered one of the main challenges faced by lecturers (Boston, Díaz, Gibson, & Ice, 2014). Hence, it is imperative that lecturers receive training on eLearning pedagogies so to be able to create effective online environments (Hughes & Bruce, 2006; Godwin-Jones, 2012). It was further shown

that the efficient application of online pedagogy is an essential element for the provision of high-quality online courses (Davies & Barak, 2013). Lecturers emphasised the impact that sound pedagogical strategies have in keeping student retention high. The findings in this research suggest that even when lecturers are dependent on technical support, they can still apply their pedagogical skills and achieve high student engagement and retention. The activities they apply in order to achieve this were described in Chapter 5, Section 5.3.4.

7.6 Conclusion

This chapter presented the major findings after synthesising findings of data collected from the web-based questionnaires and semi-structured interviews. It begins by describing the two major findings related to the first theme (culture), which relates to cultural diversity and awareness in eLearning. It presents the activities lecturers apply for increased online engagement. On the theme of motivation, the synthesis explains the findings on intrinsic and extrinsic motivation in knowledge construction. The main motivational strategies lecturers apply online to achieve higher engagement and the findings on the relationship between diversity and motivation to learn were also presented. Theme 3 (LMS) presented key discoveries on issues related to LMS training and teaching large online cohorts. Theme 4 (Online pedagogy) described the findings relating to eLearning pedagogical principles applied by the lecturers who participated in this research. The relation between online pedagogy and retention was presented in the last section in this chapter.

This synthesis of findings from the empirical research on four case studies with reference to relevant aspects of the literature review, enhances our understanding of the contribution this research project makes to knowledge in this area and the overall research problem.

This chapter presented findings related to the four main Case Studies for low retention emerging from the literature review: culture, motivation to learn, LMS effectiveness and online pedagogy. Next chapter presents a summary of the conclusions, implications of the research findings and recommendations for further research.

Chapter 8. Conclusion

8.1 Introduction

This research explored successful online engagement strategies applied by 18 lecturers (three lecturers per university) in six countries, namely: Australia, Brazil, Canada, Norway, Spain and the U.S.A. who teach core degree subjects that are fully online. According to literature, high attrition has been a recurring problem in online courses. For example, Diaz (2002) and Herbert (2006) stated that online attrition rates reached 20% to 50%, while other researchers report this rate to be as high 80% (Smith, 2015). Literature on attrition issues in higher degree programs has highlighted cultural issues, motivation, effectiveness of Learning Management Systems and online pedagogies as major players in online retention. Researchers have followed different approaches to determine retention issues, such as interviewing students who dropped out of their online courses. Most research applied students' interviews to explore what led them to drop out of online degree programs and did not explore lecturers' experiences when delivering online courses. Considering this to be a gap in the literature, this research focused on lecturers' views and experiences, as well as strategies that they apply to support high student online engagement and retention. Original contribution in this research arises from the selection of lecturers' strategies and responses.

Through qualitative case studies, the researcher explored online lecturers' successful engagement strategies in four main themes: cultural issues, motivation,

effectiveness of Learning Management Systems and online pedagogies. A case study approach was the methodology of choice for this research. This was explained in detail in Chapter 3, Section 3.4 (Case study approach). To recap, case studies allowed for the use of cross-case analysis, which was intended in this research so as to compare lecturers' views and opinions. Case studies enable different research methods and multiple data sources to explore the questions posed to lecturers, facilitating triangulation of data (Denscombe, 2014). Case studies are chosen when there is a need to explore educational behaviours in order to improve educators' thinking (Bassey, 1999). This is aligned with the purpose of this research as it relates to these same elements.

The research questions were designed based on the four main themes that emerged from the literature review. This research applied a web-based questionnaire in the first part of data collection. At the end of the questionnaire, lecturers were invited to participate in a subsequent interview via Skype (as research participants were from six countries). The aim was to identify patterns presented by lecturers when imparting information about online student engagement successes and challenges. The design of the research questions for both the web-based questionnaire and the interviews were based on the four themes as presented in Chapter 1 (Literature review) and in Chapter 4, Section 4.9. This is because these four themes reflected reasons for students' attrition and lack of engagement as presented by the literature that required further investigation with a focus on lecturers' view of the issue. The second part of data collection was through semi-structured interviews. Reproduced below are the aims of the present research project (outlined again here for convenience, which were

developed into case studies):

- e) analyse how lecturers address needs of culturally diverse students;
- f) analyse strategies that motivate online students;
- g) analyse the use lecturers make of LMSs;
- h) analyse the use of online pedagogies.

As described in Chapter 3, Section 3.2, the theoretical framework for this research comprised of four focus areas through case studies which led this researcher to design the research in reference to: culture, motivation to learn, LMS effectiveness and online pedagogy. This was presented in Chapter 3, Section 3.4. The conceptual framework chosen facilitated this researcher to develop the research questions and conduct analysis in an informed manner, which was presented in Chapter 3, Section 3.3.

The overall aim of this research was to explore successful online engagement strategies, applied by lecturers from different countries to better understand how online attrition can be minimised. The major findings in this research should assist lecturers in the design of online courses that achieve high engagement and retention. In the following sections, major findings from the research and their significance in terms of the research questions are outlined with reference to the respective chapters. The next section presents findings on Theme 1, Culture, in response to the research question on culture.

8.1.1 Theme 1: culture

Cultural aspects and their impact on online engagement and retention were presented in the Literature Review (Chapter 2, Section 2.2). The main points of that review were that there is a lack of cultural inclusivity in online course designs, engagement challenges are presented by culturally diverse classes and there is a need for lecturers to have or develop intercultural communication skills. This section summarises and interprets the findings on the question: *How do lecturers engage online in culturally diverse classrooms?* A total of 18 lecturers in six countries participated on the web-based survey and semi-structured interviews that presented questions on cultural aspects and their impact on online engagement and retention. Lecturers' answers were presented in Chapter 5, Section 5.3 (Web-based questionnaire) and Chapter 6, Section 6.1 (Semi-structured interviews). Major findings on the influence of culture (Theme 1) in online engagement and retention, from both data collection phases, were presented in Chapter 7, Section 7.2.

According to research, it has already been shown that online environments lack cultural inclusivity, and this greatly impacts on student engagement and retention (Chapter 2, Section 2.2 – Cultural aspects). It was noted that, for lecturers to be able to cultivate appreciation for diversity within an online environment among students, they are required to have cultural competency (Chisholm, 1994). On the issue of engagement within a culturally diverse cohort and its impact in online attrition, published research highlighted its challenges, such as students not engaging with others from different cultural backgrounds and courses ignoring the

cultural and sub-cultural differences in learning behaviour and failing to address the diversity of learners. However, some scholars emphasised that culturally diverse students bring richness to discussions; when working in collaboration with their peers, they present different interpretations that only contributes to what is being taught (Merryfield, 2003; Sharpe, 2005; Harzing, 2008).

In terms of culture, this research has found that diverse cohorts do not require specific engagement strategies if the online environment is culturally inclusive, caters for different learning styles and provides a range of different collaborative activities. When lecturers notice engagement is low among a diverse cohort, they change or add different collaborative activities, and that this is more related to a specific cohorts' needs than students' cultural background.

The online classes reflected in this research are culturally diverse and highly engaging. When presenting the results of the data from both collection methods, at first it seemed superficial the notion of culture being a motivator to learn, and it was a contrasting view if compared to some published literature which presented cultural differences as hindrance for online collaboration (see, for example, Kim & Bonk, 2002; Hannon & D'Netto, 2007). Within the online environments represented in this research, there is no lack of cultural inclusivity leading to low engagement, which is different from what published research presented as a characteristic of many online courses (see, for example, Parrish & Linder-VanBerschoot, 2010; Hannon & D'Netto, 2007; Oubenaïssa-Giardina & Bhattacharya, 2007; Mushtaha & Troyer, 2007; Leppisaari, Herrington, Vainio, & Im, 2011). The findings tell us that lecturers use several engagement strategies,

which they don't perceive as culturally-specific, and that they do not need to use culturally specific strategies. The significance of these findings is that lecturers make content relevant to students, regardless of their culture by providing authentic activities that reflect real life situations they will face in their future careers. The detailed qualitative responses from lecturers show the importance of equitable pedagogies in online learning environments.

Online teaching is best applied within culturally diverse cohorts when lecturers are able to create an environment where learning is enhanced by the diversity of opinions, lecturers are knowledgeable about the application of eLearning strategies and are able to foster cultural sensitivity among students. It has also been found that, in order to foster good student interaction and high retention, lecturers need to provide ways for students to work in collaboration. This is achieved by providing a range of opportunities for students to learn and discuss their ideas within an environment where they feel safe and their opinions are respected (Ely & Thomas, 2001). Continuous lecturers' mediation and online participation are essential elements that ensure that students develop sensitivity and respect for the diversity of opinions. The significance of this finding in relation to high engagement and retention is that, when cohorts are diverse, they require lecturers who are able to create an inclusive online environment and an ability to create interaction among students in a way that they also learn to appreciate differences. This way, the interaction becomes meaningful, and students are stimulated to continue learning, leading to high online retention.

Based on the literature review on cultural issues, some questions in the research for this research explored how lecturers deal with the cultural diversity of their online classes. The findings are presented in Chapter 5, Section 5.3 and Chapter 6, Section 6.1. According to the lecturers who participated in this research, diversity means students from different cultural and/or linguistic backgrounds. Students in these classes are from different geographical locations, including international countries in undergraduate and postgraduate courses, as described in the Background information section. Such students need to have proficiency in speaking, reading and writing in English to be able to enrol in the course.

An important finding in this research in relation to cultural aspects of eLearning is that there is no need for additional specific strategies to foster engagement, if culturally diverse online classrooms cater for different learning styles and provide a range of different collaborative activities. Online activities applied (see Chapter 5, Section 5.3.3) included the use of social interaction among students (through blogs, chat rooms, wikis and forums), providing videos and mini lectures available online and the use of case studies that are applied as a way of creating meaningful group activities that are more related to students' future work life.

This research has also found that the most valuable attribute of eLearning is the ability to provide different methods of instruction within the same online environment and provide opportunities for student collaboration that leads them to develop a globalised view of the subject being taught. A globalised view is achieved because it allows students from different cultural backgrounds to work and learn together while interacting and collaborating in online activities. The

provision of different methods of instruction ensures flexible, accessible and inclusive activities for students. This is in line with Corey and Leinenbach (2003) principles of a universe design for learning, as described in Chapter 2, Section 2.5.2. Culture is not the only element that needs to be addressed to ensure high engagement and retention. Motivation is the second theme presented in this research as one of the elements that need to be addressed in the creation of high student engagement and retention. This is presented in the next section.

8.1.2 Theme 2: motivation

Motivation is the second element explored through the use of case studies in this research, because in online environments motivation emerges as one of the main causes for online attrition (Herbert, 2006; Levy, 2007; Jones, 2013). This section presents findings from the research on the question: *What strategies do you use to keep students motivated in your online course; please explain their effectiveness.* A total of 18 lecturers in six countries participated in the web-based survey and semi-structured interviews that presented questions on motivation aspects and their impact on online engagement and retention. Lecturers' answers were presented in Chapter 5, Section 5.4 (Web-based questionnaire) and Chapter 6, Section 6.2 (Semi-structured interviews). Major findings on the influence of motivation (Theme 2) in online engagement and retention, from both data collection phases, were presented in Chapter 7, Section 7.3.

Motivation, its role and how it presents itself within online cohorts were firstly

presented in the Literature Review (Chapter 2, Section 2.3) and the key findings on motivation presented in Chapter 5, Section 5.4 and Chapter 6, Section 6.2. On the causes for low motivation, eight out of 18 lecturers (44%) suggested that low motivation is present when students are studying a core subject that is not their main interest. The second main cause for lack of motivation, according to seven lecturers (39%), is when students have too much work or personal commitments, which minimise the time they have available for their studies. From their previous experience teaching online, three lecturers (17%) mentioned that they had past experience of low student motivation reported by students as a reason for not completing their course (as feedback), and lecturers attributed this to poor online design and lack of a sound pedagogical approach. However, they explained that this was a past experience that led them to learn more about innovative pedagogical strategies that could be applied to the online environment to make it successful and foster motivation among students.

The analysis of survey data indicated that the lecturers applied a range of activities to achieve high motivation and retention as described as follows:

- Use of multimedia resources to add to the face-to-face elements that online courses sometimes lack. These results are in line with what is stated in the literature review. Multimedia had been previously reported as essential in online teaching by Jones (2005), Couros (2008), and Anderson and Dron (2011);
- Constant lecturers' online presence for continuous support, feedback and participation in discussions. Visser, Plomp, Amirault, and Kuiper (2002) had stressed the importance of lecturers' constant online presence to increase

motivation;

- Problem-solving activities are considered effective for increased motivation to learn in students due to their high participation in them. Ally (2008) had also exemplified the use of problem-solving as successful activities applied for increased online motivation;
- Authentic activities to increase collaborative work, for example group work on possible scenarios reflecting real life situations. Leppisaari, Herrington, Vainio, and Im (2011) also made use of problem solving, authentic and challenging activities in online courses to increase motivation;
- Challenging activities to increase the exchange of ideas and consequently stimulate critical thinking. Rovai (2007) graded online communication activities as a way to motivate students to engage in online discussions, which consequently increased their sense of community, overall motivation and critical thinking.

Lecturers gave examples of synchronous and asynchronous activities applied as authentic and challenging activities: blogging (referring to students' own views and experiences), team projects, group debates, peer editing, peer review and portfolios. Contrary to the claims of researchers such as Levy (2007), Tyler-Smith (2006) and more recently, Jones (2013), who said motivation to be one of the main causes for online attrition, lecturers in this research stated that motivation is not considered one of the challenges they face in their online environments. Instead, findings demonstrated that by applying the activities listed above, lecturers are able to keep student motivation high. The types of activities applied online, as described previously, have the potential to play an important role in keeping

motivation high in these online courses. These results reflect an analysis of the opinions of lecturers and in accordance with their personal experience receiving regular feedback and observing their students interacting online. However, this researcher collected their opinions using a qualitative method only. It would be useful for future research to explore the application of the above-mentioned activities in further detail with the use of quantitative data collection methods, providing numerical data on student online engagement and retention and some statistical analysis of them.

Findings on motivation in this research demonstrate that students engage with online content when it is meaningful to them. This confirms findings by Hartnett (2012) that the legitimacy of learning what is applicable to students' daily lives is crucial to keep them motivated in an online environment as it increases the relevance of learning activities. Tasks should motivate students to engage in them (Anderson, 2001), and the online environment should create a learning experience that is pleasing for students (Lindquist & Long, 2011). One way to achieve this is through activities that reflect students' current life situation or the application of strategies they will apply in their careers (Kim & Frick, 2011).

Lecturers in this research also noted the importance of forums and chat rooms for students to communicate with each other, providing them with a sense of belonging, that leads to high motivation to learn and consequently, higher retention. This is consistent with findings by Jung, Choi, Lim, and Leem (2002) and Al-Shehri (2011) that some students need to be socially engaged with their peers to feel motivated. The importance of social presence for high motivation within

online learning environments was presented in Chapter 2, Section 2.3.2 (Sense of belonging in online courses).

Supporting students throughout their course by posting messages or sending group emails with supportive messages was also another element presented in this research that is a great contributor to increase student motivation and increase retention. According to the lecturers who participated in this research, they need to be constantly present online and participate and mediate online discussions. Teaching presence and its importance within online classes was presented in Chapter 2, Section 2.3.2. The importance of lecturer's online presence confirms findings by Lowenthal and Lowenthal (2009), that, for the development of motivation, some students require lecturers' support with content and constant online presence.

There are many similarities on views of motivation if a comparison is made between universities. However, seven out of 18 lecturers (39%) confirmed that engagement with content can be enough for the construction of knowledge if online content is interesting, motivating and engaging enough. The significance of this finding is that eLearning for independent learners has not been frequently highlighted in literature but it is an essential aspect to be considered by online lecturers. Independent learners prefer to work by themselves and not in groups, so it is essential to cater for this type of student. Independent learners require activities they can complete by themselves and at their own time. After presenting motivation aspects and their importance in high engagement among online students, the next section presents the use lecturers' make of LMSs for teaching

online.

8.1.3 Theme 3: Learning Management System effectiveness

This section summarises the findings of the question: *How do lecturers make use of LMSs to foster online engagement?* A total of 18 lecturers in six countries participated in the web-based survey and semi-structured interviews that presented questions on LMSs' aspects and their impact on online engagement and retention. Lecturers' answers were presented in Chapter 5, Section 5.5 (Web-based questionnaire) and Chapter 6, Section 6.3 (Semi-structured interviews). Major findings on the influence of LMSs (Theme 3) in online engagement and retention, from both data collection phases, were presented in Chapter 7, Section 7.4.

The use of LMSs brings with it pedagogical and technological issues that should be considered. These elements were presented in the Literature Review, Chapter 2, Section 2.4. It was imperative to explore lecturers' technical skill level and the types of training and support they receive, if any, in the delivery of their courses. This corresponds to the effectiveness of LMSs because, according to lecturers in this research, lecturers are the ones responsible to make good use of LMSs so they can create effective learning environments. Lecturers explained that LMSs provide all the tools for the creation of online classes, but it is up to lecturers to make use of their pedagogical skills so the LMS is applied effectively. Lecturers explained that they cater for the diversity of their learners by using the LMS to

create activities that are suitable for creating student engagement and increased interest in the subject. The use lecturers make of LMSs has a crucial part to play in online retention. This is because, according to lecturers, if LMSs are not well utilised, the online environment is not effective, appealing or engaging for students, who in turn end up dropping out of courses.

This research has found that making good use of what LMSs offer is important in increasing retention because the more engaging and varied the activities are, the more opportunities lecturers give to students of different learning styles to participate in them. The LMSs applied to deliver online classes, represented in this research, are Moodle, used by 13 out of 18 lecturers (72%), Blackboard by four lecturers (22%), and only one lecturer (6%) uses Desire2Learn. Blackboard and Desire2Learn are commercial types of LMSs applied by some universities. Moodle is the most popular LMS as it is offered as an open source software system and it is widely applied by most universities worldwide (Joh, 2013).

Lecturers who participated in this research have a minimum of four and a maximum of 16 years teaching online degree courses, as presented in Section 4.1 (Background information). It was also imperative to explore lecturers' technical level on the use of LMS to understand how flexible and knowledgeable they were in their use. For this research, the majority of lecturers (83%) stated to be at an intermediate level in their knowledge of using LMSs. This finding is important as it confirms that being able to make good use of LMSs is an essential skill for online teaching. There was no correlation found between age and technical skill level.

This research has found that, although having an intermediate level in the use of

LMSs, lecturers are dependent on technical assistance and require support setting up their online courses. Lack of training in the use of LMSs was highlighted in literature; hence the findings confirm that this is a recurring issue. McGill, Klobas, and Renzi (2008) emphasised the importance of lecturers receiving training on the use of LMSs for online courses to be successful, while Hashim, Kayode, and Hassan (2015) suggested that lecturers require training to be able to integrate technology using their pedagogical skills. It is important to note that, although these lecturers require technical support, they confirmed that this does not affect the success of the application of their pedagogical skills to their online classes; they only mention they would prefer to be more independent in setting up their own online classes. These lecturers confirmed that, although their online classes create high student engagement and retention, they would prefer a platform that is easy for them to set up and adapt their activities without having to rely on technical staff. The difference between the findings in this research and in literature is the fact that the lecturers in this research mentioned that to be able to create successful online engagement strategies leading to high retention, they required the support of technical staff. Nevertheless, they would prefer to receive training on the technical elements of LMSs, learn the technicalities of setting up courses and dealing with eventual errors while using LMSs. When presenting their views on lack of training on the use of LMSs, lecturers commented on the importance of being able to use the LMS effectively to avoid student attrition and to ask for support when needed.

The barriers to the chosen pedagogy and its application with the use of LMSs were presented in more detail in Chapters 5, Section 5.6.5 and Chapter 6, Section

6.4.1. These results are consistent with studies by McGill, Klobas, and Renzi (2008), who emphasised that lecturers can successfully integrate technology into their teaching with the use of their pedagogical skills but are still very dependent on technical support. At times it can be due to lack of control and autonomy when it comes to LMS access, as explained in Chapter 5, Section 5.4.2 (Technical skill level). One of the major factors impacting negatively on the use of the LMS by lecturers, which is similar to the one presented in the reviewed literature, is the need for support that lecturers experience when using LMSs (McGill, Klobas, & Renzi, 2008).

The online classes represented in this research are considered large ones, ranging from 54 to 350 online students. Lecturers who participated in this research stated that they work in collaboration with a team of lecturers to deliver their classes when cohorts are large or have the support of assistant lecturers and markers. Lecturers explained that following a students' performance and engagement can be undertaken with the use of the LMS's analytic systems. However, only a team of lecturers working in collaboration is able to provide appropriate and timely support to students. This finding is significant, as it means that a team of lecturers working together ensures that lecturing and assessment tasks can be shared and attrition avoided. Cheng, Kulkarni, and Klemmer (2013) mentioned the importance of creating strategies when dealing with large cohorts and proposed a set of tools for predicting drop off in online classes, with two prototypes that elicit information on students' progress with their assignments. Nonetheless, providing the support to the students who are not submitting assignments or who are not engaging online is a challenge for lecturers when there is a large number of students in an online class, and that is what the

lecturers stated to be the main issue.

The overall significance on the findings on the LMS use is that it is only a tool and it depends on the lecturer's ability to apply strategies to create an online environment that is engaging and appropriate for a diverse cohort, which also brings with it a range of different learning styles. Lecturers emphasised the importance of providing different teaching methods and presentation formats online. This is in line with the literature, for example, Douglas and Cormier (2010) stated that there is a need to provide trainers with knowledge on effective online pedagogies to enhance retention. After presenting the importance of making good use of the LMS for increased retention, the next section summarises the findings on the choice of online pedagogies by the lecturers who participated in this research.

8.1.4 Theme 4: online pedagogy

This section summarises the findings on the question: *What is the predominant online pedagogy adopted by online lecturers?* A total of 18 lecturers in six countries participated in the web-based survey and semi-structured interviews that presented questions on pedagogical aspects and their impact on online engagement and retention. Lecturers' answers were presented in Chapter 5, Section 5.6 (Web-based questionnaire) and Chapter 6, Section 6.4 (Semi-structured interviews). Major findings on online pedagogy (Theme 4) in online engagement and retention, from both data collection phases, were presented in

Chapter 7, Section 7.5.

In relation to online pedagogy, lecturers in this research choose a combination of constructivism and connectivism learning theories for their online classes. According to Rovai (2007), constructivism focuses on active learning and cooperation through discussions. In constructivism, learners construct their own meaning and are not only receivers of knowledge (Petegem, De Loght, & Shortridge, 2004). This pedagogical strategy has been applied in conjunction with technology, where students learn online while socially interacting with their peers. This new way of learning with the use of technology is described by Siemens (2005) as connectivism, considering students are learning through online networks while sourcing information and sharing knowledge with other students. Both learning theories are presented in Chapter 3, Section 3.5 (Learning theories).

In constructivism, as well as connectivism, collaborative tasks are the main activities applied online. The main aspect of the online pedagogy that is common to all lecturers in this research is the application of collaborative learning, as they are considered to lead to the development of critical thinking and a globalised view. This is in line with published research, for example, Jung, Choi, Lim, and Leem (2002) explained that students feel more inspired to learn when they are able to work in collaboration and are socially engaged with their peers. When applying their pedagogical approach online, lecturers mentioned the importance of being adaptable to cohorts' needs and catering for different learning styles.

In reference to the choice of eTools for high engagement and retention, the most

successful ones are forums, followed by wikis, asynchronous video sessions and blogs. Continuously providing up-to-date content was also considered essential for maintaining high engagement. These are described in detail in Chapter 5, Section 5.6.3. The choice of eTools applied by lecturers in their online environments provides evidence that traditional online collaborative eTools, together with keeping the online environment up to date, can be efficient in achieving student engagement and high online retention.

On the aspect of pedagogical strategies to create higher engagement within a diverse cohort, lecturers stated that a combination of collaborative activities that include problem solving and real-life scenarios are the main ones applied in their teaching. Another pedagogical strategy for high engagement and retention is based on creating an impartial environment where students share their diverse views. This is in line with Howell (2001) and Jones (2005) advice that lecturers should adapt their teaching styles to cater for the demands of culturally diverse groups of online students.

This research found that high online interaction and increase in the number of enrolments are considered successes of lecturers' online programs. These elements have not been frequently highlighted as positive outcomes of online pedagogies in previous studies. However, high online interactions (Swan, 2002), and good student feedback (Couros, 2009), which were also highlighted as successes, were mentioned in literature as good measures of online course successes.

This research also found that applying suitable, innovative pedagogical strategies

is crucial to ensure high engagement, student satisfaction and high retention rates. This is in accordance with the literature reviewed. Low retention rates are caused by a lack of sound pedagogical principles applied online (Elliott, Adams, & Hayes, 2013), and this continues to be one of the main challenges faced by some lecturers (Boston, Díaz, Gibson, & Ice, 2014). It is crucial that lecturers receive training on eLearning pedagogies so they are able to create effective online environments (Hughes & Bruce, 2006; Uden, 2007; Godwin-Jones, 2012).

Some recommendations emerged from this research, in relation to online pedagogy, for lecturers to continuously improve their pedagogical skills by participating in eLearning professional development courses and by working in collaboration with staff who are knowledgeable and experienced in eLearning delivery. Lecturers explained that it is important to take responsibility and continuously follow eLearning pedagogical developments. They also suggested becoming members of eLearning associations and reading current research on online pedagogical developments.

Another recommendation is the application of teaching pedagogies that cater for the different learning styles and diversity of learners. Lecturers also mentioned the importance of sharing new innovative ideas with other lecturers, considering there are always new pedagogical strategies being applied online that are successful. The views expressed by the lecturers in this research are consistent with Tyler-Smith (2006) and Levy (2007), who stressed the importance of applying a rigorous pedagogical design in online learning environments. Govindasamy (2001) also highlighted that eLearning can only be successfully implemented if it is embedded

with a strong pedagogical base.

The main significance of the findings on online pedagogies is the fact that new eLearning developments have created the need for constant training in the use of teaching technologies, which brings implications to universities' policies, in the provision of staff training. It also brings implications for teaching practice, as lecturers need to acquire new knowledge, learn and/or modify their pedagogical practice in a way that leads to increased student retention. For the lecturers who participated in this research, there is a need to constantly review the application of technology in teaching. Lecturers in this research stressed that using eLearning can be a pleasurable and successful experience, but setting up online courses cannot warrant success if lecturers do not master eLearning pedagogical principles. Lecturers confirmed that keeping abreast of eLearning developments is essential for the success of online classes and keeping high retention rates. Lecturers provided a positive view that online classes can provide a larger variety of learning and assessment activities. However, they explained the importance of developing good knowledge of eLearning strategies to keep courses successful and student retention high. This is also consistent with literature, as Davies and Barak (2013) explained that effective eLearning pedagogy is an essential element for the provision of high-quality online courses. Following on the research conclusions relating to online pedagogies, next section presents the implications of the findings for online learning theories.

8.2 Implications for online learning theories

Constructivism and connectivism are the two learning theories that underpin this research. The way lecturers apply their online strategies in dealing with the four themed case studies (culture, motivation, LMS effectiveness and online pedagogy) to increase engagement and retention, presented elements of these two learning theories. This was presented in Chapter 3, Section 3.6. The online teaching represented in this research is based on the concept of online interactivity, which assumes engagement, collaboration and communication, which is the basis of constructivism (Meier, 2007). Constructivism focuses on active learning and cooperation through discussions (Rovai, 2007; Haythornthwaite, 2006), which is the approach applied by the lecturers who participated in this research when applying strategies to deal with the four themes through the case studies described previously to increase engagement and retention. Lecturers make use of collaboration to increase motivation and foster a culturally inclusive online environment. They apply constructivist principles when choosing group activities through the LMS to create the online environment, and they apply connectivist pedagogical principles when teaching, by fostering learning through online collaboration among students.

For the online classes represented in this research, lecturers' strategies to deal with cultural diversity, motivation, LMS and pedagogy was applied with the use of technology. This is the basis of connectivism, where students learn while socially

interacting with their peers (Siemens, 2005). For constructivists, collaboration among students supports knowledge building, and for connectivists, it is through technology that the connection-making, collaboration and learning processes occur.

The learning theory preferred by each of the lecturers was explored in this research. The majority of the surveyed lecturers (11 out of 18, 61%) stated that they adopt a combination of constructivism and connectivism learning theories (Chapter 5, Section 5.6.1). According to the surveyed lecturers, online education leads to active learning and interaction in contextualised and authentic learning environments. Findings demonstrate that the lecturers in this research create these types of learning environments, which is the basis of constructivism. The description of application of authentic activities was presented in Chapter 5, Section 5.4.2. These lecturers also stated that their pedagogy is based upon connectivist principles, understood as a general philosophy of teaching in the digital age. Educators have been applying a connectivist approach in teaching strategies long before the emergence of the theory of connectivism, and it provides an 'ideological framework' that can impact how lecturers plan and develop pedagogical tools for their online courses (Darrow, 2009). A connectivist approach to eLearning design acknowledges the complexities of knowledge building and management in the digital age, where lecturers create online environments allowing students to leverage knowledge networks for sharing, collaborating and generating personal knowledge (Couros, 2009). Although connectivism is still not formally considered as an online learning theory, the findings in this research brings it to a stronger basis, as some lecturers have

presented it as an online learning theory that they apply to achieve high student engagement and retention.

8.3 Further research directions

This research depended entirely on lecturers' views and experience teaching online. Data was collected through a web-based questionnaire and semi-structured interviews. Research observing online lecturers in practice and the conditions in which these practices happen were not considered. The results of this research have raised some questions on the use of eLearning, which require further investigation. These include:

- Reviewing eLearning training availability and its frequency for lecturers within universities;
- Investigating eLearning applied to blended course delivery;
- Exploring engagement strategies and their effect on retention when compared to course subjects from different discipline areas being offered online (this research focused on Education related subjects only);
- Using larger scale studies to explore gender difference of opinions and experiences on the use of eLearning;
- Comparing an online course offered to domestic students only, where the language of instruction is not English, to one that delivers the program in English for students worldwide.

The fact that lecturers follow constructivist or connectivist learning theories is another limitation of this research. These were not a pre-requisite for participation in the research, but results reflected these choices. It would be advantageous to explore the application of other learning theories within an online environment.

8.4 Summary

The major research question in the research reported here was: *What are the effective engagement strategies applied by online lecturers in order to increase the retention rate?* As described, the results from this empirical research focused on four focused case studies, namely culture, motivation, LMS and online pedagogy. Data for the research was collected using a web-based questionnaire and semi-structured interviews. Significant findings from the data analysis included the following:

a) The online classes represented in this research are culturally diverse and highly engaging for students. Diversity in this context means students from different cultural and/or linguistic backgrounds. Students in these classes are from different geographical locations, including international countries in undergraduate and postgraduate courses. Lecturers reported that cultural inclusivity is present leading to high engagement, explaining that they achieve this by providing culturally oriented activities and a range of opportunities for students to learn and discuss their ideas within an environment where students feel safe and their opinions respected. Lecturers provide mediation and have a continuous online participation,

ensuring that students develop sensitivity and respect for the diversity of opinions. Collaborative activities are applied throughout the online courses, where students are able to exchange ideas and opinions. It is through collaborative learning that students perform activities that lead to more developed critical thinking and a globalised view of the subject they are learning. To achieve high collaboration lecturers explained that they cater for students' different learning needs and styles. Online activities applied included blogs, chat rooms, wikis and forums. Videos and mini lectures from a range of lecturers who deliver the program were also provided. [Theme 1: culture]

b) According to the lecturers in this research, low motivation is present when students are studying a core subject that is not their main interest, students have too much work, or personal commitments. Poor online design and lack of a sound pedagogical approach were considered as causes for low motivation in students also. Lecturers provide support to students throughout their course by posting messages or sending group emails with supportive messages and keeping a constant online presence. Engagement with other students is important to increase individual engagement. However, engagement with content was considered enough for the construction of knowledge if online content is interesting and motivating. Independent learners feel motivated when they can perform the activities without having to participate in group-work ones. Lecturers applied a range of activities to achieve high motivation: multimedia resources, constant lecturers' online presence, the provision of authentic and challenging activities (synchronous and asynchronous). [Theme 2: motivation]

c) The LMSs applied to deliver online classes, represented in this research, were Moodle, Blackboard and Desire2Learn. Making good use of what LMSs offer is important in increasing retention because the more engaging and varied the activities are, the more opportunities lecturers provide to students of different learning styles to participate in them. The majority of lecturers reported to be at intermediate or above level in relation to their technological skill, which is essential for online teaching. There was no correlation found between age and technical skill level. Lecturers still require technical support to set up their courses and to deal with technical errors of the LMS. However, lecturers confirmed that this does not affect the success of the application of their pedagogical skills to their online classes. These lecturers would prefer a platform that is easy for them to set up and adapt their activities from, without having to rely on technical staff. When presenting their views on lack of training on the use of LMSs, lecturers expressed their views on the importance of being able to use the LMS effectively to avoid student attrition and to ask for support when needed. The online classes represented in this research are considered large ones, ranging from 54 to 350 students. Lecturers found it challenging to teach a large cohort if not working in collaboration within a team of lecturers to deliver the same course subject together. Lecturers stressed that the LMS is just a tool and it depends on the lecturer's ability to apply pedagogical skills to create an online environment that is engaging and appropriate for a diverse cohort with different learning styles so to be able to achieve high engagement and retention. [Theme 3: LMS]

d) Lecturers in this research applied a combination of constructivism and connectivism learning theories for their online classes. When applying their

pedagogical approach online, lecturers mentioned the importance of being adaptable to cohorts' needs and catering for different learning styles. They consider these elements as part of their online pedagogical strategy. The most successful eTools applied for creating higher engagement online, according to the results of this research were: forums, followed by wikis, asynchronous video sessions and blogs. The pedagogical strategies to create higher engagement within a diverse cohort are a combination of collaborative activities that include problem solving and real-life (authentic) scenarios. Lecturers emphasised that their pedagogical strategy for high engagement and retention was based on creating an impartial environment where students share their diverse views. Lecturers recommended online lecturers to continuously improve their pedagogical skills by participating in eLearning professional development courses and working in collaboration with staff who are knowledgeable and experienced in eLearning delivery. Lecturers listed the following as successes of their chosen pedagogy: high retention rates, good student feedback, high online interaction and increase in the number of enrolments. As with the use of LMS, lecturers stressed that it is just a tool and it depends on the lecturer's ability to apply pedagogical skills to create an online environment that is engaging and appropriate for a diverse cohort. [Theme 4: online pedagogy]

The significance of research findings in terms of policy and practice on student engagement and high retention refers to the application of online strategies and activities, as suggested by the lecturers, in terms of dealing with diverse cohorts and in increasing student motivation. Training in eLearning in terms of the technicality of LMSs and its pedagogical application was suggested as

professional development that could be continuously provided by universities.

In summary, the application of culturally inclusive engagement strategies, that also reflect students' cultural diversity and different learning styles, as presented in this research, lead to high student motivation and engagement. The online environment should cater for students who like to work in groups, as well as independent learners, making sure that activities and learning material foster motivation to learn for these two types of learners. The appropriate use of the LMS, in combination with constructivism and connectivist principles, supports high student engagement and, consequently, the achievement of high online retention.

It is hoped that the findings in this research, and the examples of activities and approaches applied by the participants are adopted by other lecturers teaching a variety of subjects online. Adopting similar strategies may support online lecturers to achieve high student engagement and consequently, minimise student attrition in their online classes.

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Appendices

Appendix A – Questionnaire questions on engagement and retention in online degree courses

A. Background information

Please answer the questions in this section with reference to **one** subject or unit in which you have applied e-learning tools.

1. Name:
2. Gender: *Male / Female*
3. Age group: *25 and under / 26-35 / 36-45 / 46-55 / Over 56*
4. Job title/position:
5. Institution:
6. Faculty/School/Department:
7. Subject/unit title you teach online and in which you are basing your answers for this questionnaire:
8. Subject/unit level: *Undergraduate / Postgraduate / Other (please specify):*
Number of students:
9. Your experience with online teaching:
 - a) Teaching at university level: ___ years
 - b) Using computers and the Internet for university teaching: ___ years
10. How do you define student engagement in online environments?
11. Do you think student engagement with other students is important for online learning?
12. Do you think student engagement with content is enough in the construction of subject knowledge? Please comment.
13. Do you consider engagement (with other students) as a factor when designing online courses?

14. How effective are the engagement strategies you apply in the online courses you teach? Please elaborate.

B. Cultural diversity

Please answer the questions in this section with reference to **one** subject or unit in which you have applied e-learning tools.

15. Do you teach culturally diverse cohorts in your online course?
Yes () No () If 'Yes', please provide brief details - how diverse are they?

16. In your experience, do culturally diverse cohorts need specific strategies to foster student engagement when learning through an online course?
Yes () No () If 'Yes', please provide brief details

17. What types of activities do you use to foster student engagement within a diverse student cohort when teaching online courses?

- 1.
- 2.
- 3.

C. Motivation of students in using eLearning tools for teaching

Please answer the questions in this section with reference to **one** subject or unit in which you have applied e-learning tools.

18. Delivery mode in your subject/unit is (select one):

- *Conventional face-to-face, supplemented with online materials and/or optional online activities*
- *Conventional face-to-face, blended with mandatory online activities*
- *Online with face-to-face residential schools or workshops*
- *Online with no face-to-face contact*
- *Other (please specify):*

19. Were the e-learning activities (Select all that apply):

- () Compulsory but not assessable
- () Assessable but not compulsory
- () Voluntary but assessable
- () Voluntary but not assessable

20. In your experience, why do some students show low motivation when learning from online courses?

- () Core subject is not students' main interest
- () Students are enrolled in other subjects at the same time
- () Students do not like engaging in online discussions
- () Other: _____ Please elaborate if needed:

21. What strategies do you use to keep students motivated in your online course?
In each one, please comment how effective they are.

- 1.
- 2.
- 3.

22. What are the characteristics of students who show higher motivation for learning online?

- 1.
- 2.
- 3.

23. In your view, does culture affect motivation to learn in an online environment?
Yes () No () If 'Yes', please provide brief details:

24. The eTool that foster higher engagement with other students within the online environment:

- () Chats
- () Forums
- () Blogs
- () Wikis
- () Video session (Synchronous)
- () Pre-recorded lectures/sessions (Asynchronous)
- () Other (please specify): _____

D. Learning Management System (LMS)

25. In terms of your use of computers and the Internet for university teaching, how would you rate your:

- a) Technical skill level? *Beginner / Novice / Intermediate / Advanced / Expert*
- b) Ability to use/integrate the technologies in teaching? *Beginner / Novice / Intermediate / Advanced / Expert*
- c) Skill level in using e-learning? *Beginner / Novice / Intermediate / Advanced / Expert*

26. Have you had any specific training in the use of the LMS platform?

- e) Formal training
- f) I learn as I go
- g) I have technical support during the design stage
- h) I set up my own courses without any assistance

27. Which LMS do you use:

- a) Moodle
- b) Blackboard
- c) Desire 2 Learn
- d) Sakai
- e) Other (please specify): _____

28. What are the relative merits of the LMS in terms of student engagement capacities?

29. Does this LMS address the need of a culturally diverse cohort?
Yes () No () If 'Yes', please provide brief details:

30. Briefly explain the key features of your online pedagogy.
1.
2.
3.

31. Would you say your subject is one with a higher retention rate?

32. If there are culturally diverse students in your online course, please list main aspects of how this LMS addresses their needs:
1.
2.
3.

E. Online pedagogy

33. Your e-learning teaching pedagogy for generating personal knowledge is based on the following principles (select all that apply):
____ Behaviourist
____ Cognitivist
____ Constructivist
____ Connectivist
____ A mix of _____ and _____
____ Other (please specify): _____

34. Your e-learning teaching pedagogy for generating collaboration among students is based on the following principles (select all that apply):
____ Behaviourist
____ Cognitivist
____ Constructivist
____ Connectivist
____ A mix of _____ and _____
____ Other (please specify): _____

35. According to your experience, what characteristics of your chosen online pedagogy helps foster student engagement?
1.
2.
3.

36. What pedagogical strategies do you use to create a culturally inclusive online environment?
1.

- 2.
- 3

37. Please list what you believe to be the three most significant **barriers** for the use of your chosen pedagogy in online courses?

- 1.
- 2.
- 3.

38. What do you consider to be the main positive aspects, or **successes**, for the use of your chosen pedagogy in online courses?

- 1.
- 2.
- 3.

F. Follow-up

39. Would you like to receive a copy of the final report when it becomes available?
Yes / No

40. Do you consent to the researchers contacting you for a follow-up interview lasting approximately 30 minutes? *Yes / No*

41. If so, please supply your email address:

Appendix B – Interview questions on engagement and retention in online degree courses

A. Views and beliefs about using eLearning for university teaching

1. Can you please provide a brief overview of the context of your online teaching environment?
2. When is eLearning best applied in teaching culturally diverse cohorts?
3. What features of eLearning makes it valuable for teaching culturally diverse cohorts?

B. Use of online tools for teaching

4. Why did you use eLearning for teaching in this subject/unit?
5. What do you consider to be the main positive aspects or **successes** of the use of eLearning in this subject/unit?
6. What are the main negative aspects or **problems** you encountered in the use of eLearning in this subject/unit?
7. What have you done/do you plan to do to overcome these problems and challenges?
8. In your view, what are the main reasons for students to drop out of online courses?
9. In your view, what are the main reasons for low engagement among students online?
10. What strategies do you apply to support student motivation online?

C. Observations and reflections on the use of eLearning for teaching

11. What additional advice/recommendations, if any, do you have for other lecturers contemplating the use of eLearning for their courses?

Appendix C – Definition of terms

To provide clarity for the readership, the terms commonly used throughout this research have been defined by the researcher, unless otherwise noted.

Asynchronous: Asynchronous means ‘at a different time.’ In asynchronous communication, for example, students are able to interact with others at their convenience. Forums are a good example of this type of communication, where students post a message and other students read and respond at another time, which can be hours or days later.

Online learning: Courses are delivered via the Internet.

Blended learning: A mix of face-to-face and online classes for the delivery of subjects or entire degree programs.

Blog: A website in which students and lecturers are able to post on a regular basis. These posts usually focus on an area of interest and it is normally applied to discuss personal experiences. These messages are posted on a chronological order and resemble a ‘diary.’ The term blog is a shortened form of web log. A person who posts entries on blogs is called ‘blogger.’

Chat room: Area within the online course environment where students exchange views in a synchronous way (live).

Culture: A set of symbols that influences one's worldview, providing meaning and guiding behaviour. It is a pattern of "beliefs, values, traditions and meanings that are shared to varying degrees by relating members of a community" (Ting-Toomey, 1999, p. 10).

Digital age: Also called information age. It refers to the use of technology, which includes computers and Internet access, to present and exchange information.

Culturally diverse: It refers to the quality of representing different cultures, as opposed to one single or a monocultural group. In this research, the term 'diverse' relates to students who live in different countries, and are, consequently, from different cultural, and mostly always, from non-English speaking backgrounds. A diverse cohort means that students from different countries are on the same online classroom environment, bringing their different views and perspectives to the online environment. It is the diversity of cohorts that is explored in this research, their challenges and the richness of their contributions to online collaborative activities.

eLearning: Abbreviation of electronic learning. It is the use of information and communication technologies (ICT) and electronic media in education.

eTools: Abbreviation of electronic tools. It is the use of a computer or web-based application for a task, example, forums, chat rooms and blogs.

Forum: An online area where students and lecturers write their ideas and views on a particular issue. Lecturers also use forums for general class announcements.

Intercultural: According to Crippen and Brew (2007), intercultural denotes interactions between members of different cultures. This term incorporates interracial (between different racial groups), international (between different nations), interethnic (between different ethnic communities), and interfaith (between different religions).

Intercultural communication: This term is applied when people from different cultures exchange information and/or ideas.

Interface: In instructional media, interface is a web-based program that allows for interactivity among its users and with its content.

Learning Management System (LMS): It is a term applied to describe software application for the delivery and assessment of online classes, also called eLearning classes. LMSs allow for the creation, administration, documentation, tracking and reporting of training programs or classes.

Learning styles: a set of factors and attitudes that are indicators of how learners perceive the learning environment, depending on each individual's strengths and weaknesses.

Learning preferences: refers to the feeling of liking one way more than another when interacting in the learning environment.

MOOCs: Massive Open Online Courses. These university courses are delivered via the web, free of charge, attracting a very large number of participants per course, who can enrol regardless of their geographical location. MOOCs do not offer academic credit to students who successfully complete their programs, but only certificates of completion.

Multicultural: Being from different cultures or ethnic backgrounds.

On campus students: Students who attend face-to-face classes, as opposed to online or off campus students, attending classes within the online environment.

Pedagogy: The specific approach and teaching skills and strategies that a lecturer uses to teach.

Podcast: Audio recordings made available for students to listen to at their convenience.

Scaffolding: A term applied to refer to instructional techniques lecturers use to support students learning processes progressively to a stronger understanding of a subject or issue.

Synchronous: Synchronous means 'at the same time' or 'live' such as talking to someone in real time. Communication can happen simultaneously via text, audio or video, making use of online tools such as chats or Skype, for example.

Wiki: An asynchronous online tool applied by students to work in collaboration by writing, editing and adding audio and/or video to present information and share with others.

Appendix D – Participant Information Sheet



School of Education
University of New England
Armidale NSW 2351
Australia
Phone +61 (2) 6773 5054
sue.gregory@une.edu.au
www.une.edu.au/education

INFORMATION SHEET for PARTICIPANTS

I wish to invite you to participate in my research project, described below.

My name is Eliani Boton and I am conducting this research as part of my Research in the School of Education at the University of New England. My supervisors are Dr. Sue Gregory and Dr. Siri Gamage.

Research Project	<i>Strategies for higher retention in online degree courses</i>
Aim of the research	The aim of this research is to investigate student engagement strategies applied by lecturers in online teaching in six countries. It will be based upon a case study approach, and it will rely on the analysis of qualitative data. This research will use a web-based questionnaire during the first stage of data collection, followed by semi-structured interviews.
Online questionnaire	I will be sending a link for a web-based questionnaire. Answering the questions will take approximately 20 minutes. At the end of the questionnaire, you will be invited to participate in follow-up interviews.
Interview	For lecturers who have agreed to participate on the interviews, I will be conducting an interview via Skype. The interview will take approximately 30 minutes. With your permission, I will make an audio recording of the interview to ensure that I accurately recall the information you provide. Following the interview, a transcript will be provided to you if you wish to see one.
Confidentiality	Any information or personal details gathered in the course of the study will remain confidential. No individual will be identified by name in any publication of the results. All names will be replaced by pseudonyms; this will ensure that you are not identifiable.
Participation is Voluntary	Please understand that your involvement in this study is voluntary and I respect your right to withdraw from the study at any time. You may discontinue the interview at any time without consequence

	and you do not need to provide any explanation if you decide not to participate or withdraw at any time.
Questions	The interview questions will not be of a sensitive nature: rather they are general, aiming to enable you to enhance my knowledge of the challenges of teaching e-learning courses and reasons for high retention rates.
Use of information	I will use information from the data collected as part of my research, which I expect to complete by January 2017. Information collected may also be used in journal articles and conference presentations before and after this date. At all times, I will safeguard your identity by presenting the information in a way that will not allow you to be identified.
Upsetting issues	It is unlikely that this research will raise any personal or upsetting issues but if it does you may wish to contact the local Community Health Centre in your country.
Storage of information	I will keep hardcopy recordings and notes of the interview in a locked cabinet at the researcher's office at the University of New England. Any electronic data will be kept on a password-protected computer in the same School. Only the research team will have access to the data.
Disposal of information	All the data collected in this research will be kept for a minimum of five years after successful submission of my thesis, after which it will be disposed of by deleting relevant computer files, and destroying or shredding hardcopy materials.
Approval	This project has been approved by the Human Research Ethics Committee of the University of New England - Approval Number HE14-039 - Valid to 20/03/2015.
Contact details	Feel free to contact me with any questions about this research by email at eboton@myune.edu.au or by phone on +61 7 3270 1055. You may also contact my supervisors. My Principal supervisor's name is Sue Gregory and she can be contacted at sue.gregory@une.edu.au - phone (02) 6773 5054 or +61 2 6773 5054 overseas and my Co-supervisor's name is Dr. Sirisena Gamage and he can be contacted at siri.gamage@une.edu.au - phone or (02) 6773 3836 or +61 2 6773 3836.

Complaints

Should you have any complaints concerning the manner in which this research is conducted, please contact the Research Ethics Officer at:

Research Services

University of New England

Armidale, NSW 2351

Tel: (02) 6773 3449 Fax: (02) 6773 3543

Email: ethics@une.edu.au

Thank you for considering this request and I look forward to further contacting you.

Regards,

Eliani Boton