A case study exploring mature students' expectations and experiences of the fully online mode of learning in a higher education institution in Ireland

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Declaration

I hereby certify that this material, which I now submit for assessment on the programme of study leading to the award of Doctorate of Education, is entirely my own work, that I have exercised reasonable care to ensure that the work is original, and does not to the best of my knowledge breach any law of copyright, and has not been taken from the work of others save and to the extent that such work has been cited and acknowledged within the text of my work.

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Dedication

I would like to dedicate this work to my husband Glenn and our amazing three boys, Conor, Oisín and Darragh xxx

Thank you for always being so supportive.

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Table of Contents

Chapter 3: Research Design and Methodology

Chapter 4: Findings

Appendices

List of Abbreviations

ANOVA	Analysis of Variance
CSCL	Computer-Supported Collaborative Learning
CMC	Computer Mediated Communication
DES	Department of Education and Skills
HEA	Higher Education Authority
HEI	Higher Education Institution
ICTs	Information and Communication Technologies
IOT	Institute of Technology
MOOCs	Massive Online Open Courses

List of Figures

Chapter 1

Chapter 2

Chapter 3

Chapter 4

Chapter 5

Abstract

Siobhain O'Connor McGowan

A case study exploring mature students' expectations and experiences of the fully online mode of learning in a higher education institution in Ireland

Today higher education is experiencing change due to major technological innovations and disruptions that offer new opportunities for engagement in teaching and learning and in supporting differing ways of accessing and enabling learning. These new technologies provide opportunities for new ways of thinking about the concept of 'place' in educational contexts, with the physical "bricks and mortar" classroom gradually losing its monopoly as the place of learning (Nguyen, 2015) through the advancement of newer technologies now offering new modes and virtual spaces for learning. It is within this context that this research study set-out to explore mature students' expectations and experiences of the 'fully online' mode of learning being implemented within a higher education institution in Ireland. The Case Study research project utilised mixed methods across two phases of research to examine students' expectations of, and their experiences of engagement with, fully online courses. The results indicated that students were generally satisfied with the quality of the 'pared down' online course provision and supports therein, but called for timely feedback from lecturers particularly in relation to assessment. Furthermore, the live streaming of practical sessions was not seen by some participants to be conducive to learning. Interestingly, the findings showed that students migrated from using institutional forums for communication purposes to their personal social media/ social networking tools. Furthermore, there were indications that the structuring of the online content into 'live-streamed lecture sessions' and 'archived lecture sessions' was contributing to the formation of two separate communities of learning, and this warrants further investigation. The recommendations include training for lecturers on ways to enhance communication and foster communities of learning within fully online settings.

Chapter 1: Introduction to Research Study

1.1 Introduction

Today higher education is experiencing change due to major technological innovations and disruptions that many, including the European Commission (2014), acknowledge offer new opportunities for engagement in teaching and learning and in supporting differing ways of accessing and enabling learning within higher education. These new technologies provide opportunities for new ways of thinking about the concept of 'place' in educational contexts, with the physical "bricks and mortar" classroom gradually losing its monopoly as the place of learning (Nguyen, 2015) through the advancement of newer technologies now offering new modes and (virtual) spaces for learning. It is within this context that this research study set-out to explore mature students' expectations and experiences of the 'fully online' mode of learning being implemented within a higher education institution in Ireland. For the purposes of this study, the fully online mode of learning is understood as engagement in online programmes that are offered entirely in online distance mode, with no requirement for students to attend face-to-face, on-campus sessions. This is distinct from the blended mode of online learning where students engage in on-campus *face-to-face* learning, in addition to accessing and interacting in online content and activities.

This chapter begins by presenting the rationale for this research study of the fully online mode of learning, and progresses with an overview of the framing of the research study including the main research questions. The main contributions of this research study to knowledge and practice are then outlined. The chapter concludes with an explanation of the overall structure of the thesis.

1.2 Rationale for Study

The growth and advances in technology since the 1990s have made online learning delivery easier and faster and have propelled advancements towards integration of e-learning since the turn of the millennium (Volery, 2000) and the promotion of the virtual university (Bucur, 2012). Demand for online, part-time study continues to grow in Ireland and across Europe (Brown, 2017; HEA, 2017). At the tertiary level, online learning is a pathway of choice for many mature students as it facilitates more flexible

access to education (Brown, 2017) with a minimum of interruption to work and family life (Cercone, 2008). According to Delaney and Fox (2013), flexibility is a significant feature for students as full-time participation and the more traditional, on-campus delivery may not always be compatible given individuals' circumstances. Oblinger (2012) reiterates this need for a differing pathway to access third level learning, and highlights how online learning has provided mature students a new way of accessing higher education programmes. In 2011, the Irish Department of Education and Skills (DES) noted that: '*In the coming decades, the delivery of higher education in Ireland must be characterised by flexibility and innovation'* (p.17). This flexibility in access to learning is essential in providing a 'second chance' education for adults who were unable to access higher education when they left school. The National Strategy for Higher Education to 2030 - launched in Ireland in 2011 - emphasised the importance of integrating online learning to make higher education programmes more accessible and thus, widening and increasing participation to part-time students in Ireland. In 2013, the Higher Education Authority (HEA) of Ireland further emphasised the need for flexible learning, but did highlight that to enhance participation of part-time students in higher education, this mode of learning would need to have equity of resourcing with those engaged in full-time studies - '*flexible learning will need to have full parity within Irish higher education funding policy*' (HEA, 2013, p.47). Brown (2017) argued that, regardless of restrictive funding models, the impact and demand for more online and flexible learning pathways would continue to increase as people look to earn as they learn. Therefore, it was considered both timely and appropriate to examine the experiences of students engaged in online higher education programmes in this study, given the potential of the online mode of learning in enabling transformations in access to, and increased demand for, higher education in Ireland.

This research set out to examine a particular mode of online learning - the fully online mode of learning. Harasim (2006) considered three ways in which the role of online learning could be framed which are summarised as follows: the first spoke to the use of online learning within learning activities in episodes of learning – thus, '*an adjunct or supplementary mode' (p.64)* of online learning; the second pointed to extensive use of online learning blended with face-to-face learning in a course – '*mixed or blended mode of online learning'* (p.64); and, the third pointed to courses that could be undertaken

entirely online (no compulsory face-to-face attendance on campus) – '*totally online mode of online learning'* (p.64). This study aimed to solely explore the 'totally online' mode of learning. However, the researcher came up against two issues with this terminology. Firstly, the institution in which this research study was being conducted offered both blended and totally online modes of learning, but referred to these two modes simply as 'online learning' and this lack of differentiation by the institution meant that the researcher had to decide on an appropriate term. Secondly, within the Irish higher education sector, the term 'fully online' (as opposed to 'totally online') was more commonly used to represent online learning at a distance (some examples of HEIs using this term include University College Cork and the National University of Ireland Galway, as evidenced from their websites). Therefore, in the interests of clarity and alignment with how this mode of learning is framed by other Irish higher education institutions, the terms '*fully online mode of learning' or 'fully online learning''* are used in this thesis when referring to the totally online courses that are the focus of this study.

The rationale for undertaking this research study of higher education students' experiences of fully online learning was that the uptake of this mode of learning had just begun to increase in the targeted institution at the outset of this research study, and thus there was interest to ascertain why this mode of learning was becoming popular, and also whether the ways in which it was being implemented fully met the needs of participants. It is important to note that more general in-house evaluations of the experiences of students in blended modes of learning had been conducted prior to this study in the chosen Institute but these evaluations tended to be at a modular level (or rely mainly on perspectives of lecturers), and didn't delineate between experiences of those students in *blended* online learning programmes and those undertaking *fully* online learning programmes. Therefore, this study set out examine (from the perspectives of students) the enactment of fully online learning, and the student experiences of this. The research aimed to capture learning from the lived experiences of these students in order to better understand and enhance knowledge of good practices, with respect to designing and implementing fully online learning. It was further hoped that the findings from this research would also inform institutional policy and strategy with respect to fully online course provision.

1.3 Frame of Research Study

This Case Study research set out to explore mature students' expectations and experiences of the fully online mode of learning within the context of a particular higher education institution in Ireland. The Case Study methodology was selected as, according to Stake (1995), it is a suitable research approach for evaluating the lived experience of participants in a particular setting – in this study the setting was a higher education institution in Ireland, and the case study was bounded by focusing on those students undertaking the fully online mode of learning, A Mixed Methods research approach underpinned the research design, which involved the collation and analysis of quantitative and qualitative data sets from across two phases of research to respond to the research questions, as follows:

- What are mature students' expectations and experiences of the fully online mode of learning within this HEI?
    - What influences and inhibits initial and continued engagement by mature students within a fully online mode of learning?
    - What are mature students' experiences of the quality of course provision, and of engagement within its fully online context compared to other modes of learning?
    - What are mature students' dispositions towards and experiences of peer interaction and communities of learning within the fully online mode of learning?
- How might the implementation of the fully online mode of learning be enhanced and progressed within this HEI?

The initial phase of research in 2016-2018 mainly explored from a qualitative perspective the experiences of a small sample of 9 mature students undertaking a fully online mode of learning, with some insights from a broader population of 46 students engaged in fully online courses. The second phase of research was undertaken in 2019 and involved the deployment of a survey to gather both qualitative and quantitative data from a sample of circa 600 participants, and in doing so, captured the experiences of 204 mature students undertaking the fully online mode of learning within the target HEI. Furthermore, a focus group was held with 4 lecturers engaged in the facilitation of fully online courses, with a view to better understanding the role of the online educator

and seek clarifications on issues identified by students in relation to the fully online course. The researcher utilised a range of data collection tools across the two phases of research, including: semi-structured interviews with individual students and surveys (questionnaires) with broader population of students undertaking fully online studies, and a focus group with lecturers. In terms of data analysis, the qualitative datasets were analysed using a thematic analysis process, where open codes were established, and relational coding was used to identify and draw connections between the open coding categories, further refining the data until themes could be established and findings could be articulated. The quantitative data-sets were compiled, analysed and presented in descriptive statistical format.

1.4 Summary of the Main Contributions of this Research Study to Knowledge and Practice

The research study makes the following contributions to knowledge and practice:

Firstly, this study offers a unique vignette into the enactment of fully online learning as experienced by students in a higher education institution in Ireland. In this regard, it revealed the deployment of a 'pared down' model of fully online learning by the Higher Education Institution (HEI), with students being offered real-time access to on-site face-to-face lecture sessions that were streamed *live* during day-time hours, as well as access to recorded versions of these live lecture sessions that had been archived with other resources on the learning management system. The students reported being very satisfied with the overall course design and structuring of learning within this model of fully online learning, and indeed the student participants of this study had successfully progressed within their online courses showing that the programmatic learning outcomes were achieved despite the integration of a pared down model of fully online learning.

Secondly, the study revealed interesting information about the profile of students undertaking this fully online mode of learning including, but not limited to, the fact that many already had undergraduate degree level qualifications, and the majority were in full-time employment. The participants in this study were all undertaking an undergraduate degree programme in fully online mode, so the fact that many of them

already had been awarded an undergraduate level of degree was of interest. As some of the participating students mentioned the 'Springboard' programme - the Irish government's career re-orientation programme that was established in 2008 during the onset of austerity in Ireland - it is likely that the re-engagement by some of those (who already had been awarded degrees in undergraduate studies) was linked to this initiative i.e. they needed to re-orient or change their degree to get full-time employment. However, this profile of student seeking a second undergraduate degree level qualification may also be suggestive of a new trend in education, where even those with degrees in full-time employment will engage in re-education (at undergraduate level) to strengthen or safeguard their likelihood of employment in the future economy (DBEI, 2018; DBEI, 2019).

Thirdly, the study affirms and further contributes to knowledge about the fully online model of learning. In this regard, the study traced factors impacting the student experience of the fully online learning that aligned with existing findings highlighted within the literature, including confirmation by some students of a sense of isolation created by perceived separation from peers and lecturers, of frustration with delays in lecturers responding to queries or with feedback on assignments, and of inadequacies in the provision of online practical training sessions. The study further traversed new territory in its mapping or identification of a new pattern of engagement within the context of the fully online model of learning deployed in the targeted higher education institution, specifically the reported emergence of the two separate communities of learning – one of which formed through contact made among the fully online students who were accessing the 'live-streamed lecture' sessions, and the other which was formed by those fully online students accessing 'recorded lectures' archived within the institutional learning management system. In both cases, the students tended to migrate off institutional forums to use their own personal social media/networking applications for communication about the course and sharing their experiences of engagement in the fully online mode of learning.

Fourthly, the research reveals the need for professional development of lecturers, particularly in terms of raising their awareness of appropriate pedagogical approaches for online learning, and of ways to foster communities of learning, within the fully online

mode of learning. The study also pointed to the need for re-consideration of workload allocation for lecturers by higher education institutions, in light of the additional time-load associated with fostering meaningful interaction and engagement within communities of learning, in the fully online mode of learning.

1.5 Adult Learning

As this study takes place in a higher education context and is focusing on mature students, this section provides a brief introduction to assumptions and principles underpinning adult learning. Illeris (2006) defines learning as '*any process that in a living organism leads to permanent capacity change and which is not solely due to biological maturation or ageing'* (p.3), and thus perceives learning as a transformational process that brings about change. Kannienen (2008) defines '*Learning as a process where we absorb information, memorise and process it for further use*' (p.3), and further asserts that there are many things and skills that we learn unconsciously or without further thinking, for example, cycling a bike, but equally, there are things that we learn consciously, and use different strategies in learning it. Illeris (2006) supports the view that learning is both a conscious and unconscious, cognitive process swayed by the interaction between either, both, or all of the three dimensions of learning (cognitive, emotional and social). A number of educational psychologists such as Dewey (1938) and Vygotsky (1978) advocated that learners can learn actively and construct new knowledge based on their prior knowledge, which is also the foundation of adult learning. Knowles (1975) suggested that one of the key assumptions of adult learning is self-directed learning which he describes as a process when '*individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes'* (p.18). He further proposed in 1980 the five assumptions of adult learning, distinguishing between child and adult learning, and these form the foundations of andragogy, or adult learning, as illustrated in Figure 1.1.

Assumption 1	Adult Learners are self-directed.
Assumption 2	Adult bring experience with them to the learning environment.
Assumption 3	Adults enter the learning environment ready to learn.
Assumption 4	Adult learners are problem-oriented.
Assumption 5	Adults are motivated to learn by internal factors.

Figure 1.1: Summary of Knowles (1980) Assumptions about Adult Learning.

According to Gold (2001), adult learners integrate new knowledge by producing cognitive structures built upon the experiences in which they are engaged, and in this respect, tend to be problem-oriented as highlighted by Knowles (1980). Illeris (2006) suggests that adults are less likely to learn something that is of no importance or of any value to them. Adult learners tend to draw from their life experiences to aid their learning and have an intense motivation to learn for themselves – thus, they are as Knowles (1980) claims, they are motivated by internal factors. However, in an adult learning context, we need to be careful about making assumptions that all adult students are self-directed learners or have strong internal motivation, as according to Cornelius *et al.* (2009), there are some adult learners who may require additional support for self-direction, or may need assistance to engage in problem solving.

1.6 Mode of Online Learning in Target Institution

This section provides an overview of online learning in the higher education institution in which the study was based, as well as an outline of the specific model of fully online learning being deployed by the institution. The targeted Higher Education Institute (HEI), has in excess of 4,900 full-time equivalent (FTE) students, with a student cohort comprising 3,537 full time, and 1,245 (FTE) part time (mostly online/blended learning) and 127 trade apprentices. At the time of study, there were 307 academic and 163 professional services and support employees. The Institute delivers programmes of education from Level 5 (trade apprenticeships) to Level 10 (PhD), with the concentration of enrolments at Levels 6 to 8 (as framed by the Irish National Framework of Qualifications, 2003) across the schools of Business and Social Sciences, Engineering and Science.

1.6.1 Overview of Online Learning in Institute

The targeted HEI has a solid track record in the development and delivery of online programmes with over 15 years of experience in the field of online education, allowing students to study from any location at any time – thus overcoming many of the barriers that prevent people accessing traditional full-time campus based higher education. The Institute has been recognised as a national leader in the provision of programmes delivered through online/blended learning mode, in its national award of the 'Taoiseach's Public Service Excellence Award' in 2012 for its achievements in promoting online learning for both full-time and part-time students. The overall numbers undertaking the online mode of learning have increased significantly in the past 15 years (as shown in Figure 1.1), which can be attributed to strategies adopted by the Institute that resulted in the following: the widening of offerings to include new programmes largely focused in Science, Technology, Engineering and Maths (STEM); the development of a close partnership with industry chiefly to provide upskilling opportunities for staff in new, emerging technologies; and, the provision of fully online mode of learning to facilitate study by those wishing to engage in part time study while in full time employment. An example of the partnership with industry is the Insurance Practitioner Apprenticeship, which is an 'earn and learn' degree programme that combines on-the-job training with academic study, that facilitates access to online degree programmes. Furthermore, the Institute is the first, third-level institution in Ireland to develop bespoke, part-time, online programmes designed for the water and wastewater sector in Ireland and the rest of the world.

Presently, over 2,400 students are engaged in online learning, the majority of whom engage with the blended learning programmes which involves mandatory attendance on campus throughout the academic year. Around 600 students currently undertake the fully online mode of learning, in which there is no mandatory attendance on campus, and thus the programmes are offered as distance education programmes.

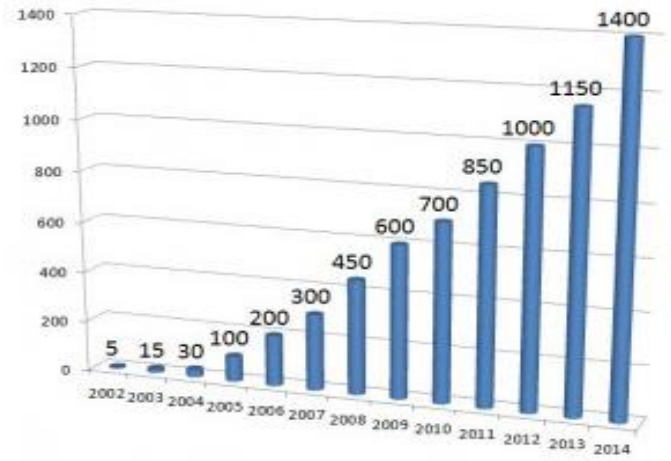

Figure 1.2: Growth of Online Learning at Targeted HEI.

Figure 1.2 Growth of Online Learning at Targeted HEI (2002-2014) Source: Targeted HEI
It is important to note that all flexible students (undergraduate adult, part-time and online/distance students) are provided with access to the online Student Success Toolbox a cross-institutional resource which aims to support transitions to study to the first weeks of engagement within higher education settings. This toolbox consists of a suite of digital tools that enable flexible learners to assess their own readiness, provide feedback and lay the foundations for successful programme completion.

1.6.2 Overview of Fully Online Model in Target Institution

This study solely focused on examining the experiences of those engaged in the fully online mode of learning, and in this section, an overview of the learning platform that supports this is presented. Moodle is the learning management system that is deployed by the Institute for all online learning programmes, including the fully online mode of learning. Each programme is organised over two semesters for a period of either three or four years. The fully online mode of learning follows the identical structure to the full-time mode, in that the content is structured to be delivered over 12 weeks with a one week reading week allocated in week 7. The blended online programmes generally require students to attend the Institute for a number of practical classes, usually three or four times per year. However, the fully online mode of learning has no attendance on campus.

Figure 1.3 below, summarises the main features of the fully online mode of learning deployed by the target Institute, which has been framed using a framework articulated by Lowenthal *et al*. (2009). For the fully online mode, the course information and materials are uploaded into the aforementioned structured modules within Moodle platform. The course materials comprise typically of text-based, audio and/ or video resources, which may include reading material or video clips that explain concepts, contexts or processes. In addition, students can submit queries and get private feedback and can communicate with their lecturers and with peers via the Moodle discussion forums. Furthermore, the students can watch, interact and engage in 'live lecture' sessions, interactive web meetings, and webinars using Adobe Connect or Panopto. The fully online mode of learning in this regard could be said to replicate a number of aspects of the traditional face-to face classroom in its web-casting or live-streaming of live lectures over the Internet.

However, there are differences. During an online lecture, the lecturer can be heard (but may not always be visible) and the projections and/or class material written on the white board can be seen by the online students. It is important to note that the face-to-face lecture session is live streamed from an actual lecture hall and is scheduled in day-time hours for full-time students, but the full-time student cohort cannot be seen, but their questions and the lecturers' responses can be heard in the live transmission. Questions can be posed to lecturers by the online students while viewing the live lecture and these questions may be responded to publicly during the live session, or privately afterwards using institutional systems. Moreover, all the live lecture sessions are recorded through Adobe Connect or Panopto, and archived on Moodle, which allows the students to access recordings of the live-streamed lectures at a time of their convenience. This is useful for students who have missed the live lecture (or for those students who simply prefer not to engage with live lecture sessions), and each lecture session be downloaded and viewed by the online student in their own time.

Frame of the Fully Online Mode of Learning in Targeted Higher Education Institute					
CONTEXT – Course setup, purpose and fit.					
Formality	Formal/ Credit	Required Non-formal	Optional Non-formal	Informal	
Setting	K-12	Higher Education	Workplace Learning	Other	
Curriculum Fit	Course within Credential or Degree	Module Embedded within a Course or Credential	Stand-alone Module		
Synchronous	Programme designed to have 50% Synchronous/ Asynchronous mode, but student can decide on which mode suits them.				
Pacing	Fixed - Standard Term (Note: Student can self-pace within module but assignment/exam submission deadlines are fixed)	Fixed Accelerated Term	Self-Paced on aspects	Completely Self-paced	
% Online	100% of the Programme is online (fully online model)				
Development Model	Course was developed by a vendor.	Course (Programme) was collaboratively designed and developed by a team	Instructor is teaching a course designed and developed by another faculty	Instructor is teaching a course in which web-based or other materials are incorporated into his/her own materials	Course (Module) is designed, developed and taught by the instructor
Targeted Learning	Knowledge/memory/ text processing	Skills and operations	Higher-order/authentic performing		
Subject Area	Science	Engineering	Business and Social Science		
MEDIA					
Multimedia	Primarily Audio and Video	Blended Media	Primarily text-based		
3-D Virtual World	Fully Online	Blended	Supplemental	No 3-D World	
TEACHERS AND LEARNERS					
Instructor Role	Instructor – highly engaged/present	Instructor – less engaged/present	No Instructor		
Cohort Group	Continuing Cohort or Established Group	New Cohort	Non-Cohort – most students don't know each other		
Communication	Regular communication with faculty and between students	Communication primarily with students	Communication primarily with Faculty	Very little communication with faculty or students	
Student Collaboration	Ongoing student collaboration on projects and issues that rise	Occasional collaboration among students	Student collaboration is rare		
Teacher Preparation	Trained/Experience Online Instructor	Trained but first time teaching online	First time teaching online	Not applicable (No instructor)	
Student Diversity	Heterogeneous	Homogeneous Students mainly of Irish nationality, but some students from other countries.			
Class Size	Varied class size				

Figure 1.3: Frame of the Fully Online Mode of Learning in Targeted HEI (adapted from Lowenthal et al., 2009). Note: Shaded green boxes denote the features of the fully online mode of learning that was the focus of this study.

The lecturers must complete an online training course before embarking on online learning, and this is offered internally by the Institute. This training typically takes the form of workshops (with the accompanying training manual), which explains the nature of online learning, and different ways to support learners engaged in online learning, as well as training in using the technologies underpinning the learning platform (Moodle/ Adobe Connect/Panopto).

1.7 Structure of Thesis

This thesis is structured into chapters as follows. **Chapter 1** provides an outline of this study of the fully online mode of learning, including the rationale for undertaking the study, the research approach and the key research questions, and the main contributions of this study to knowledge/practice. **Chapter 2** presents a review of the relevant literature on online learning, exploring the existing body of knowledge on experiences of online learning (particularly the fully online mode of learning) within the context of higher education. It further examines the rationales underpinning the drive to integrate online learning in higher education. **Chapter 3** frames the research design and the philosophical underpinnings of this research study examining students' expectations and experiences of the fully online model of learning with a HEI in Ireland. The research framework, data collection methods, and data analysis procedures are described. Finally, ethical considerations and the limitations of the research study are presented. **Chapter 4** presents the research findings from the two phases of research. **Chapter 5** presents the overall conclusions from the research study, responding to each of the core research questions in this regard. The recommendations of the study are articulated here, as well as the researcher's final reflection on this research journey.

Chapter 2: Literature Review

2.1 Introduction

The review of the literature for this research study centred on exploring the existing body of knowledge on students' experiences of online learning within the context of higher education, with a focus on studies of the fully online mode of learning. It further examined the broader context for integration of online learning more generally. This chapter presents an overview of the methodology for the Literature Review, and further presents the findings from this review process.

2.2 Methodology for Literature Review

The methodology used to identify literature and studies for the review process involved a number of steps. The first step involved targeting literature in the area of online learning specifically within the context of higher education. This involved searches of databases, including: Google Scholar, Taylor Francis Online, and ERIC database using the search terms 'Online learning', 'Distance Education', 'Blended Learning', 'Fully/ Totally Online', and 'Higher Education', with a focus on identifying articles published from 2000 to 2018. Additionally, sources were acquired through reference sections of relevant articles and a "cited by" list search in what is referred to as 'snowball' technique (Wohlin, 2014). The search was extended further to include: 'Social media', 'Social networking', 'Online communities' and 'Higher Education' within the same time period. Furthermore, reports from the Higher Education Authority in Ireland and other international bodies (such as European Commission) were reviewed with respect to policy formation within the context of online learning in higher education. The information in these papers has been reviewed and the emergent findings pertinent to the focus of this study have been collated and are now presented within the discussion that ensues.

2.3 Changes in Higher Education

Today higher education is experiencing change due to major technological innovations and disruptions and the European Commission (2014) acknowledge in their report on the modernisation of higher education, that these technological advancements offer new opportunities for engagement in teaching and learning and in supporting differing

ways of accessing and enabling learning. Nguyen (2015) points to the advent of mobile technologies and social media in particular for the growth in new avenues for the mediation of knowledge, and as having significant implications for the ways in which people, organisations and institutions access sources of information, knowledge and learning. With respect to the former, Song (2010) highlights how online technologies are changing the way people, organisations, and institutions present, disseminate, and communicate information, with multiple opportunities at local, national and global levels to progress the knowledge economy. In terms of learning, these new technologies enable new thinking on the concept of 'place' in educational contexts, with the physical "bricks and mortar" classroom gradually losing its monopoly as the place of learning (Nguyen, 2015) through the advancement of newer technologies now offering new modes and (virtual) spaces for learning. In this regard, the integration of technologies is not manifest as simply a way to replicate more traditional formats or ways to teach and learn, as cautioned by Machanick (2014), but rather as an opportunity to re-think how learning can be enabled and enacted to support meaningful and quality learning enterprises. The role of social interaction and collaborative learning and development has always been assisted by various tools and technologies. While this format of online learning can present challenges, it is noted that such challenges, even those that involve clashes among participants, can lead to cognitive restructuring and development (Jeong, Hmelo-Silver and Jo 2019). Computer Support Collaborative Learning (CSCL) is a format of learning and instruction that can adopt the social nature of learning using a variety of technological and pedagogical strategies (Jeong, Hmelo-Silver and Jo 2019). Collaborative learning takes a number of forms depending on the pedagogical importance and context of learning. CSCL is built on the premise that collaborative knowledge construction can effectively be supported by computer technology and it is thought that those students who engage with each other through posting messages/forums and interacting with the learning materiel supplied, benefited greatly to their learning, development and motivation (Jeong et al 2019).

Education plays an important role in enabling individuals to develop the '*knowledge, skills and competencies required to participate effectively in society and in the workforce'* (HEA, 2017, p.19). In Ireland, a higher education qualification is highly valued by employers and as a result there are calls to make the higher education programmes

more '*accessible to part-time and off-campus students through the increased use of online delivery'* (HEA, 2012a, p.19). The general delivery of education can be considered in terms of two main forms: Face-to-face learning, and Online learning, the former being the mode of learning with which many of us would have been educated. In relation to the latter, online learning provides opportunities for '*lifelong learning, and continuing professional development'* according to the Higher Education Authority in Ireland (HEA, 2017, p. 35). As technology is constantly improving, there is a growing expectation from the wider population that '*easier access, better quality, more flexible approaches and greater online opportunities'* needs to be accommodated in the higher education system (European Commission, 2014, p.14). The 2017 HEA report further highlights that consideration needs to be provided to demonstrate how these learning opportunities can be incorporated more fully into the higher education system to '*engage more mature and non-traditional learner*' into higher education (p.35).

From reviewing the literature, the rationale underpinning the drive to integrate online learning in higher education is considered threefold as presented herein:

The first reason for integration of online learning is to meet the needs of students, in particular mature students, who want to engage in third level learning but require the flexibility and convenience offered by online learning programmes to access and engage with the programme. The concept of flexibility in the delivery of educational programmes is not new, with educational institutions offering programs at a distance for at least thirty years, with benefits including anytime, anyplace, anywhere learning (Moore and Kearsley, 1996). The integration of online learning in higher education has been steadily increasing since the 1980's, when Computer Mediated Communication (CMC) and the use of asynchronous learning first emerged. Hiltz (1986) recognising the value of CMC pointed to its future potential in facilitating learning within the 'virtual classroom.' Similarly, Paulsen and Rekkedal (1988) referring to the potential benefits of CMC pointed to its transformative potential in supporting and realising approaches to learning in the future, and in this regard, stated: '*the most exciting challenge in the long run will be to apply the new technology to create new and more efficient learning situations, rather than replicate the traditional classroom or distance learning environment'* (p.363). The 'asynchronous' access to learning content allows student to

undertake coursework within their own home or workplace rather than in a university setting. In terms of the latter, Young (2002) emphasised that the flexibility provided by newer technologies in distance and online forms of learning was strengthening the accessibility of education programmes which could be taken by students outside of dedicated university teaching and learning time, reducing the geographic and time constraints of past course provisions.

The second reason for progressing online learning is to meet the needs of employers, particularly those engaged within the knowledge economy, who require graduates of higher education to have the technological knowledge and skill-sets to effectively interact with and implement technologies in workplace settings. The move towards the automation of work along with transitions to a low carbon economy, brings new opportunities for employment but also a degree of uncertainty about the nature of work and careers, particularly the danger of not being able to find employment as highlighted in the Department of Business Enterprise and Innovation of Ireland (DBEI) *Future Jobs Ireland* reports in 2018 and 2019. The Irish National Strategy for Higher Education to 2030 (DES, 2011) outlines the need for more flexibility when it comes to access to, progression within and transferring across learning programmes, and furthermore more flexibility in working arrangement to allow opportunities for life-long or life-wide learning agendas. In their review of flexibility in Irish higher education, Flannery and McGarr (2014) are critical of the Irish government's Springboard initiatives in terms of its entrance requirements and limited course offerings from a disciplinary perspective – '*Most of the [Springboard] programmes on offer look for participants with previous relevant qualifications and/or work experience so that the Springboard initiative offers no opportunities for the most disadvantaged groups. It also offers no real opportunities for individuals who meet the eligibility criteria but wish to up-skill in social studies, nursing or any other area outside of the narrow specified range*' (p.427). Flannery and McGarr (2014) also report that some so-called part time/flexible programmes are not as flexible as initially perceived and other issues including separation of learning for those accessing full-time and learning, tension between learning quality and cost-savings; lack of parity of funding for those engaged in full-time or part-time/ blended/ fully online courses, and lack of attention to pedagogical concerns. With respect to the latter, they state that some higher education course providers adopt: '*a selective rather than*

integrated approach to part-time/flexible learning; and an emphasis on logistical flexibility with little attention to pedagogical concerns and learning quality' (p.431). The Higher Education Authority of Ireland in 2019 again called on higher education institutions to '*facilitate flexible learning pathways, so that citizens can access educational opportunities and develop relevant skills to tackle current and future global challenges, throughout their lives'(HEA, 2019, p.1)*. In this regard, offering relevant online courses can address particular skills gap with respect to the knowledge economy, whilst also enhancing the technological 'know-how' of students by enabling their engagement through the online mode of learning.

The third reason for integration of online learning is related to recent critiques of the higher education system with accompanying calls for reform to improve the student experience of learning at this level. In this regard, McCowan (2017) in his critique of the changes to higher education highlights a number of serious negative implications including the reduced quality of learning experience due to '*the impoverishment of conceptions of learning in pared-down instruction-only models, and the loss of synergies between diverse elements of universities*' (p.745). With respect to the latter, Hockridge (2013) believes that the rapid growth of online learning in recent times has led to substantial changes (for the better) to teaching and learning practices in higher education. And, in more recent times, O'Connell (2016) noting the transition from distance learning which was '*once undertaken by one-to-one correspondence between learners and teachers*' (p.1) and which has now evolved into web based learning, contends that academic degree programmes which are delivered through online mode of learning have resulted in the creation of high quality pedagogical practice in higher education and the emergence of high quality technology contexts which support and improve the learning experience for students who participate in this mode of learning.

In summary, the integration of online learning in higher education facilitates the wider participation of third level students while simultaneously offering new opportunities for online collaboration with other learners, through the use of mobile and other technologies facilitating individual and group access around the clock, and can be further used to prepare students for engagement in the knowledge economy.

2.4 Demographic Profile in Higher Education

The number of students entering higher education worldwide is projected to grow from '*100 million students currently to 250+ million by 2025'* (European Commission, 2014, p. 14). In the context of Ireland, the Higher Education Authority (HEA) has highlighted the growth in the numbers accessing higher education, with figures for 2011/2012 showing over 196,000 full-time and part-time students registered, representing an increase of 1.6% over the previous year (HEA, 2013). These figures reflected improved opportunities for unemployed people provided through the Springboard initiative, which facilitated re-education of those seeking to improve their employment opportunities (Boland, 2013). The HEA report further recognised that there was a significant increase in the number of part-time and flexible learning students, showing 3.7% of part-time students enrolled in these programmes at that time. The growing number of students in Ireland engaged in flexible, distance, online higher education programmes increased by 30% in 2011/2012 reflecting the amplified and more flexible learning opportunities for unemployed people provided through the government initiated Springboard initiative (HEA, 2013). Looking to the United States, a report by Allan and Seaman at the same time found that the enrolment of students in American universities in 2013 saw an increase of 2.39 percent of students in traditional courses in the previous 10 years, while there was an increase of online enrolments of 15.77 per cent in the same period. Therefore, the pace of the movement towards integration of online learning in higher education in Ireland was at that time significant when compared to the United States.

In recent decades, education institutes have become aware of the need to make their courses more accessible to a more diverse populations, to include the mature student, who is defined as a student over 23 years on the 1st January of the year of entry in the context of Irish higher education institutions (HEA 2012a, p.64). A 'classical' full-time student pursuing a primary degree in Ireland, typically ranges in age from 17-22 years. Most of these students are single and enter higher education on completion of a post-primary qualification - the Leaving Certificate - (Darmody *et al.,* 2005), with a minority typically having completed a further education qualification, or progressed to higher education through targeted access schemes. In contrast, a 'typical' part-time student tends to be older, 23 years of age or older, and is more likely to be in full-time or part-

time employment (Darmody *et al*., 2005). Furthermore, according to Darmody *et al.* (2005), they may be married (with or without children) and are more likely to have entered higher education using the non-traditional routes. The HEA reported in 2013 that 15% of full-time new entrants into higher education in 2010/2011 were mature, and that 92% of all part-time new entrants into higher education were also mature, acknowledging that the flexible mode of study was clearly a much more attractive mode for mature learners who needed to juggle work and family commitments, and keep up with current employment trends, while trying to achieve a third level qualification. The last number of years have seen further increases in the number of mature students entering higher education. In this regard, in their report for the 2016/ 2017 academic year, the HEA reported that 9% of full-time students were mature entering higher education, whilst 87% of part-time students were mature, with the full-time percentage of mature students differing in universities (7%) and in Institutes of Technology sector (12%). Furthermore, 3% (7384 students) of all enrolments were for 'remote' learning. In the 2017-2018 report, there were slight reductions in the numbers of mature students registering for both full-time and part-time studies but was a slight increase to the numbers enrolling for remote learning (7967 students). At the time of this review of literature, there was no information available publicly in Ireland on the (non) completion rates of students undertaking studies in the online mode of learning. However, Park and Choi (2009) do state that the individual characteristics of a higher education student such as age, gender and educational background should never be ignored but that these characteristics had little relevance when it comes to students decisions to drop out from an online course. External factors in contrast, however, can have significance in terms of the latter, with factors such as family commitments, work-life balance, financial limitations and issues associated with time limitations; all shown in a study by the National Forum for the Enhancement of Teaching and Learning in Higher Education (2015) to have a direct impact by decreasing students' level of motivation, and in students exiting higher education courses.

And, what of the profile of the mature student in relation to technological literacies and capabilities? With respect to those accessing higher education, the profile of mature students would include those referred by Prensky (2001) as digital natives, as well as those considered digital immigrants. With respect to the former, those mature students

up to 39 years of age would today fall under Prensky's categorization of *digital natives* as those born after 1980, who have grown up immersed in technology and thus are said to be comfortable using technology in their daily lives, and also to have developed special skills including the capacity to multi-task. This categorization would also now include the cohort of learners, called Millennials, born post 2000, who also are considered to have additional technological literacies with respect to social networking – thus, the claims for digital natives include their ability to meaningfully interact with and mediate knowledge, news, entertainment using technology enabled communication tools. In contrast to this, there are the *digital immigrants* and according to Prensky's (2001) classification, this includes anyone born before 1980, thus mature students 40 years of age or over (at this point in time), who didn't grow up immersed in technologies and thus are perceived to have low technical ability and literacy in technology. It must be acknowledged that Prensky's notion of a whole generation who have these advanced technological capabilities and literacies based on when they were born has been challenged by Bennett *et al*. (2008), amongst others, who found no evidence base for such claims, and indeed said there was evidence that there was as much variation in terms of capacity to use technology and awareness of technology within and across the so-called generations of digital natives and digital immigrants.

2.5 Online Learning

This section presents an overview of online learning, and further explores the role of social media and social networking technologies, in fostering communities of inquiries, and enhancing the quality of the online experience.

2.5.1 Modes of Online Learning

Online learning can be separated into two modes of learning – the blended mode of online learning and the fully online mode of learning. In terms of the former, the blended mode encompasses engagement in online learning and face-to-face learning. In terms of the online dimension of blended learning, the course materials and communication are typically accessed via online platforms, Learning Management Systems such as Moodle or BlackBoard, that facilitate not only access to archived materials and resources, but also access to live lecture sessions, and group work mediated through software such as Adobe Connect, and further enable tracking of user

progress. Moreover, in-built discussion forums, as promoted by O'Kelly (2016) and messaging services allow for regular contact and communication between the student and lecturer, and furthermore integrated quizzes facilitate engagement in assessments. Importantly, opportunities are integrated within the blended mode of online learning for students and lecturers to meet in face-to-face sessions, and these are important in terms of clarification of knowledge and community building for students. Furthermore, sometimes the approach to blended learning can be moderated to allow for particular learning experiences, so for example, opportunities for peer learning within the flipped model of blended learning - arguably originated by King (1993) in her re-purposing class-time for active learning, but perhaps best exemplified in the higher education context by Lage, Platt and Treglia (2000) in their flipping of their economics course to allow students to engage with lecture presentation online, and then deepen their learning experience through engagement in active learning sessions in the face-to-face setting.

In contrast to this model, the fully online mode of learning is entirely online in that all resources and facilities are typically integrated on the aforementioned Learning Management System, and communication is facilitated through communication software and apps, and most importantly, there are no compulsory face-to-face sessions. Some higher education institutions are offering entire programmes of study to students in the fully online mode, and these are discussed further in Section 2.6 of this Literature Review. Other education providers are providing shorter courses to larger populations in a particular online learning offering called: Massive Online Open Courses (MOOCs). The MOOC according to Longstaff (2014) typically is a course of short duration, which is open to anyone from any country with no educational pre-requirements, and usually access to the course content is free (a fee may be charged for certification of course completion) and is discussed in more depth in Section 2.7.

Kebritchi *et al.* (2017) maintain that a student's participation in an online learning programme can be affected if the student is unable or unwilling to be self-motivated and self-directed in their pursuit of new knowledge. Students need to have technical and computer skills (along with time management skills) in order to able to participate and progress successfully through online programmes. These skills are critical within self-directed or independent learning contexts, where students take responsibility for

their own understanding and learning, creating their own learning goals, and employing learning strategies (in line with principles of andragogy outlined by Knowles, (1975). Kebritchi *et al.* (2017) also argues that it is essential for students to feel involved, included and connected to other students taking part in the programme. Strayhorn (2012), cited in Pilcher, (2016) highlights the importance of online learning programmes in their ability to promote a sense of belonging among students who engaged in this form of learning. Strayhorn (2012) leaning on Maslow's (1968) hierarchy of needs, further highlighted how students need to experience this sense of belonging before they can engage confidently in knowledge-sharing online. Students who experience a sense of belonging or connection with lecturers and other students have demonstrated an ability to achieve well academically and also to have the stamina to be able to finish the programme (Strayhorn, 2012; Baumeister and Leary, 1995). A sense of belonging is strongest when relationships have been formed between other students, and where there are frequent and positive interactions (Strayhorn, 2012; Baumeister and Leary, 1995; Vygotsky 1978; Dewey 1938).

2.5.2 Social Media and Social Networking

Communication changed dramatically with the advent of the World Wide Web (WWW) by Tim Berners-Lee, which was originally developed for information-sharing between scientists in universities in the late 1980s. The initial manifestation of the WWW in the early 1990s was predominantly as a broadcast medium, which allowed the general public to read, watch and interact with hyperlinked text and media that had been uploaded mainly by organisations, companies and governments. In the late 1990s, the advent of social media and social networking technologies facilitated more diverse ways of communication between users and sharing of user-created content, and as such led to a democratisation of the Web, which meant that any user had the freedom to post and interact with content available in the open platforms that constituted the Internet. Since the turn of the millennium, people have been using social media platforms '*to interact, share information and voice their opinion*' (Kietzmann *et al.,* 2011, p.241), which according to Raut and Patil (2016) has resulted in social media becoming an integral part of modern society today. Social media describes the various platforms or media that can be used to share video, text, picture, podcast and other forms, within online communications. For example the use of Facebook, Twitter, WhatsApp,

YouTube, LinkedIn and other social networking sites are now used by millions across the world to keep in contact, keep up-to-date with daily events and find work (Raut and Patil, 2016). Amry (2014) suggests that access to learning resources anywhere, anytime in a variety of formats has the possibility to enhance deep student learning potential and can allow students to construct their own knowledge. In relation to community formation, social networking sites are a specific type of social media, which according to Farhud (2017) enable a digital space which allows an individual to create a personal profile giving them access to connect, share information and communicate with friends or others who might have the same interest, thereby creating foster relationships and developing community.

In their seminal publication, Brown and Duguid (2000) suggest that learning occurs in social contexts, and in the context of social media, students are experiencing education through a lens beyond that of text books and assignments; they are learning and adapting to the world using a relatively new form of communication in the form of social media (Baker, 2013), allowing learning to be available on demand (Buzzetto-More, 2012). Motteram and Forrester (2005) suggest that 'social presence' is important with online learning, and interaction with social media is one way in which this can be enabled. According to Baker (2013), social media can be and is being used to foster communities of learning. In this regard, Chaffey (2018) Raut and Patil (2016) and Griesemer (2011), all noted the considerable rise in the use of social media within learning and teaching environments. Griesemer (2011) and DeVilliers (2010) noted its use can positively influence discussions, collaborative work and online community building among students engaged in online learning. A study conducted by Junco *et al.* (2014) found social media can boost the learning outcomes and students' academic achievement, while at the same time, it leads to co-construction of knowledge. Moreover, Kalasi (2014) noted the benefits of social media as a tool in teaching and learning contexts where it can benefit students and lecturing staff alike, through fostering professional networks that connect them to communities beyond the classroom. However, Kalasi (2014) further cautioned that social media will not replace the traditional teaching method of education, but it can supplement the landscape of traditional learning by adding more tools for its disposal. Other advantages of social media, outlined by Llorens and Capdeferro (2011) and Yu *et al.* (2010), suggest how

social media can increase and reinforce relationships among students, boost their self-esteem and improve learning performance. In summary, engagement by students with social media sites can enhance the education process, through enabling them to actively engage in the activation of his/her own learning pathway rather than passively consume content. This makes the learning process more participatory, as well as providing the platform for the formation of relationships among cohorts of learners. However, it is important to note that online media can be used as vehicles for promoting lies, deception and cybercrimes (BECTA, 2007), and moreover, that our personal information and security can be hacked in a world where data flow is controlled by external servers. Furthermore, interaction within social media and social networking sites can also result in users being exposed to inappropriate content, inappropriate contact, cultures of cyberbullying, and or online criminal elements (BECTA, 2007).

2.5.3 Online Learning Communities

Lave and Wenger (1991) asserted that a key aspect of being human is in the desire to connect with another, and to form communities of common interest and purpose, and to learn within these communities. Wenger and his colleagues thus would regard learning as a social process, whereby learners interact and learn together in community/ communities, by sharing information, knowledge and skills (Wenger-Trayner, 2015;Lave and Wenger 1991). Rheingold (1993) provided an early definition of what constituted computer mediated learning communities as '*a group of people who may or may not meet one another face-to-face, and who exchange words and ideas through the mediation of computer bulletin boards and networks'* (p.58). These types of communities have been noted by Snyder (2009) and others as providing a forum where the sharing of common interests of learning is complimented by the sharing of knowledge and experience. Thus, they provide opportunities for groups of learners to engage with each other, share ideas, thoughts and opinions, and at the same time facilitate the creation of knowledge and experiences through collaboration together. Fostering this form of community online has been recognised since the turn of the millennium as important in online learning (Rovai, Wighting, and Lucking, 2004; Mercer, 2000) particularly in enabling students to feel connected and dispelling feelings of isolation or exclusion from the third level learning enterprise. In this respect, Wenger (1998) asserted that learners initially learn independently from the side-line and as

confidence grows, they progress to form community with peers and lecturers. Yuen (2003) pointed to the need to foster communities that enable students to cope with complicated issues and problems, and further recognised that students need to work and listen to others, and to learn new knowledge from a variety of different resources, sources and other people shared within a learning community. Yuen (2003) believed that a learning community can support individual learners '*achieve what they cannot on their own'* (p.155). Motteram and Forrester (2005) describe the role of an online learning community as including the sharing of knowledge, experience and ideas which occurs through interactions within social networks which are formed within the online community. For them, the main purpose of an online learning community is to allow the development of supportive peer networks, closing the gap between the social and academic lives of the online students while also promoting collaborative and interactive learning.

From a study of interaction in online discussion forums, Garrison, Anderson and Archer (2000) revealed a framework for a Community of Inquiry (COI), which identified the nature of interaction and roles for both students and teachers within the online community of learning (see Figure 2.1 below).

Figure 2.1: Community of Inquiry Garrison, Anderson and Archer (2000)

This COI framework summarised three processes for creating deep and meaningful experiences of learning which comprised of three key elements: social presence, cognitive presence and teaching presence. These presences are fostered through: climate setting that is conducive for building relationships and a sense of belonging for educator and students; collaborative discourse in online settings where students can think critically about the learning and, ultimately improve their own knowledge, skills or build better awareness of self; and teaching presence/s which manifests in the choice of learning content and learning activities for students within the online learning enterprise. The teaching presence can be perceived as pivotal as the educator mediates the choice of materials for instruction, the design of the course itself, and the dialogue and discourse among the community participants (Shea and Bidjerano, 2009; Shea *et al.*, 2006).

The social presence is reflected in the extent to which participants successfully develop and nurture positive and purpose relationships with others in the learning community. The cognitive presence has been articulated by Garrison (2004) as the knowledge building through exploration, (re-) constructions, and affirmation of own understanding through collaboration and reflection in the community of learning. In their study of student collaboration within online occupational therapy courses, Beer, Stack and Armitt (2005) found that 'immersion' was experienced in a limited way by students, but that the students experienced 'presence' in collaboration and teamwork. Delahunty *et al*. (2013) argued that the most important factor in developing an online learning community is the instructor or lecturer. This was further supported by Miller (2014) who pointed to the instructor being extremely important in the success of the design and development of an online learning community.

In evaluating the place of the educator in online communities, Pitcher (2016) noted how the role of the lecturer or tutor evolves into the role of a facilitator online, chiefly to assist students to work together online and to develop a deep understanding of course content. Pitcher (2016) provides an important typology (drawn from the work conducted by Rovai, Ponton, and Baker, 2008; O'Shea, 2006; Buchanan, 2000) articulating the role of the educator within a community of online learning and these are as follows:

1. Develop activities that promote interaction and socialization;
2. Check into the course regularly and provide a communication schedule for students;
3. Provide feedback and responses in a timely manner;
4. Facilitate learner dialogue;
5. Clearly communicate expectations;
6. Monitor student interactions and intervene as necessary.

El-Seoud *et al.* (2014) in their study of e-learning in higher education further provided a typology of how lecturers or teachers can enhance student motivation in online learning communities. Among their nine classifications they highlighted the following: Facilitate and encourage collaboration and interaction among students; Build strong study groups so that students do not feel isolated; Assist students to make friends by meeting fellow students online; Monitor the online presence of students and support them with continuous feedback; Construct the learning materials and resources to meet the requirements of the students; and, Be intuitive to the anxiety and worries of student's engagement both with the online material and tools, as this might have a negative impact on their accessibility and motivation of online learning. El-Seoud *et al.* (2014) noted that it can be difficult for tutors or instructors to assess the levels of anxiety or nervousness of their students studying online, acknowledging the challenge of lack of face-to-face or personal contact between lecturers and students.

Moreover, it was clear from a review by Benke and Miller (2014) and Delahunty *et al.* (2013), of differing practices needed for communication within online courses, when compared to face-to-face learning contexts, to enhance students' sense of belonging and to foster online communities of learning. In a study by Bailey and Card (2009), students further reported that the most effective online instructors strive to establish relationships and will do whatever necessary to make the class a positive learning environment. Moreover, a study recently undertaken by Huang (2018) provides an interesting delineation of the nature of educator interaction within online learning communities, stating that '*teachers in online learning are present but not pivotal, helpful but not imposing, and contributive but not authoritative*' (p.21). In this regard, they provide specific direction that should inform the educator interaction online, pointing to their role as being that of facilitator – effectively, a mid-wife of knowledge.

Finally, as far back as the 1980s, providing timely feedback to students has been cited by authors such as Chickering and Gamson (1987) as important in enabling students to critically reflect on what they have learned, what they still need to know, and how to better assess themselves. Pilcher (2016) also clearly called out that the two most important components of an instructors' activities are timely feedback and clear communication. Students want and need timely feedback on their performance, suggestions for improvement, and validation of work well done (Boling *et al.,* 2012; Stansfield *et al*., 2004). In studies by Liu *et al*. (2010) and Gallagher-Lepak *et al*. (2009) and the importance of clear communication and regular updates of news relevant to their learning by the instructor was shown to encourage student engagement, and an important aspect of community building.

While a review of the research showed the significance of communication, timely and meaningful feedback, and that constant teacher presence are integral to creating community within an online course; there were no suggestions as to how instructors can best achieve this while managing other demands on their time. According to Bailey and Card (2009), and Gallagher, Lepak *et al.* (2009), many online instructors recognise the importance of developing a sense of community in the online classroom but indicated that the high social and pedagogical expectations of constantly being online and interacting with students can lead to stress and burnout. Moreover, according to Boling *et al*. (2012), many online course design and development is completed by staff in higher education without formal training in instructional design for online contexts. They further point to the need for faculty development and training programs to help support faculty staff who are new to online learning, and enable them to develop strategies to balance these expectations and reduce stress and burnout.

2.6 Online Learning in Higher Education

In their studies exploring higher education students' engagement in online courses, Toufaily, Zalan and Lee (2018) and Horspool and Lange (2012) found that the convenience and flexibility of online learning to be the two main components promoting enrolment in the online course. Toufaily *et al.* (2018) further found that participants on online and hybrid programmes reported a highly positive experience in using online technologies and valued '*immediate response, real time interaction and answers to*

questions' (p.31), but also noted that those participants in (fully) online setting missed the '*human touch and real-time interactions with professors and peers in the online learning environment*' (p.31). Moreover, in their 3-year review of online instruction, Cole, Shelley and Swartz (2014) reported that students ranked convenience of the online mode of learning and the structure of the online learning course as the greatest factors influencing their levels of satisfaction, and the most common factors impacting dissatisfaction included their lack of interaction with instructors and peers, with a minority being dissatisfied with the clarity of some aspects of the online course, the Learning Management System and a mis-match with some students' preferred style of learning. Some additional remarks from their study on matters that caused dissatisfaction included: the cost of fees, workload and some technical issues. Similarly, Margaryan, Bianco and Littlejohn (2015) highlighted that issues of: time and money, lack of immediate feedback, and low engagement by students within online forums, impacted on the overall quality of student experience in the online higher education context.

In their study of motivational factors impacting on 190 adult students' engagement in online higher education in the United States, Yoo and Huang (2013) found that gender, age, profile and prior experiences were key factors which contributed to engagement within the online degree programmes. In terms of gender, their study showed that female students had stronger intrinsic motivation. In term of age, those aged in their twenties and thirties showed higher scores for long-term extrinsic motivation. Furthermore, Yoo and Huang (ibid) found those participants who had one to two years of online learning experience had the strongest long-term extrinsic motivation, and those with two to three years of online experience also indicated the highest willingness to learn new technologies within the online setting. Cole, Shelley and Swartz (2014) reported in their 3-year review of online instruction, that the majority of business students indicated satisfaction with the fully online mode of learning and that there were no statistical significances with respect to age, gender, and/ or whether the course was taken at undergraduate or postgraduate level. Furthermore, DeVaney (2010) found that generally students had higher levels of anxiety and were not as favourably disposed towards a statistics course delivered in the online mode. In the case of one student, DeVaney (2010) found anxiety levels were heightened by not being able to physically

see, and the lack of physical contact with, the instructor – *'I'm nervous that I'm not allowed to have personal contact in a classroom setting. I'm very anxious about having questions that I need answered right away'* (p.9).

Alvarez *et al.* (2009) outlined five main roles and competencies of the university educator in online learning, which included: designer/planning role (enabling course design and implementation), social role (enabling relationships that contribute to communities of learning), cognitive role (enabling knowledge construction and transformation), technological know-how (enabling course design, communication and analysis), and managerial knowledge (to lead the overall online learning process). In terms of designing online learning, Lister (2014) highlighted four main considerations in designing online learning that promote students' engagement, namely, '*i) course structure, ii) content presentation, iii) collaboration and interaction, and iv) timely feedback'* (p.677). Of these four considerations, prompt and timely feedback was highly valued by the learners and perceived in this respect as pivotal to the design of online learning. In terms of enabling collaboration and interaction, O'Connell's (2016) case study of the design and implementation of a fully online postgraduate programme pointed to the need to nurture higher education students' engagement in online spaces by providing opportunities for authentic engagement and allowing for critique of works within the public sphere. In these respects, O'Connell (2016) further highlighted the need to include opportunities for the co-creation of knowledge through interpersonal discourse of lecturer and students within the fully online setting. In their study comparing the perceptions of lecturers and students about engagement strategies for online learning, Bolliger and Martin (2018) found that the lecturers rated several engagement strategies significantly higher than the students – namely '*the use of virtual lounges, icebreaker discussion, reflections, and peer review; interaction with peers; student moderation of discussions; collaborative activities and projects; and the use of learners' names in discussion forums by instructors*' (p.580). Surprisingly, the only strategy that was valued more by students was the posting of assignment dates for each module, and in this respect, Bolliger and Martin (2018) acknowledged that: '*Checklists with activities and due dates can assist learners with organizing their time, staying on task, being aware of deadlines for major assignments and activities, and submitting their work on time*' (p.580). Finally, in a study of an online engineering programme in

Australia, Quinn *et al.* (2015) found the inclusion of a mathematics coach and an online lesson (with examples of cognitive development associated with engagement in the mathematical sciences, and from application of science in society) to be very effective in enabling students to stay motivated by fostering a growth mindset about engineering education among students. In terms of training for university educators, Quinn *et al.* (2015) described an effective online course for those involved in delivery of online higher education, which comprised of specialised content on online learning and required tutors to shadow more experienced lecturers, while engaging in their own reflective practice.

In their review of the literature, Ribbe and Bezanilla (2013) pointed to three principles for scaffolding learner autonomy within online distance programmes namely: learner involvement in articulation of learning goals and pathways; the promotion of learner self-monitoring, self-evaluation and thus, self-reflection; and the provision of appropriate scaffolds for the immersion and engagement of learners in authentic learning environments. In terms of scaffolding self-reflection, Ross (2011) argues that the practice of integrating reflections within online settings can '*normalise surveillance of students' emotional and developmental expression, and produce rituals of confession and compliance*'(p.113), and calls for an '*accompanying critical stance which would support students and teachers to engage creatively and carefully with digital practices and cultures*' (p.123). In this regard, Ross (ibid) perceives the integration of digital tools for reflection as being values-laden and not culturally neutral, and therefore, calls on educators to encourage criticality within the student cohort, and in doing so, avoid engendering particular ways of interacting and expression within the discussion forums.

In their reconceptualization of pedagogical approaches in the context of fully online early childhood programmes in Australia, Green *et al*. (2010) pointed to the importance of the social dimension of online learning, noting that students' social interaction is pivotal to quality learning. In their review of cognitive and technological presences in communications between 88 online students, Gregori *et al.* (2012) pointed to differences in the interactions of online students which they claimed was related to the degree to which the online student sensed the availability of peers and the lecturer. They found that in relation to individual online assignments, students were more likely

to liaise with the educator for assistance, whereas with online group assignments, students tended to liaise more with peers and less with the educator. Therefore, educator needs to consider the make-up of the group to ensure interaction takes place between all members of online cohorts. A study of an online communication course by Vanhorn *et al.* (2008) revealed issues of instructors opting for asynchronous modes of communication and students' lack of engagement in same – '*Instead, instructors often opt for discussion threads and replies. The lack of student interactivity can also affect the feeling of ''community'' in the classroom*' (p.33). In this regard, Niess and Gillow-Wiles (2013) argued that ongoing instructor moderation and mediation is vital in asynchronous online courses to assist with developing an effective community of learning. Niess and Gillow-Wiles (2013) further explained that instructional strategies which included '*assessed engagement, collaborative activities, peer-review as an assignment component, intentional small and large group design, and the incorporation of new and emerging technologies to support free-flowing discussions'(n.p.)* have to be integrated from the start to finish of the course.

In contrast, in their philosophical exploration of concepts of community within online higher education contexts, Arasaratnam-Smith and Northcote (2017) considered it impractical and illogical to attempt to transfer strategies used to foster community in face-to-face settings within online learning environments, arguing that the uniqueness of the latter calls for unique approaches to be conceptualised to enhance participants sense of and engagement as community. In their study of the readiness of 244 students and lecturers for fully online learning in Ukraine, Blayone *et al*. (2018) suggest that both students and lecturers overall had low levels of readiness for the collaborative-constructivist nature of online learning. The students and lecturers had good levels of confidence and skills in text based communications and interaction in social networking, but they had low level skills in collaborative editing and self-expression – '*both teachers and students report low levels of competency using major collaboration tools such as Dropbox, Google Drive and Google Docs. Additionally, they report little experience and confidence for publishing content and expressing ideas online*' (p.291). In a case study of community building across an on- and off- campus student cohort at a university in the United States of America, Nye (2015) describes the effective framing of an online forum (The Lounge) as a central space in which any query could be posed and ideas

shared, which eventually led to similar portals being created across the University. Nye (2015) emphasised the need for this forum to be a safe space – '*Primarily, however, it needed to be a space where students were comfortable to visit regularly and to speak to each other through the forums'* (p.117). Furthermore, in their small study examining "othering" with 6 graduate students engaged in online learning, Phirangee and Malec (2017) identified three contributors to the othering - feelings of disconnection and isolation - that were related to professional contexts (some students in employment had difficulty with course expectations and in establishing relationships with instructors or peers), academic contexts (some students struggled with academic content and academic discussion) and/ or ethnic contexts (some students hesitated in sharing personal experiences). Phirangee and Malec (2017) further point to the critical role of the instructor in mediating the influences of these identities within the online context.

In their study of blended and fully online learning, Yam and Rossini (2012) found that contrary to what has been found in other studies, those engaged in the fully online mode of learning performed better than those undertaking blended learning, and furthermore that an online assignment workshop may have played an important role in enabling this. Yarm and Rossini (2012) further suggested that the fact that those undertaking fully online studies typically were more self-motivated may also be a factor in their continued engagement with and enhanced performance in that online mode of learning. However, in their comparative study of satisfaction of students undertaking a face-to-face and online course on Business English, Tratnik *et al.* (2019) concluded that students who took the face-to-face course were overall more satisfied than students who were studying online. Based on these findings, Tratnik *et al.* (2019) suggested that it was more beneficial for students studying English as a foreign language to engage in face-to-face learning to develop fluency and a range of other language acquisition skills.

2.7 Massive Open Online Course

The MOOC or Massive Open Online Course, coined by Cormier in 2008, has its roots in the open educational resource (OER) movement, which sought to standardise and freely share online learning resources. MOOCs can be considered as a form of online course but according to Longstaff (2014) and Ossiannilsson *et al.* (2015), they differ to mainstream online courses in that generally there are no formal entry requirements,

nor a limit on number of students that can access the course (scalable), nor a requirement for disciplinary knowledge, nor awards made (credentials), nor fees (unless certification requested). The MOOCs were initially developed as stand-alone online courses for students who wanted to self-direct their own learning by acquiring and developing their professional knowledge and skills in discrete areas. Traditional methods of undertaking studies within face-to-face (class-room) settings can be time consuming and expensive for students, particularly those wishing to engage in life-long learning that are also engaged in full-time or part-time employment, and/ or have familial responsibilities that make it difficult to regularly attend education in a particular setting. MOOCs were a solution to this, in terms of the flexible nature of their offerings, and with limited or no costs in acquiring new knowledge and skills. Lim *et al.* (2017) describe the nature of MOOC learning as '*openness in education; that knowledge should be shared freely and the desire to learn should be met without demographic, economic, and geographical constraints*' (p.2). Al-Imarah and Shields (2019) further point to the benefits of MOOCs in their provision of access to higher education for those living in areas not currently being served by higher education institution. The presence of these online courses has allowed individuals to access education more efficiently and assisted these mature students with their individual needs and requirements. In this regard, Eiselt (2014) notes that MOOCs '*marked the starting point of a period of fundamental transformation in education*' (p5). Longstaff (2014) contests this transformational notion of MOOCs, and argues that MOOCs are neither revolutionising nor destroying higher education. In this regard, Longstaff (ibid) believes that MOOCs could be perceived as a democratising force, but notes that they have also become '*the latest point of tension in the cyclical evolution between inclusivity and exclusivity*' (p.178) as the openness that MOOCs facilitate also challenges elitist debates in higher education about '*what a university actually is or should be: an open community of scholars or an enclosed place of learning, teaching, and research'* (p.178).

MOOCs can be divided into two categories: xMOOCs and cMOOCs. The xMOOCs take the form of more traditional modes of distance education (an example would be Coursera) – thus, there is a reliance on video podcasts and digitised e-resources, with somewhat limited opportunities for sustained learner engagement with peers and instructors. The cMOOCs or connectivist MOOCs are based on theories of connectivism

and connective knowledge promoted by Siemens (2005), and support immersion into communities of practice by enabling students to interact and foster understanding through interaction with networks of peers, experts, and a myriad of resources made available through the online medium (an example would be CCK08 course offered by Siemens and Downes) – in this regard, as highlighted by Ossiannilsson *et al.* (2015), they '*rely on connectivism, which emphasizes learning within a social and cultural context*' (p.273), and immersion within a community of practice.

Stacey (2014) recommended that MOOCs make use of resources in the wider web as opposed to reliance on content within the MOOC, and in doing so, encouraged course designers and users to avail of the open educational resources and other resources made available through creative commons to enhance the quality of the online experience. Interestingly, in their review of literature on MOOCs practices, Ossiannilsson *et al.* (2015) highlight that the cMOOCs can facilitate this by knowledge building through learners' activation of social networks to source, curate and critique information, thus the enactment of George Siemens (2005) theory of connectivism - '*MOOCs rely on connectivism and co-construction of knowledge through connections and negotiation (Macknes et al., 2013) and facilitate digital literacy through collaborative and co-construction of knowledge*' (p.281). Indeed, others such as Literat (2015) contend that cMOOCs represent opportunities for experimentation with different educational models, some of which for example may involve not-for-credit courses of study within the context of higher education. In this regard, Literat (2015) states: '*In fact, some of the best MOOCs I have seen – and participated in – have been credit-less cMOOCs that allow learners, young and old, to explore new interests, brush up on old ones and achieve some form of self-actualization, gratis, and at their own pace. For instance, by engendering a helpful community and using video, audio, chat and discussion forums, MOOCs could be an amazingly effective platform for learning foreign languages*' (p.1173). Bali *et al.* (2015), in exploring their lived experiences of participating in cMOOCs, points to the importance of personal connections within community of practice building in enabling the: '*transformation of participants into open connected learners that endures – thus creating a continually open, continually connected feed forward loop*' (p.113).

MOOCs also present challenges for students particularly in that the freedom to self-direct own learning comes with the challenges of motivating oneself to progress with learning, and mediating issues of time management and sense of isolation felt through the distancing from peers and educators within context of online learning. Ossiannilsson *et al.* (2015) further points to knowledge gaps in relation to the pedagogical and learner experiences of MOOCs, and thus, '*the pedagogical aspects of MOOCs remain insufficiently described and explored*' (p.272). In this regard, Ossiannilsson *et al.* (2015) point to issues in the underpinning pedagogy of MOOC, which they claim needs to understand better needs of learners and their experiences of MOOCs – '*MOOC pedagogy remains underdeveloped, and more research is needed to analyse learners' experiences and participation in MOOCs. Changing practices in higher education demands professional planning, and a quality culture is essential in this regard*' (p.281).

In his study of technologies in 15 higher education institutions, Amemado (2014) revealed that these universities had generally integrated technologies to enable advancement towards the knowledge or digital economy rather than for pedagogical reasons. However, the importance of pedagogy did come to the fore as a concern post-implementation, with the higher education institutions having become aware of the need for better technological infrastructure that supports quality learning experiences - "*Even though many changes have taken place, such as retooled legacy LMSs or MOOC platforms, more up-to-date and educational technology features are still required for collaborative and interactive online education environments*"(Amemado, 2014, p.15). Another issue that could possible arise was highlighted by Kember *et al.* (2019) who claim that more unqualified students will likely be admitted in the massification of education (such as MOOCs), and that these students will find it difficult to academically integrate within online contexts.

2.8 Chapter Summary

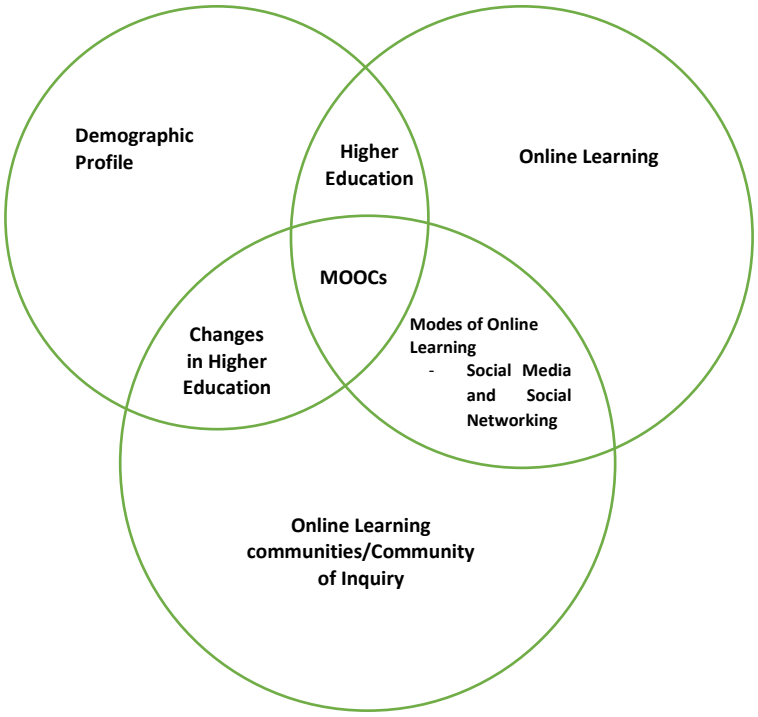

Figure 2.2: Evolution of Literature Review

The purpose of this literature review was to explore developments with respect to online learning which have taken place in higher education, with a focus on learning from the experiences of integrating the fully online programmes of study. While an extensive body of literature is available on experiences of online learning in higher education and on short duration courses offered in MOOCs, there was a limited body of literature reporting on the effectiveness or otherwise of higher education programmes offered in the fully online mode of learning. The emergence of mobile technologies, software applications has made it possible to enhance the online learning experience, and to overcome the time-space-geographic constraints experienced by many mature students. However, the literature review shows that students can still feel disconnected (particularly where asynchronous mode prevail within online courses) but their sense of isolation can be addressed by fostering a sense of community within the online course. There is a need for better understanding that online communication is not the same as face-to-face communication. In this regard, the research notes the pivotal role of the

educator in shaping and encouraging positive interactions within the online community to enhance students' sense of belonging and quality of learning experiences.

Chapter 3: Research Design and Methodology

3.1 Introduction

This chapter details the research design and methodology used to explore the experiences of mature students undertaking a fully online mode of learning. The discussion opens with an overview of the research focus and research questions, the rationale for this type of study and the philosophical stance of pragmatism which underpinned the study. The central part of this chapter describes the case study methodology and mixed methods approach used to frame the research study, and this is followed by a summary of research tools and data analysis processes. In the final part of the chapter, the reliability, validity and ethical considerations are presented, followed by a concise account of researcher's stance and the limitations of the study.

3.2 Focus of Study

This study set out to explore mature students' expectations and experiences of a fully online mode of learning, with a view to informing the implementation of this mode of learning within the target higher education institution. The study thus aimed to reveal mature students' motivations for engagement in and experiences of the instructional design, peer support and learning communities in the context of fully online learning. In addition, it was expected that the results would contribute to informing the organisation of fully online modes of learning, as well as distance education policy within the target higher education institution. The main research questions of this study were structured as follows:

- What are mature students' expectations and experiences of the fully online mode of learning within this HEI?
    - What influences and inhibits initial and continued engagement by mature students within a fully online mode of learning?
    - What are mature students' experiences of the quality of course provision, and of engagement within its fully online context compared to other modes of learning?

- What are mature students' dispositions towards and experiences of peer interaction and communities of learning within the fully online mode of learning?

- How might the implementation of the fully online mode of learning be enhanced and progressed within this HEI?

The research was conducted in two phases. The first phase of research was conducted in 2016-2018 using an initial survey and a series of interviews which explored the students' experience of the fully online mode of learning within the HEI. The second phase of research was conducted in 2019 using a more in-depth online survey and a focus group with lecturers to capture a wider cohort of students' voices and experiences, and factors influencing the fully online learning experience.

3.3 Research Framework

The research frame that summarises the approaches taken within this research study (as illustrated in Figure 3.1) was inspired by and adapted from the 'Research Onion Framework' by Saunders and Lewis (2012). In the context of this study, this hybrid five-level framework presents the philosophical stance of the study as that of *Pragmatism* (as shown in the outermost level), and the Inductive approach guiding the development of themes (in the next outer level). The *Case Study* methodology was foregrounded as the research pathway (as shown in the middle level), with a *Mixed Methods* approach (as shown in next inner level) involving qualitative and quantitative methods which included the use of interviews, surveys and a focus group as *Data Collection* tools (as shown in the innermost level). The *Data Analysis* comprised thematic analysis of qualitative data-sets and the generation of descriptive statistics from quantitative data-sets (as also shown in the innermost level). This hybrid of the Saunders and Lewis' (2012) Research Onion Framework model does not include reference to the temporal aspect of research outlined in the original model, which included reference to the research study as cross-sectional research (research of cohorts at a particular point in time) or as longitudinal research (research takes place over a longer period of time). The researcher felt this research study didn't align with either option, as the study was undertaken at two different points in time with different groupings of mature students undertaking

the fully online mode of study, hence this level was removed from the hybrid framework.

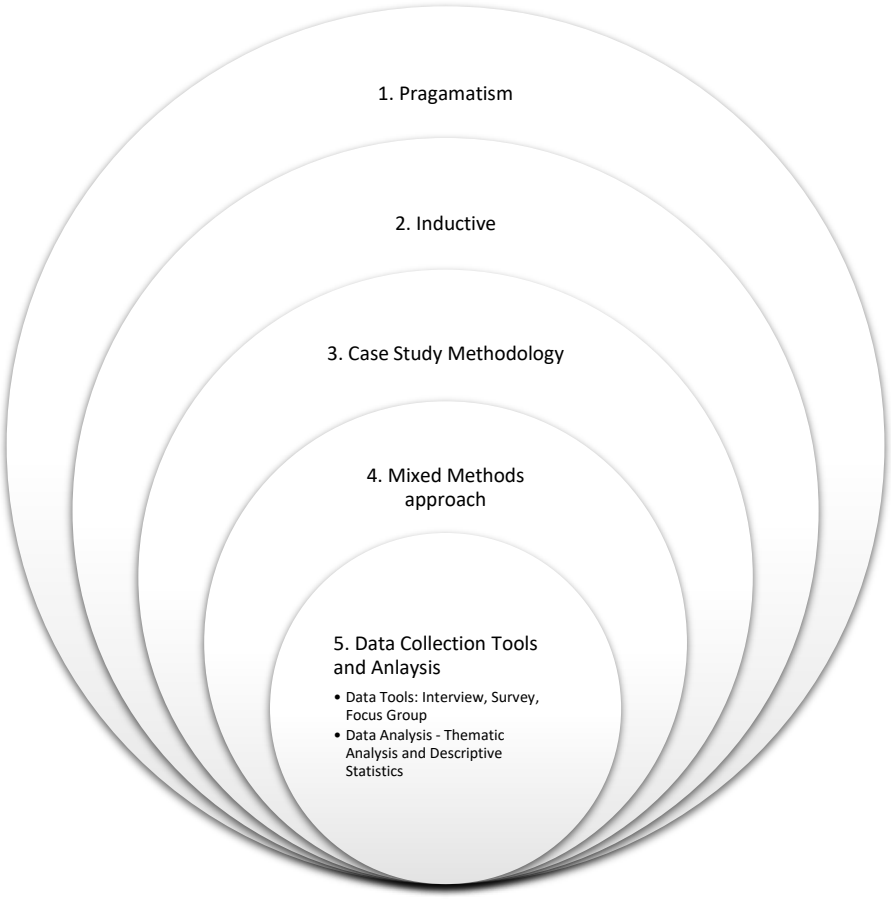

Figure 3.1: Research Onion Framework (adapted from Saunders and Lewis, 2012)

3.3.1 Pragmatism as Underpinning Philosophical Stance

Cohen, Mannion and Morrison (2017) point to the importance of considering the philosophical underpinnings of research when framing a research study. These philosophical underpinnings reflect the shared belief systems of researchers that according to Morgan (2007) influence the type of knowledge gathered for the research and the interpretation of this for research purposes. This research study was underpinned by the philosophical paradigm of *pragmatism,* which is highlighted in the outermost layer of the research onion framework. Philosophical paradigms are usually framed by ontological assumptions about the nature of the world and reality,

epistemological assumptions revealing beliefs about knowledge, methodological considerations capturing the approach to data collection and analysis, and the axiological stance pointing to what is valued in the research. Mason (2002) suggests '*that how we think the social world is constituted, or what we think it is (our ontology), shapes how we think we can know about it, but conversely how we look (the epistemology and methods we use) shapes what we can see*' (p.59). The philosophical roots of pragmatism have been characterised as follows: the *ontological* basis asserts that individuals each have their own unique interpretation of reality, the *epistemological* stance recognises that relationships are determined by what the researcher deems as appropriate to the particular study, the *methodological* approach or means of systematic inquiry, considers methods in terms of the specific questions and purposes of research, and the *axiological basis* accepts that the researcher's values-base can and will influence the pursuit of knowledge, and thus allows for purposeful knowledge advancement that is guided by researcher's articulation of what is valued in terms of outputs from the research study. Pragmatism is thus chiefly a problem-oriented philosophy which takes the view that the best research methods are those that help to most effectively answer the research question/s. In this regard, Morgan (2013) argues that pragmatism can underpin many different approaches in social research, thus it can underpin qualitative, quantitative or (as is the case in this study) a mixed methods approach in research. Morgan (2013) highlights how pursuing pragmatism as a paradigm for social research is not new, and in this regard, draws on the work of Patton (1998), Gage (1989) and Howe (1988) to show that pragmatism to be effective as an underpinning philosophical paradigm.

A central focus of pragmatism is the research question/s and consideration of how best to generate data to respond to the question/s, and which methods of inquiry would best facilitate this. As argued by Fendt *et al.* (2008): '*Pragmatism, as a paradigm, is driven by consequences, thus it is essential that the "right questions" are asked by the research'* (p.473). Choosing the right research questions is a key starting point for Pragmatism, and the framing of "right questions" is strongly influenced by the values-base of the researcher. In this study, the researcher really valued 'student voice' and within the research questions, the lived experiences of the mature students with respect to their motivations for undertaking fully online learning, their experiences of same, and

implications of this for the course provided, were foregrounded. Maykut and Morehouse (1994) describe ontological assumptions as concerning '*questions about the nature of reality*' (p.3). The researcher's ontology is that of relativism, where the underpinning belief is that there exists multiple realities and that (research) knowledge emerges from the interactions and meanings drawn by researcher and participants. The researcher's own epistemological and ontological stances directed her towards examining the lived experience of mature students involved in online learning, with the purpose of better understanding how students experience the phenomenon, for example, "how they see it", "describe it", "how they feel about it", "remember it", "make sense of it", and lastly "talk about it to others" (Patton 2002, p.104). The systematic approach to inquiry adopted by the researcher resulted in the deployment of mixed research methods, thus qualitative and quantitative tools were used to capture aspects such as the quality of course provision, student engagement, students' dispositions towards, and their experiences of, interaction within the fully online setting. While the researcher prioritised the capture of student voice in the first phase of the research, it did become clear that the voice of lecturers would need to be sought in the second phase of the research to better understand their impact on the student experience within the fully online mode of learning. In this regard, pragmatism allowed for integration of new research participants (lecturers) to better understand what impacts the lived experiences of students in this context.

3.3.2 Inductive Approach

This research adopted an inductive approach to capture the participants' experience of the fully online mode of learning in the targeted institution. According to Creswell and Plano Clark (2007), within the inductive approach the researcher works from the '*bottom-up, using the participants' views to build broader themes and generate a theory interconnecting the themes*' (p.23). This contrasts with the deductive approach where the researcher starts '*works from the 'top down', from a theory to hypotheses to data to add to or contradict the theory*' (p.23). Thus, the researcher seeks to prove or disprove a pre-formed hypothesis in the deductive approach, as opposed to seeking to respond to broader research questions in the inductive approach in a way that allows the complexity of the context or phenomenon to be revealed. Gabriel (2013) contends that while an inductive research approach is normally associated with qualitative

methods, this is not always the case. Quantitative methods can be used in collaboration with qualitative methods as part of an inductive approach to research. In the context of this study, the primary interest of the researcher was in researching the lived experiences of the mature students and to gain an in-depth understanding of their expectations and experiences of the fully online mode of learning within the target HEI. As the intent of the study was to chiefly to explore these students' expectations and experiences of fully online learning, an inductive approach was determined to be the most suitable research approach. The qualitative dimension of the study allowed for collation of information about students' motivations, and experiences of fully online learning, while the quantitative data gathered provided statistical descriptions of the experiences of the broader student cohort. The inductive nature of the research study does however make it bounded and context specific, as inductive forms of reasoning limit the extent to which generalisations can be made about the findings from this study.

3.3.3 Case Study Model

Yin (2009) describes case study as a multiple source of evidence which studies the 'how' and 'why' of a research question, and contends that case study *'investigates a contemporary phenomenon in depth within its real-life context especially when the boundaries between phenomenon and context are not clearly evident*' (p.1). Case study is an intensive form of analysis of typically real-life contexts and tends to be bounded by time, space, activity, processes or indeed cases being studied. Stake (2010) reflects that '*case studies are a common way to do formal and informal inquiry*' (p.279). The object of case study research may include exploration of: individuals, group, programmes, processes, events, organisations, social situations, phenomena. Patton (2015) positions case study as an effective research methodology in that it allows for the 'story' or 'narrative' of a research study to be explored. In this regard, Patton (2015) states that '*Case studies can be a rich story about a person, an event, organization, event, campaign or program'* (p.259).

In reviewing methodologies of case study articulated by three notable case study theorists, namely Yazan (2015), Yin (2002), Merriam (1998) and Stake (1995) points to considerable divergence in the epistemological orientations across these. Yazan (2015) argues that Yin's framing of case study suggests positivistic leanings in that it requires

(and is constrained by) four conditions that Yin (2002) suggests must be maximised for quality control –'*construct validity, internal validity, external validity, and reliability*' (p.19). Yazan (ibid) further suggests that Stake's and Merriam's framing of case study is connected to constructivism and non-determinist perspectives where the central concept is that '*knowledge is constructed rather than discovered*' (Stake, 1995, p.99), that '*reality is constructed by individuals interacting with their social worlds*' (Merriam, 1998, p.6) and therefore there are multiple realities and multiple possible interpretations of these realities. In the context of this research, the case study methodology adopted was inspired by those articulated by Stake and Merriam, and thus was unpinned by the premise that knowledge is (socially) constructed, and that multiple realities exist, and thus, multiple interpretations would emerge in explorations of mature students' motivations for engagement on and their experiences of fully online learning. Merriam (1998) perceives '*the case as a thing, a single entity, a unit around which there are boundaries*' (p. 27), and in the context of this study the research was bounded by focusing on those students undertaking the fully online mode of learning in the target higher education institution.

The study followed Stake's (1995) advice in setting several 'issue' questions that could be used to sharpen and retain focus within the data collection and analysis. According to Yazan (2015), in Stake's model of case study the researchers must consider themselves '*as interpreters, and gatherers of interpretations which require them to report their rendition or construction of the constructed reality or knowledge that they gather through their investigation*' (p.137), and furthermore expect that readers of the report will construct their own meanings or reality. In this regard, the researcher recognised that multiple perspectives or viewpoints pertinent to the research questions of this case study would be articulated but also that it would not be possible to ascertain the 'best view' as according to Stake (1995) within the case study methodology: '*there is no way to establish, beyond contention, the best view*' (p.108). The sources of evidence required the use of qualitative and quantitative data collection, which are explained in more detail in the following sections.

3.3.4 Mixed Methods Approach

Creswell *et al.* (2004) note that mixed methods research involves '*both quantitative and qualitative data collection and analysis in a single study or program of inquiry'* (p.7). This study was mixed methods in nature, using qualitative and quantitative approaches to explore the research questions. In their classification of the aims of mixed methods research Greene, Caracelli, and Graham (1989) identified the following five purposes for mixing methods of research, as follows: '*Triangulation seeks convergence, corroboration, correspondence of results from different methods*'; '*Complementarity seeks elaboration, enhancement, illustration, clarification of the results from one method with the results from the other method*'; '*Development seeks to use the results from one method to help develop or inform the other method, where development is broadly construed to include sampling and implementation, as well as measurement decisions*'; '*Initiation seeks the discovery of paradox and contradiction, new perspectives of frameworks, the recasting of questions or results from one method with questions or results from the other method'*; and, '*Expansion seeks to extend the breadth and range of inquiry by using different methods for different inquiry components*' (p.259). The purpose of employing mixed methods research in this study could be argued to rest in the category of *Complementarity* as outlined by Greene et al. (1989), in that the study sought to elaborate on, enhance and clarify results gained from an initial survey and semi-structured interviews, with those derived from a large-scale survey deployed at a later stage. In the context of this study, the researcher hoped that the inclusion of interviews would provide more detailed and nuanced insights into the experiences of the mature study engaging in the fully online mode of learning, and that the surveys with the broader cohort of learners would point to further matters of interest or concern, and would give a sense of extent of collective sharing of similar experiences, if relevant. However, the researcher also recognised the potential for *Triangulation* of some data-sets from across the two separate phases of research, and in this regard sought to explore whether there existed *corroborating* evidence across the data-sets.

Bryman (2006) devised a list of more specific rationales for the use of mixed methods research, which advanced on Greene *et al.*'s (1989) aforementioned classification of rationales for using a mixed methods approach. In this respect, Bryman (2006, p.106)

summarises six factors that might further inform the rationale, as follows: *Credibility* (having both qualitative and quantitative data enhances research integrity), *Context* (qualitative research provides contextual understanding for more generalizable quantitative findings), *Illustration* (the qualitative data provides useful examples of quantitative findings), *Utility* (findings from mixed methods more useful to practitioners), *Confirm and discover* (qualitative data used to generate hypothesis which is then tested quantitatively), and *Diversity of views* (combining viewpoints of researchers and participants and relationships therein, through quantitative and qualitative research). In terms of Bryman's (2006) framing of rationales for use of mixed methods approaches, it could be argued that this research study sought to enhance the *Utility,* thus, *'improving the usefulness of findings'* (Bryman, 2006, p.106) and through combining both approaches, data would be generated that would be useful to practitioners and others.

Creswell (2013) outlines mixed methods designs as follows; The *Convergent Parallel Design* involves qualitative and quantitative data being collected, analysed together and interpreted in single phase. The *Exploratory Sequential Design* integrates the quantitative phase to build on results from the qualitative phase. The *Explanatory Sequential Design* integrates the qualitative phase to build on results from the quantitative phase. The *Embedded Design* results in the prioritisation of either or both approaches to respond to research sub-question/s, within an overarching qualitative and quantitative design. The *Transformative Design* is when the researcher utilises both qualitative and quantitative data-sets within a transformative theoretical framework. The aforementioned mixed methods designs did not align with the intended research pathway of this study. However, the final approach originally outlined by Creswell and Plano Clark (2011), the Multiphase Mixed Methods did fit with the needs and expected pathway of this research study, as it allowed the integration of sequential and concurrent approaches over time. For the purpose of this study, this sixth approach of *Multi-phase Mixed Methods Design* is considered the overarching mixed method strategy as both qualitative and quantitative data sets were gathered and analysed in the two different phases of research, guided by the underpinning philosophy of pragmatism, with the central focus being on responding to the research questions. In this regard, the researcher guided the framing of the research study and furthermore,

determined the nature of data collection tools, and the order of data collection, across the two phases of research. The results from both methods were integrated together at each phase of the study, and then collectively considered during the interpretation of the overall findings from this multi-phase mixed methods study.

This research study is divided into two phases of research, as illustrated in Figure 3.2. The first phase of research undertaken in 2016-2018 mainly explored from a qualitative perspective the experiences of a sample of mature students undertaking the fully online mode of learning, with some limited quantitative information gleaned from a survey of the broader cohort undertaking this mode of learning at that time. The second phase of the study undertaken in 2019 deployed a quantitative tool to capture and analyse the experiences of a much larger cohort of mature students undertaking the fully online mode of learning within the target HEI.

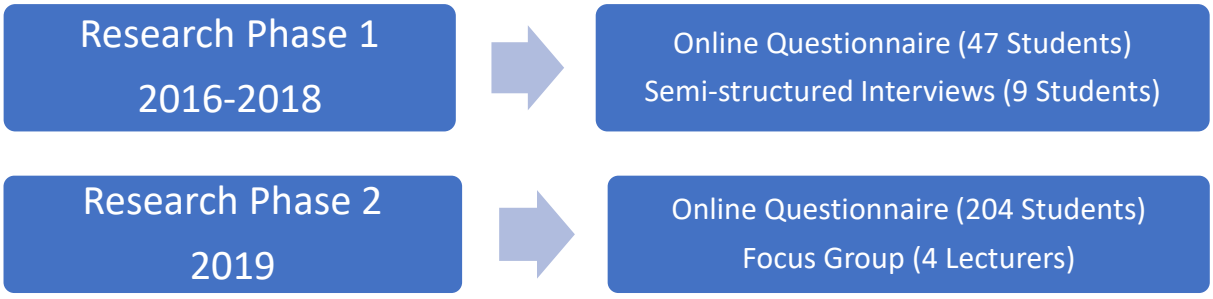

Figure 3.2: Research Phases

In the first phase of the research study, two forms of data collection were used, namely a survey and semi-structured interviews with mature students. An initial survey was deployed (47 respondents) in 2016 with a view to ascertaining why mature students choose the fully online mode of learning, and any initial concerns in relation to this mode of learning. This was followed up with 9 semi-structured interviews that were used to facilitate an in-depth exploration of participants' motivations for undertaking online study, and their experiences of fully online mode of learning environments.

In the second phase of the research study, a survey was deployed (204 respondents) in June 2019 to those undertaking the fully online mode of study. This survey gathered quantitative data with a view to exploring factors influencing motivations of mature

students' continued engagement in the fully online mode of learning, and their experiences of course design and peer and lecturer interaction. It was also intended that correlations might be examined, for example between dominant personality traits, gender, age, and technological prowess with their level of motivation, dispositions towards online learning. In addition, there were opportunities for respondents to elaborate further on their survey responses within many of the questions, so large amounts of qualitative data were also generated, and analysed to further contribute to understanding their experiences within the fully online mode of learning. Finally, in August 2019, a focus group was conducted with four lecturers engaged in the delivery of fully online programmes at the target institution to ascertain their perspectives and experiences of engagement in delivery of the fully online mode of learning. The researcher wondered if the focus group would deliver anything new to the data already obtained, seeing as only four participating lecturers were available. However, reassurance came from Quinn Parron (2002) who stated that the aim of a focus group was to get '*high-quality data in a social context where people can consider their own views in the context of the views of others'* (p385). This collaboration of specialised online lecturers could produce the data needed to complete this research.

3.3.5 Data Collection

The final layer of the 'research onion' presents the overview of how data was collected and analysed, which in this study resulted in rich data collection on which subsequent findings and recommendations were built. In the context of this research, the Case Study methodology used for this study allowed for a mixed method approach which was both qualitative and quantitative in its design and implementation. Initially when the researcher was considering the best method of collecting data, she conducted a pilot study. The purpose of this pilot study was not to obtain data but to gain advice on the best and most productive way of collecting data. The pilot was conducted in September 2015 with students who previously completed the fully online programme, and involved the deployment of a draft online survey. In addition, the researcher examined the work of theorists such as Creswell (2007), Denzin and Lincoln (2005), Holden and Lynch (2004), Mason (2002), and Patton (2002) on how best to gather data in case study contexts. It became clear from the pilot study and the review of the literature that the combination of interviews and online surveys would provide a more holistic overview of

the phenomenon that is fully online learning. Therefore, the study employed interviews and surveys (questionnaires) for gathering of data from both qualitative and quantitative perspectives, thus, facilitating the generation of rich data from the voices and perspectives of a specific and wider sampling of this student cohort.

3.3.5.1 Survey (Questionnaire) Design

The surveys deployed in each phase of this study were implemented using an online survey platform called *Surveymonkey*. The decision to use online surveys was pragmatic and in this regard, was informed by the knowledge that the target participants were already engaged in the fully online mode of learning, and thus were very familiar with communicating and engaging in online settings. Regmi *et al*. (2016) advocate for careful consideration of the following while developing and operationalising the online survey: (a) user-friendly design and layout; (b) selecting survey participants; (c) avoiding multiple responses; (d) data management; e) ethical issues; and f) piloting tools. In this regard, they call for the survey to be easy to navigate, and distributed on channels that are widely used by target population. They point to the usefulness of online surveys in avoiding the dangers of receiving multiple responses, and its further benefits of allowing users to self-pace to complete the survey in more than one sitting if needed. Furthermore, they point to the usefulness of online survey platforms in terms of secure data management, which protects against loss of data. Some criticisms of the use of surveys highlighted by Regmi *et al.* (2015) include the challenge in ensuring adequate sampling and response rate, the considerable time-load associated with framing, piloting and implementing surveys, and the lack of representation of particular populations in online settings. Furthermore, ethical issues can arise which need consideration of the design of an online survey in terms of its responsiveness to cultural, gender and age sensitivities of the targeted population.

Therefore, careful consideration was given in designing the online surveys that were deployed at each phase of research. Each survey was piloted in advance and any issues that were raised in the pilot were addressed before the final surveys went *live*. The design, implementation and analysis of the online surveys followed the same procedure as recommended by O'Leary (2014), which included the development of the online survey instrument, piloting, modifying and refining, implementation and data analysis.

The surveys both included closed and open-ended questions, and were designed to take no longer than 30 minutes to complete (which was validated at the pilot stages).

Piloting is an essential component of a well thought-out research design where, according to Bell (2005), '*all data-gathering instruments should be piloted to test how long it takes recipients to complete them, to check that all questions and instructions are clear and to enable the removal of any items that do not yield usable data' (p.151)*. In the context of this study, the survey instrument was piloted prior to distribution of the questionnaire to broader population in both phases of research. The surveys in both phases were tested for reliability, accuracy and time management. In this regard, some of the questions had to be revised as their meaning was not immediately clear to the participant. Furthermore, there was reduction in the number of questions and items within particular questions to allow more time for completion of the study (across both phases of research). The automated, randomised re-ordering was deployed within some questions to improve overall response rate in the survey deployed within the second phase of research.

3.3.5.1.1 Format of Survey in First Phase of Research

The survey in the first phase of research contained 10 questions, the first five of which gathered demographic and background information relating to participants' age-group (23-30; 31-40; 41-50; 51-60; 61+), gender (male, female), employment status (employed – working full-time or part-time; not employed – looking/not looking for work; retired; disabled-not able to work) disciplinary focus (Engineering, Science, Business, Social Sciences), and level of study (level 6, 7, 8, or 9). The sixth question required participants to indicate their level of agreement with various factors (which included: flexibility, personal interest in continuous learning, to receive an accredited course online, recommendation from another, increase job opportunities with current/potential employer, and entry to the job market) that impinged on their decision to engage in the fully online mode of learning over face-to-face learning. The seventh question required participants to indicate whether time pressure, financial pressure, ability to succeed, or, interaction with peers, were of concern and to what extent. The eighth question asked whether they had attended an online course prior to the current course, and

respondents were given an opportunity to elaborate further on this. The ninth question asked them to rate their overall learning experience within the context of the fully online mode of learning. The last questions asked participants to provide contact details if they would be willing to engage in an interview.

3.3.5.1.2 Format of Survey in Second Phase of Research

The survey was sent out to the full cohort of students undertaking fully online study (600 students) and blended online modes of online learning (3000 students), as the initial intent was that some comparisons would be made between those undertaking blended and the fully online modes of online learning. A total of 204 responses were received from those undertaking the fully online mode of learning. However, only 20 students undertaking blended learning responded to the survey and thus, these responses were removed from the overall data-set, and the idea of engaging in a statistical comparison across the fully online and blended modes of learning was set aside. The survey in the second phase of research contained 46 questions, separated into eight areas as described below.

The first 3 questions provided background on the participant's course, course duration and the mode of the learning, and the final 6 questions provided demographic information. With respect to the latter, Questions 39-45 asked participants to indicate their gender, ethnic grouping, nationality, age-grouping, employment status (extended to include: looking after children, not employed and looking for work/and not looking for work, and full-time/part-time carer), current salary scale, highest level of education currently held.

Questions 4 to 11 explored factors that influenced participants' decisions to undertake online studies, what influenced their personal focus and their preferences or degree of satisfaction in relation to aspects of the fully online course/ mode of learning. The fourth question sought to ascertain participants' perception on how the qualification would be of benefit, with four options including enable them to get a job, meet educational requirements, increase salary earnings, or open up new opportunities. The fifth question sought to ascertain what participants related to in terms of maintaining their personal focus with their studies, with the following options to choose from: seek

challenge, maintaining effort over failure, improve ability, control own learning. Question 6 was an open-ended question which asked participants to elaborate on any challenges overcome to achieve work/life balance while undertaking their studies. In Questions 7 and 8, participants were asked to indicate what they liked most and least about undertaking fully online studies from a choice of factors, including: the online delivery methods, limited face-to-face interaction, flexibility of study time, spending time on computer, matched my personal goal, less need to go to campus, with opportunity to elaborate further in open response form. Question 9 asked participants to indicate the extent to which the course content, material, assignments and examinations met or didn't meet their expectations, with opportunity to elaborate further in open response form. Participants were further asked to indicate whether the course content and materials were relevant in Question 10. Question 11 asked participants to indicate their preference for face-to-face lecture versus the online lecture, and could elaborate further on their reasons for this if desired. Question 12 asked participants to describe their learning style.

Questions 13 through to 17 explored participants' choice and use of technological devices/software, and their degree of comfort in performing computer related tasks. Question 13 asked participants to indicate the technological device used on a regular basis for coursework, with laptop, desktop, smart phone and tablet as listed options, and facility to record other devices where applicable. Question 14 asked about the location of the device, with home, workplace, college lab, public library or other public location off campus, and the home of a friend or family members as options, and facility to record other location where applicable. Question 15 asked participants to indicate their degree of comfort performing common computer-related tasks, from keyboarding, to using Internet, uploading/downloading documents and multimedia, listening/viewing audio and video, engaging in social media, live chats, and using online learning platforms. Question 16 asked participants about the kinds of technical support and resourcing for engagement in online learning. Finally, Question 17 asked for their preference for Adobe Connect or Panopto for media communication purposes.

Questions 18 through to 23 explored factors influencing motivation and concentration levels within the context of fully online learning. Questions 18, 19 and 20 asked participants to indicate what motivated them from personal, professional and

intellectual perspectives, and Question 21 asked them to further indicate whether their motivation levels had increased or decreased during the course, and to elaborate further on this. Question 22 asked whether participants found it difficult to concentrate at times, and to select factors that impacted their concentration in Question 23.

Question 24 asked participants to indicate whether they had gained transferable skills, with a list of possible skills listed and opportunities to add other skills if needed.

Questions 26 through to 28 examined participants' perspectives on lecturer contact/interaction. Question 26 asked participants to indicate whether they were satisfied, or not, with quality of response from lecturer in relation to course matters. Question 26 also asked participants about what they used to interact with lecturers, with options including email, live-chat, telephone and face-to-face as options. Question 27 asked whether the lecturer facilitated contact outside scheduled class-time. Question 28 asked participants to indicate their preference for the pre-recorded lecture session versus the live lecture sessions, with opportunity to further elaborate.

Questions 29 through to 32 examined participants' perspectives on peer contact/interaction, and also included a question exploring their personality traits. Question 29 asked participants about how important regular interaction with classmates was to them. Question 30 asked them to indicate whether they felt online learning was a solitary form of learning, and to elaborate further. Question 31 required participants to select options that reflected their disposition from 16 different personality traits. Question 32 asked participants to indicate whether they felt part of a community of learning, and to elaborate further on this. Question 33 asked participants to indicate whether they felt they had gained support/engagement from peers, and to elaborate further on this.

Questions 34 through to 38 were designed to examine perspectives on online platform, and on fully online versus other modes of learning. Question 34 and 35 explored participants' prior experience of Moodle and their perspectives on its usefulness in the context of their learning. Question 36 explored participants sense of satisfaction, or not, with their experience of the fully online mode of learning. Question 37 asked whether they would undertake another online course, and to elaborate further on this. Question

38 asked students to rate their agreement as to whether he fully online course met the same quality standards as classroom based course.

The final survey question allowed for submission of any further comments by participants.

3.3.5.2 Interviews

Patton (2002) stated that '*we interview people to find out from them those things which we cannot directly observe'* (p.340). A research interview is a type of discussion or dialogue, a '*conversation with a purpose*' according to Dexter (1970, as cited in Briggs and Coleman, 2007, p.207) between two or more people one of whom controls the conversation and asks questions of the other/s on a particular context or topic. It can take place face-to-face, over the phone or across the Internet. Merriman (2009) states that: *'interviewing is necessary when we cannot observe behaviour, feelings or how people interpret the world around them'* (p.88). In the context of this study, the researcher wanted to gain a greater understanding of participants' expectations and experiences of the fully online mode of learning, and thus, decided in the first phase of research to conduct interviews with a sample of 9 mature students. Merriman (2009) is of the view that '*overall, good interview questions are those that are open-ended and yield descriptive data, even stories about the phenomenon. The more detailed and descriptive the data, the better'* (p.99), and in this regard, the interview questions in this research study were semi-structured and open-ended to allow participants to articulate their influences, fears, motivations and experiences of the fully online mode of learning. The interview consisted of sixteen questions which were framed to explore the mature students' expectations and experiences of studying in the fully online mode of learning. The questions prompted mature students to explain why they undertook the fully online mode of study and the particular online course. In addition, there were questions prompting discussion on the quality of course delivery, preferred learning styles of the students, their experiences and challenges of engaging in fully online study. The questions also investigated the types of support required by the participants, and the nature of interaction and degree of relationships with peers and lecturers within the fully online context. Finally, the questions prompted learners to compare and contrast their experiences of the fully online mode of learning with other modes of learning,

including blended and face-to-face learning contexts. The semi structured interview also explored the students' experiences and expectations related to their being engaged in other modes of learning within a higher education institute. The interviews were typically 30 minutes in length, and were audio-recorded and transcriptions made of these recordings shortly after the completion of each interview. The transcripts were made available to interviewees for review within a fixed time-scale.

According to Denzin and Lincoln (2005), interviews are '*interactions between two (or more) people leading to negotiated, contextually based results'* (p.698). In this regard, Patton (1990) contends that the quality of information retrieved during an interview depends on the interviewer. The researcher as interviewer wanted to ensure that the students felt at ease at all stages of the interview process. She was cognisant that for many students, this interview was the first time for them to be in engaged in a research study. The students were provided with the opportunity to meet face-to-face with the researcher but as many of them lived some distance from the HEI, they chose the option of a phone interview with the researcher. The researcher was cognisant that face-to-face interviews generate rich data in terms of eye contact, body language and general communication between the interviewer and the interviewee. However, in the context of mature students studying for their undergraduate degree online, what was of key importance to the researcher was reaching these students in a context which was convenient and most suitable for them. As the telephone interview was deemed as the first choice, and for some of the students the only choice, this was the context which was used to conduct all semi-structured interviews in this study.

3.3.5.3 Focus Group

A focus group is in essence a group interview that can provide more comprehensive understandings of processes, practices and/or contexts through cross-sharing and discussion of perspectives, experiences and actions of participants. Agar and MacDonald (1995) describe the discussion within a focus group as '*somewhere between a meeting and a conversation*' (p.80). Thus, the discussion can wander and lose focus, and be less fruitful that an individual interview. In this regard Kidd and Parsall (2000) point out that the facilitator plays a pivotal role in moderating just the discourse, stating that: '*the discourse depends on moderator skill as well as the participants' characteristics*

and their emotional stake in the topic(s)' (p.294). Issues can arise in focus groups where some participants dominate discussions, or in cases where others do not participate due to lack of confidence or inability to articulate or communicate their perspective/opinion on matters. Furthermore, there can be challenges in analysing the individual versus the group contributions from the focus group.

In the context of this study, the opportunity to engage in the focus group was communicated by email to 20 lecturers engaged with the fully online mode of learning at the target institution in early August 2019, along with an overview of the research study and accompanying information. Initially, seven lecturers agreed to participate in the study, confirming they had read the Plain Language Statement and signed the Informed Consent Form. However, on the date and time of interview, just four of this group presented for the focus group interview. The group were reminded of the focus of the research study at the outset of the session, and then were brought through the series of questions which included: Introductory questions on their experience in delivering (fully) online learning, their level and usage of technology more generally, the course content and assessment design, the nature and quality of feedback to students, and their view of the lecturer training course and general support and resourcing for online education within the target institution. Furthermore, there were questions about the nature of their interaction and relationships with the students and their role in fostering online communities of learning. In terms of the latter, there were questions about student self-forming online/offline communities versus communities formed through institutional forums, and merits thereof. The focus group was approximately 45 minutes in length, and was audiotaped. It was immediately transcribed, and the information was coded and analysed, as explained in the next section on data analysis processes.

3.3.6 Data Analysis

The data analysis process involved the analysis of quantitative and qualitive data-sets at each level of research, and generation of findings from across the two phases of research.

3.3.6.1 Analysis of Quantitative Data-sets

The quantitative analysis was undertaken in two ways, the first of which involved the presentation and analysis of descriptive statistics and the second involved a meta-level examination of relationships across variables within the study, each of which are reported below.

In terms of the generation of descriptive statistics, the datasets collated from the quantitative surveys in each phase of study were extracted in a Microsoft Excel Spreadsheet, and an initial summary of data was produced which included information in tabular and chart formats, before being presented in the form of a narrative of the descriptive statistics. The descriptive statistics for both phases of research included the demographic and background information relating to the profile of each learner, which is presented at the outset of the findings for each phase of the research in the next chapter. The descriptive statistics relating to other questions, such as their initial expectations or motivations for engaging within the online course, are blended with the findings from the broader thematic analysis of the qualitative datasets.

In the second phase of research, some additional quantitative testing was undertaken to ascertain whether relationships existed between factors such as comfortability with technology and motivation, with specific demographic items such as gender, age, and department. To do this, the data were extracted from Survey Monkey in the form of an Excel Spreadsheet and then imported into the SPSS statistical software package. Initially the data-sets were reviewed and cleaned within SPSS, which resulted in the number of viable responses being reduced from 204 to 197, and these data-sets became the bases for consideration of testing as follows.

In terms of quantitative testing, three comparative analyses were considered. In the first analysis, the researcher sought to examine the data to see whether any relationship existed between participants' motivation (Question 18 and Question 19) and their gender (Question 39), age (Question 42), employment level (Question 43) and qualification (Question 45). The employment factor was ruled out fairly quickly as the vast majority of participants were in full-time employment, so employment was not likely to be a good predictor. In order to establish associations between the pairs of

variables, cross tabulation analyses were performed for each 'variable pair', and the results of this are presented in the Appendix F. The Chi squared testing for statistical significance of variable associations could not be employed due to the low counts present for some categories which violated the chi squared test guideline of counts greater than five for each category, as according to Pallant (2005) '*The lowest expected frequency in any cell should be 5 or more*' (p.288). From a review of the initial cross-tabulated results for each of these, as shown in Appendix F, it was clear that there were no clear relationships between the variables, so no further tests were undertaken with respect to this.

In the second test, the researcher sought to explore relationships between participants' gender (Question 39), age (Question 42) and department (Question 1) and their degree of comfort with computer-related tasks (Question 15). Question 15 had 11 items relating to various computer tasks, to which the participants indicated their degree of comfort in completing (on a Likert scale from very comfortable to not comfortable at all). A single scale was created from the 11 items in Question 15, which became 'comfort with computer-related tasks', and this was tested for and shown to have good internal consistency (with Cronbach alpha level of 0.909). However, the high degree of internal consistency on this probably has more to do with the fact that most respondents were 'very comfortable' with most or all of the computer-related elements (unsurprising given that the participants choose to engage in a fully online course of study, and thus expectation would be that they would be comfortable with technology). This in-turn meant that there were no great differences when comparisons were made with participants' gender, age and department. Furthermore, there was no need for the researcher to run further t-tests or one-way Analysis of Variance (ANOVA) tests to prove no significant statistical differences as it was clear from the mean and standard deviations results (see Appendix F), that there would likely be no significant differences between the participants' degree of comfort and their gender, age or department. It was intended that a third test would be conducted to examine any correlations between personality types and willingness to engage with peers, and their motivations for engagement in online learning. Unfortunately, the participants' response-rate to the sixteen items within Question 31 varied greatly, and this made the deployment of t-tests or comparisons unworkable in this instance.

It is important to note that there is no further reference to the aforementioned quantitative testing in this thesis, as the outcomes from the quantitative testing processes have been fully reported in this section. There will however be reference to outcomes from the analysis of descriptive statistics throughout the remaining chapters.

3.3.6.2 Analysis of Qualitative Data-Sets

The qualitative datasets in both phases of research were analysed using a thematic analysis process, where open codes are established and relational coding were used to identify and draw connections between the open coding categories, further refining the data (Leedy and Ormrod, 2015). There was an opportunity to avail of qualitative analysis software (NVIVO) to identify themes but the researcher's preference was to manually analysis the rich data to identify themes and to trace developing concepts and opinions. The thematic analysis process is the process of identifying patterns or themes within qualitative data, which according to Braun and Clarke (2006) is a method that '*can produce insightful analysis to answer the research questions*' (p.97). Braun and Clarke (2006) contend that it is the first qualitative method that should be learned as '*…it provides core skills that will be useful for conducting many other kinds of analysis'* (p.78). A further advantage is that it is a method rather than a methodology (Braun and Clarke, 2006; Braun and Clarke, 2013) which means that, unlike many qualitative methodologies, it is not tied to a particular epistemological or theoretical perspective. This makes it a very flexible method, a considerable advantage given the diversity of the expectations and experiences of mature students studying part time in the fully online mode of learning within this HEI.

Braun and Clarke (2006) processes for thematic analysis were followed in the analysis of qualitative data-sets, as outlined here: firstly, the dataset was read multiple times before being coded and rough notes or memos were made to generate ideas for coding. This was followed by the creation of a list of initial codes emerging from the data-sets. The data was then organized and the data codes and themes displayed in tabular form using Microsoft Word and Microsoft Excel. The codes were further highlighted to indicate potential themes/patterns. These codes were then grouped into categories. The final phase focused on the meta level of themes, which involved sorting the codes into potential themes. The themes then were reviewed and reduced to a number of

main themes. Braun and Clarke (2006) frame for thematic analysis thus allowed for themes to emerge either in an inductive 'bottom up' or deductive 'theoretical or top down' approach. This research study followed the inductive approach which according to Thomas (2006) allows for *'research findings to emerge from the frequent, dominant or significant themes inherent in raw data, without the restraints imposed by structured methodologies'* (p.238). In this regard, the researcher read and re-read to code the data and determined theme/s without using a pre-conceived framework. Thus, the qualitative analysis process involved initial coding of extracts from interviews in the first phases of research, and similarly of responses to open questions in the survey and from the focus group with lecturer deployed in phase 2 of the research. In the first phase of research, this resulted in the articulation of a range of codes that were organised into categories and their relationships explored.

Ultimately, five major themes emerged from the re-structuring of sample codes into relevant categories, as follows: Initial fears and motivations (Theme A); Quality of course provision (Theme B); Nature of interaction and relationships (Theme C); Motivating factors for progression/completion of online course (Theme D); and, Fully online learning versus other modes of online learning (Theme E). The survey in the second phase of research held a wealth of information in terms of the demographic profile of participants but most importantly in terms of more in-depth qualitative information about particular themes identified in the first phase of research. The second phase of research did not pursue any further study of the participants initial fears and motivations (Theme A) as it was felt that very little additional information would be revealed by re-visiting this. The data from the descriptive statistics was blended within the themes identified. The following section presents an overview of themes and coding samples for each of these identified themes across the two phase of research.

3.3.6.3 Overview of Themes and Coding Samples from Qualitative Analysis

Theme A summarised the findings from data relating to the influences, and initial fears, underpinning students' decisions to engage in mature studies and fully online mode of learning. There were three main categories contributing to this theme, namely, the drivers for undertaking mature study, the drivers for undertaking fully online study, and, initial fears relating to engagement in the course, and these were formed from review

and comparison across categories of multiple codes generated from analysis of the Interview transcripts of students, responses from open questions on surveys, and the descriptive statistics, as illustrated in Figure 3.3.

Theme	Category	Sample Code	Sample Extracts/ Summary from Research Phase 1 (Student Interview/ Student Open survey question)	Sample Descriptive statistics from Student survey respondents in Research Phase 1
Theme A: Influences, and initial fears, underpinning decision to engage in mature studies/ fully online mode of learning. [Emerged in Research Phase 1 (RL1) – this theme was not pursued in Research Phase 2.]	Drivers for undertaking mature study	Improvement of job opportunities	*RL1:* *…goal of getting the degree* *…I was always adamant that I was getting a degree and that was it…*	
		Enhance familial circumstances	*RL1:* *…better myself with education in order to be able to give more to my family".*	
		Enhancement of personal development		
	Drivers for undertaking fully online study	Flexibility and convenience of course content	*RL1:* *…[Allowed me to] function around work and life* *… wouldn't be feasible for me to be in a classroom with the driving I do.*	*RL1:* 53% indicated being able to avail of an accredited online course was reason why online learning chosen
			RL1: *…Facilitated having access to*	

			the online course 24 hours	
			RL1: *…a convenient and accessible way of utilising modern technology… to be able to access that level of knowledge without having to go anywhere…* *…duck in and duck out of the actual course work would suit me better as opposed to being fixed, where you had to be down in the classroom for a certain time…*	*RL1:* 72% indicated the *"flexibility"* offered by engagement in the online mode was a key factor in their decision to choose online learning over traditional face-to-face classroom learning
	Initial fears relating to engagement in the course	Fears about Technology	*RL1:* …worried about possible challenges in logging on	[Ongoing and Realised fears]
		Fears about time/workload	*RL1:* *…Would I have enough time to do it, even with the flexibility? …Would the workload be too much?*	*RL1:* 24% of the survey respondents indicated that they were concerned about their capacity to

				succeed during their studies their studies
				RL1: 55% of the survey respondents claimed that time pressures were a major concern during the course of
		Fears about own ability/ capacity to succeed	*RL1:* *…would I be able for it, based on being out of education… would this method of learning really suit me, would I be disciplined enough to actually stay with it*	

Figure 3.3 Theme A: Research Phase 1 – Sample Coding

Theme B summarised the findings from data relating to the quality of the fully online course provision and beneficial outcomes from engagement in same. There were two main categories contributing to this theme, namely, quality of course provision and beneficial outcomes, which emerged from analysis of the Interview transcripts with students, responses from open questions on surveys, focus group with lecturers, and the descriptive statistics across both phases of research, as illustrated in Figure 3.4.

Theme	Category	Sample Code	Sample Extracts/ Summary (Student Interview/ Student Open survey questions)	Sample Descriptive statistics from Student survey respondents in Research Phase 2 and Extracts from Lecturer Focus Group
Theme B: Quality of Fully Online Course Provision and Beneficial Outcomes across both phases of research. RP1=Research Phase 1 RP2=Research Phase 2 FGL2=Focus Group Lecturer Phase 2	Quality of Course Provision	Quality of course materials	*RL1:* *… I thought the structure was great, I thought it was brilliant.. contained a lot of information… had a volume of stuff to go through, …a lot of reading, it was heavy going.* RL2: *… very satisfied, I had never previously done an online course but will very likely do another one after this*	RL2: 48.39% (90) strongly agreed that Moodle was helpful to learning, and a further 42.47% (79) agreed, with 8.06% (15) staying neutral and only 2% (2) of respondents disagreeing. 54.46% (110) finding the course content and material 'very relevant',

				41.09% (83) 'somewhat relevant' and 3.47% (7) remaining 'neutral' on this
		Synchronous and asynchronous forms of delivery	*RL1* *…getting involved in the conversations with others was important* …preferred hands on engagement in an interactive online laboratory session, or to be physically present… *RL2* *… During the live lecture, I was able to ask a question that I would not have been able to ask during a recording.* *…Not always able to attend*	RL2: 60.96% (114) preferred the live lecture format while 39.04% (73) favoured the pre-recorded lecture. …66.84% (129) of respondents indicated a preference for Adobe Connect while 33.16% (64) preferred Panopto. In terms of Adobe Connect, some respondents found Adobe Connect more

			live lecture, also I can pause the recording, take notes and come back. *… adobe can crash but most lecturers used this, panopto easier to view.* *… I prefer Panopto because there is the option to download video/lecture content for viewing at a later time, you can watch it on your phone*	reliable particularly for synchronous or live lecture sessions *a*
		Assessment modes	*RL1:* *… The assessment strategy was what I found the best, I found it quite good* *…I found some of them easy, some of them difficult* *…Continuous assessment that*	*FGL2:* *…you can see what students were taking in, during the lecture, so you give them a five-minute quiz and you get instant feedback*

			was, yeah that was stressful at times…to keep up with lectures and doing work	*…I give them a podcast of feedback on their presentation, because you can make it a bit more personable.*
		Support provided -Feedback -Technical -Peer Support	*RL1:* *…feedback was in a timely, well it was a timely manner…* *…I didn't have to go and find support* *… We were in contact with each other and everyone supported each other(Facebook)*	
	Beneficial Outcomes	• Time Management • Communication Skills • Web facilitation	RL1: Improvements in time management capabilities	RL2: 58.33% (105) had acquired academic writing skills, 55.56% (100) had attained time management skills, and
			RL1: improve her oral and written presentation skills	

				53.33% (96) respondents had developed organisational skills
			RL1: ability to access articles online and had extended her English vocabulary	

Figure 3.4 Theme B: Research Phases 1 and 2 – Sample Coding

Theme C summarised the findings from analysis of data relating to nature of interactions and relationships in the fully online course of study. There were two main categories contributing to this theme, namely, participants' sense of connectedness to others (lecturer/ peers) and the overall sense of community felt by participants across the period of their study within the fully online context, which emerged from analysis of the Interview transcripts with students, responses from open questions on surveys, focus group with lecturers, and the descriptive statistics across both phases of research as illustrated in Figure 3.5 below.

Theme	Category	Sample Code	Sample Extracts/ Summaries (from Student Interview/ Student Open survey questions)	Sample Descriptive statistics from Student survey respondents and Extracts from Lecturer Focus Group
Theme C: Nature of Interaction and Relationships in the fully online mode of learning across both phases of research. RL1=Research Phase 1 RL2=Research Phase 2 FGL2=Focus Group Lecturer Phase 2	Participants' sense of connectedness to others	Communication with lecturer	RL1: …lecturer responded in a timely manner …was constructive, good and in a timely manner *…not being able to see the lecturer was a drawback*	*FGL2:* *I don't think the initial training… gave me the skills to be* interactive.
				FGL2: *…they* [students] *actually prefer to see your face and I know some people* [lecturers] *don't like that*
		Superficial versus authentic engagement with peers	*RL1:* *…students didn't interact – merely stated their own opinion* *RL2:* *…peers encouraged and*	RL2: 77.17% (142) of respondents said "yes", while 22.83% (42) said "no", in relation to whether they had engaged with or felt

			also challenged opinions. *RL1:* *… the whole thing is to ask questions whether they might sound foolish.* *RL2:* *… although I did not seek it out all that often, when I had a question, I found answers within the student group*	supported by peers RL2: 15.14% (28) of respondents indicated that it was "extremely important" and a further 36.22% (67) felt it was "very important", illustrating that over 50% of respondents felt it was important to have regular interaction with classmates.
	Overall sense of community	Sense of (external) community – Migrating to external social media/ networking apps	RL1:…{Facebook] *was very important because it kept you in the loop* *… a designated space would be beneficial as it would help students feel grounded, a Facebook page, or a social*	FGL2: *…WhatsApp could get out of hand, you know? You could just have tons of messages coming in all the time and no real structure or may be hard to follow what's*

			networking area, just for the student's maybe to discuss things over and back RL2: "[using WhatsApp] *to facilitate easy communication and to help each other out with queries*" *…"I do not like social media. People say things they would not normally say.*	*being said, whereas the Moodle forums* are there for that purpose. … I haven't a clue about WhatsApp and no wish to engage. … students need their own little communication group where they can give out or whatever and I think if I was part of that group, I might stifle some of the communication.
		Sense of (internal) Community	*RL1:* *… connected with others in discussion forums..* *RL1:* *… I did feel alone… when there's no-one there to rely on when you're*	RL2: 77.42% (144) of respondents felt part of community while only 22.58% (42) didn't feel part of a community.

			online, to do something or you don't have that group discussion *RL2:* *…the college was good at keeping in touch and the online lectures themselves had a really good atmosphere - there was no time that I felt isolated/on my own/independent.*	FGL2: *… you very quickly saw a pattern emerge of those that were online live and those that were visiting it after the event when they had time and listening to playback.* *Again, it sorted, it separated them into effectively almost two communities'* *…you know if you have a small group and they're quiet and they're not really that interested in engaging with each other or you, that can make it quite difficult to build that sense of* [community]'

				…there is that kind of camaraderie and support … So, they obviously did have some kind of relationship and social network, despite the fact that they're online'
		At one being solitary learner	RL1: …considered himself more of a thinker and was not as inclined to get involved in chat facilities. RL2: *… It was my choice not to involve myself with the other students so I wasn't bothered about being part of a community.* *… solitary exams, solitary learning*	RL2: 53.8% (99) indicated that their belief was that online learning was a solitary form of learning, and 46.2% (85) felt it wasn't

Figure 3.5 Theme C: Research Phases 1 and 2 – Sample Coding

Theme D summarised the findings from analysis of data relating to motivating factors for progression/completion of the fully online course of study. There were five main categories contributing to this theme, namely, motivators, support, course structuring, fluctuating motivation levels, and sense of duty, which emerged from analysis of the Interview transcripts with students, responses from open questions on surveys, and the descriptive statistics across both phases of research as illustrated in Figure 3.6 below.

Theme	**Category**	**Sample Code**	**Sample Extracts/ Summaries (from Student Interview/ Student Open survey questions)**	**Sample Descriptive statistics from Student survey respondents and Extracts from Lecturer Focus Group**
Theme D: Motivating Factors for Progression/ Completion of Fully online Course across both phases of research. RL1=Research Phase 1 RL2=Research Phase 2	Motivators	Personal Motivation: • Prove to myself I can be successful • Improve my self-belief and confidence • Chance to broaden horizons • Develop a better understanding of myself	RL1: *... I suppose just the goal of getting the degree like I was always adamant that I was getting a degree.* RL2: *…Wanted to prove to myself I can do it.*	*RL2:* 44.21% (84) motivated by: "*Chance to broaden my horizons*"; 35.26% (67) motivated to: "*Prove to myself that I can be successful*"; 16.84% (32) motivated to: "*Improve my self-belief and confidence*", 2.11% (4) motivated to: "d*evelop a better understanding of myself*" and to "*increase my self-esteem"*.
		Professional Motivation: Achieving goal of being awarded degree	RL2: *…The desire to get a proper*	RL2: The majority of 69.11% (132) chose the factor:

		• *Meet the education requirements for career* • *Qualifications will open up new opportunities* • *Enable me to get a job* • *Will increase earning power*	*qualification to get a better job for a better family life*	"*Qualifications will open up new opportunities*", 15.18% (29) selecting the factor: "*Meet the education requirements for career*"; and 7.85%(15) of respondents each selecting "*Enable me to get a job*" and "*Will increase earning power*".
		Intellectual Motivation • *Become a better educated person* • kept them motivated on an intellectual level • *Develop knowledge/skills for later life*, • *Experience intellectual growth/stimulation* • *Learn about new ideas*".	RL2: *As I learnt new things I understood that it's even more interesting things to study.* *… It gave me a thirst to dig deeper into my modules outside of the course*	RL2: 39.79% (76) were motivated to "*Become a better*; 37.17% (71) motivated to "*Develop knowledge/skills for later life*", while the other 35.6% (68) sought to "*Experience intellectual growth/stimulation*"; and the remainder 15.71% (30) wanted to "*Learn about new ideas*".

	Support-related motivation	Access to support from friends/ family	*RL1:* *…I made a good few friends studying with me… we would be talking all the time, motivated each other*	
			RL1: *…I just kind of have to keep going and my husband keeps reiterating that to me*	
	Course-related motivator	Having milestones for completing work	RL1: *…Motivating to have assignments being spaced out*	
		Being able to see lecturer on-screen	*RL1:* … only watch 20-30-minutes of live lecture if lecturer's	

			face not visible.	
	Fluctuating Motivation Levels	Challenge in maintaining motivation at times	*RL2: …Ebbed and flowed like most things in life. Motivation increased exponentially near deadline times*	
	Other motivation: Personal Sense of duty	Sense of duty to successfully complete	*RL1: … the company was paying for it*	
			RL1: …once you have paid the fees as well, you'd be quite foolish not to do it.	

Figure 3.6 Theme D: Research Phases 1 and 2 – Sample Coding

Theme E summarised the findings from comparisons of engagement in the fully online mode of learning with their prior engagement in other modes of learning. There were two main categories contributing to this theme, namely, the advantages and challenges of the fully online mode of learning versus blended and face-to-face learning, which emerged from analysis of the Interview transcripts with students, responses from open

questions on surveys, focus group with lecturers, and the descriptive statistics across both phases of research, as illustrated in Figure 3.7 below.

Theme	Category	Sample Code	Sample Extracts/ Summaries (from Student Interview/ Student Open survey questions)	Sample Descriptive statistics from Student survey respondents and Extracts from Lecturer Focus Group
Theme E: Experience of fully online Learning vs. Other modes of learning across both phases of research. RL1=Research Phase 1 RL2=Research Phase 2 FGL2=Focus Group Lecturer Phase 2	Advantages of fully online mode of Study compared to blended/ face-to-face learning	Convenience	*RL1:* *…come home, cook the dinner, clean up and then go on to a recorded lecture, at my leisure, extremely convenient*	*RL2:* 66.17% (133) of survey respondents most liked the flexibility of study time (facilitated through the online delivery mode), and 18.91% (38) respondents most liked the online delivery methods. *FGL2:* *…there'll always be a place for face to face learning.*
		Flexibility in accessing content	*RL1:* *…I knew all the lectures were going to be available, you're not solely relying on your own notes, you can actually go back to the live lecture and it's like watching it all over again. I* *…the online just fit around your own life for flexibility Is absolutely brilliant* *…I'm very satisfied with actually doing*	

			it online, the flexibility to move things around as opposed to being fixed in the classroom *RL2:* *… allowed for working full time and studying part-time* *RL1:* *…If my teacher said something that I didn't understand I can replay it, I can replay it as much as I want, and then I can do it on my own time* *RL2:* *…the recorded lecturers allowed easier revision.* *…not having to travel to a campus as it just wouldn't have been possible with my work*	
	Challenges of fully online	Issue with contact phases with	*RL1:* *… concern regarding the lack*	RL2: majority of them missed the face-

	mode of Study compared to blended/ face-to-face learning	students/ lecturers	*of contact with fellow classmates* RL2: *…limited face-to-face interaction.*	to-face interaction between lecturer and students, with 54.8% (97) stating that the *limited face-to-face interaction* was what they liked least. FGL2: *…when you're in a computer lab and someone has a problem, you can just walk up and sort it out very quickly, but when that happens remotely it's much more difficult*
		Perception of higher online workload	*RL1: … the workload was much higher than another online institute.*	
		Not effective for practical modules	*RL1:* … practical modules should be completed in a face-to-face laboratory or classroom	
		Issue with online collaborative aspect	*RL2: …forced interaction with other students*	

Figure 3.7 Theme E: Research Phase 1 and 2 – Sample Coding

The findings from the analysis of these data-sets are presented and discussed in Chapter 4.

3.4 Ethical Considerations

Initially, consent to undertake the study and to access the cohort of students was applied for and confirmed by the targeted HEI in 2016. Following confirmation of this, the research ethics application and supporting documentation was completed and submitted to DCU Research Ethics Committee. The Ethical approval for the study was obtained from the Research Ethics Committee in Dublin City University in October 2016. Kemp and Vanclay (2013) state that a set of guidelines need to be adhered to ensure that the participants of the research study are engaged in research that is ethically compliant at all stages of the research process. This includes voluntary participation, permission for the use of audio and/or video recording, the right to withdraw at any stage, agreed confidentiality and anonymity and the safe guarding of data for data protection reasons. The researcher followed through on ethical processes and procedures by ensuring that participants were fully informed about the nature of the research, and that they confirmed acceptance of this by completing the Informed Consent Form (in the case of interview participants) and by clicking on appropriate button acknowledging this in the context of the participants completing the online surveys.

In both phases of research, a gatekeeper was used to communicate the thrust of the research study to students (using information provided in the Plain Language Statement and Informed Consent Form) and to distribute the two surveys in the HEI where the research was conducted. The gatekeeper was a member of staff of the target HEI and had no part in the research study – the role of gatekeeper was communicated to all of the student body via a dedicated student email address list. The use of a gatekeeper was to ensure that the students could ask questions about the aim and nature of the research study (without having to directly engage with the researcher) and thus, the students could feel at ease should they wish/not wish to participate in this study. The surveys were distributed through the gatekeeper and returned to this person so that students' confidentiality and anonymity in their potential identification through their emails was guaranteed.

An additional question in the survey in phase one of the research allowed students to self-identify (by sending their contact details – email/phone) to indicate their willingness to being interviewed about their experiences of fully online learning by the researcher. This process was handled by the gatekeeper who was able to separate those interested in being interviewed without the researchers being able to identify their individual survey responses. The interview participants were mature students and the researcher understood from her engagement with them prior to the telephone interviews, that they were not vulnerable adults. Before the interviews took place, both a letter of consent, a plain language statement and the questionnaire were sent to the students who had indicated that they would be interested in being interviewed. This stated the purpose of the study and it requested if the students would be willing to participate in the research. Only those who signed the Informed Consent Form were engaged in the study. This ensured that ethical processes were adhered to in these stages of the study. All participants were informed prior to the conduction of the interview that the interviews would be recorded and transcribed, and that if they felt uncomfortable at any stage while speaking about their experiences, the researcher would cease the interview.

A further concern for the researcher was to ensure confidentiality and protection of the participants in the write up of the research study and in the confidentiality and anonymity afforded to the data during data analysis, findings and storage of the data. All the data was anonymised, and a pseudonym was provided for each transcript from the interview for each of the participants. Participants were reminded that involvement in the research was voluntary and they were advised that they could withdraw from the research at any time. To ensure reliability and accuracy of interviews, the interview transcripts were recorded and transcribed and returned by the researcher to each interview participant via email. The interview participants were provided with a timeframe for which they each had the opportunity to check the transcriptions of their interview for accuracy. These were returned to the interviewer before the data analysis stage was conducted. Any identifying statements were also excluded from the final transcripts of this study.

The survey participants were anonymous so could not be identified, but the researcher also consciously looked for any identifying information that may have been inadvertently included in responses to open questions, and removed any identifiers in this regard. The researcher was cognisant that there was the potential to breach ethics process if she were to engage students for which she was a lecturer and especially those students that she had developed relationships with over time. For this reason she chose to distribute the survey to students outside of her own courses of study in consultation with the gatekeeper who was the sole distributor of both surveys.

3.5 Validity and Reliability of the Study

Researchers need to demonstrate rigour in the research process, which can be facilitated through a range of techniques and strategies, but ultimately is framed in terms of the validity and reliability of the study. Creswell (2014) points to the use of strategies such as triangulation, rich and thick descriptive data to ensure validity in the context of qualitative research. Reliability refers 'consistency' or 'repeatability' of the findings from the research. This means that if the study is reliable, then if the same processes are repeated, it should deliver the same results. However, striving for reliability doesn't really make sense in the context of qualitative studies, as by their nature they are very often bounded and context-specific, so achieving the same results from qualitative data would be difficult. However, Lincoln and Guba (1985) suggest that instead of *'aspiring for the same results, qualitative researchers can use triangulation, peer examination, investigator's position and audit trail to ensure dependability and consistency'* (p.288). Therefore, to ensure the rigour of this study, the triangulation technique was employed, as well as using rich and thick descriptive data set, and maintaining an audit trail of all analysis processes. The qualitative data collected from the student interviews, lecturer focus-groups and from responses elaborated within the survey instruments were triangulated across data collection tools, and across the two phases of research, as demonstrated in Figures 3.3 to 3.7. In order to construct an audit trail, a reflective diary (see Appendix D) was maintained by the researcher during the process of collecting data to capture ideas and thoughts regarding the study. This record ultimately presents evidence of how data was collected and analysed and how the research was conducted. Also, the interviews were recorded, and transcriptions returned for review by participants, which ensures that the participants viewpoints have

been verified and confirmed by them as accurately portraying their contribution to the study.

In terms of quantitative aspect of the research, the Cronbach's alpha α statistic is a standardised measure of internal consistency of variables that are used to make up a scale in research. The stronger the association between variables, the greater the consistency and the larger the Cronbach's alpha. This measure is used when you have measures in a study comprised of scale variables and you want a measure to determine if that scale is reliable, i.e. has good internal consistency. A value of 0.7 or higher is usually used as a determinant to indicate that the scale is reliable. In the case of the analysis of participants' degree of comfort in computer related tasks in this study, a scale had to be constructed of the 11 items which showed a Cronbach alpha level of 0.909 which pointed to high internal consistency of question items. However as already highlighted, this may have been due to the fact that most of the participants were very comfortable with technology-related tasks and thus had less to do with the consistency of the scale and more to do with the context for the study – i.e. all participants had chosen to engage on a fully online course and thus their degree of comfort with computer related tasks would likely be high, and this skews the interpretation of internal consistency results.

3.6 The Researcher

Merriam (2009) claims that the researcher is the 'key instrument' (p.15) throughout the research process from the construction of the research questions, the collection of data and analysis of same, right through to the final stage of interpretation and structure of the findings. Denzin and Lincoln (2011) also describe a qualitative researcher as an 'instrument' within the research process. I, as the researcher, chose to research this topic given my personal interest in the phenomenon, as a lecturer who teaches online in an Irish Institute of Technology. The data has been collected and processed by me, the researcher, who acts as a human 'instrument' rather than an impartial observer. Recognising my role as human instrument and mid-wide of knowledge construction and interpretation, I kept a reflective diary (sample extract in Appendix D) primarily to process ideas and thoughts, in an informal sense that took no particular format other than date ordered. Denzin and Lincoln (2011) are supporters of the researcher keeping

a reflective journal throughout the research process as they believe it provides an underpinning for the reader to gain a deeper understanding of the researcher's position and thinking. I was cognizant of that fact that my position as a lecturer in the target institution had the potential to influence the engagement of participants, interpretation of results, or arrival at findings and recommendations. Patton (2002) developed a position known as *'empathic neutrality'* (p.50), a stance adopted by me throughout the research study, to ensure I was neither too involved nor too detached in my engagement with participants and the processes invoked in this study.

3.7 Limitations of the Study

This study collected a good deal of additional qualitative data from student responses to the open questions on the survey tool, and this data proved very useful in better understanding the opportunities and challenges that exist within the fully online mode of learning. However, additional interviews with mature students undertaking this mode of online learning in phase two of the study might have further added to the quality and richness of the findings, but unfortunately there was not enough time to facilitate another round of student interviews at that time.

Furthermore, while the focus group with lecturers was useful, it may have been beneficial to engage more lecturers and stakeholders at the management level within the HEI as participants in phase two of the study, in order to better understand and inform the changes to policy, structures and practices to further progress and advance the fully online mode of learning with the target Institute and other HEIs in Ireland. Unfortunately, this was not possible due to time and resource limitations.

Finally, the quantitative analysis could have been furthered if the data-sets had allowed for meta-level examination between variables - the varying response rates to some questions/question items limited the extent and nature of testing that could be applied in the context of this study. In this regard, it would be worthwhile in a further study to re-visit the motivational factors, to examine whether correlations exist between motivation and personality, and other factors.

3.8 Chapter Summary

The chapter began by outlining the frame of research for this research study, which included a description of the pragmatic paradigm that underpinned this research study, the inductive approach that informed the nature of inquiry, and progressed to present the Case Study model that provided the pathway to explore mature students' expectations and experiences of the fully online model of learning within a HEI in Ireland. Furthermore, the mixed methods approach involved in the collection and analysis of qualitative and quantitative data-sets collated from interviews, surveys and a focus-group was outlined. The findings from both phases of research in this study are presented and discussed in chapter 4, while the conclusions and recommendations are presented in chapter 5.

Chapter 4: Findings

4.1 Introduction

This chapter presents the overall findings of this research study of mature students' expectations and experiences of the fully online mode of learning within the context of higher education. The chapter is divided into two sections. The first section presents the findings from the initial phase of research during which in-depth interviews were held with a sample of 9 participants, with some additional data gathered through an online survey from sampling of the broader cohort engaged in the fully online model. In the first section, the participants' motivations and fears for initial and continued engagement in the fully online mode of learning, and their experiences of course provision and peer interaction in the initial phase are articulated. In the second section, the findings from the second phase of research are presented, which includes an account of the motivations and experiences of a large-scale sample of 204 participants undertaking the fully online mode of study in 2019, as well as perspectives gleaned from a focus group with lecturers.

4.2 Participant Profile for Research Phase 1

This section presents the findings from the first phase of research, and thus summarises the participants' motivations and fears for initial and continued engagement in the fully online mode of learning, and their experiences of course provision and peer interaction. In 2016-2017, 47 mature students (from a population of circa 300 students accessing the fully online mode of online studies at that point in time) engaged in an online survey and a further 9 mature students engaged in in-depth interviews focused on revealing their motivations and perspectives on the experience of a fully online mode of learning.

The demographics of the online survey participants indicated 33% (25) were female and 47% (22) were male, ranging in age from 23-60 years old. Over half, 53%, were in full time employment, while 17% were in part time employment and the balance of 28% were either looking for employment or did not want to be employed. Furthermore, 38% of survey respondents had engaged with an online course within the disciplinary area of engineering, with 36% undertaking business courses and the remaining 26% of participants undertaking courses within the disciplinary area of Science. In terms of level

of education of those who engaged with the survey, 15% (7) survey respondents had completed a level 6, while 33% (16) a level 7 course, 35% (16) had completed a level 8, and 17% (8) interviewees had completed a level 9 course. [Just to note that Level 6 is a post-primary certification, Level 7 and Level 8 courses are undergraduate degree level awards, and Level 9 is a postgraduate degree level award under the Irish National Qualifications Framework]. In terms of the profile of the nine interviewees, these comprised 6 female and 3 male respondents, who ranged in age from 30 to 60 years. One respondent was looking for work, one was setting up a business and the remaining seven were in full time employment.

4.3 Findings from Research Phase 1

The findings from an analysis of survey and interview data-sets in the first phase of this research study were collated and are now discussed under the 5 themes displayed in Figure 4.1. The five themes are: **Theme A**. Influences, and initial fears underpinning decision to engage in mature studies/ fully online mode of learning; **Theme B.** Perspectives on quality of fully online course provision and beneficial outcomes; **Theme C.** Nature of interaction and relationships in fully online course of study; **Theme D**. Motivating factors for progression/completion of programme offered via fully online mode of study; and, **Theme E.** Experience of fully online learning versus other modes of learning.

Figure 4.1: Themes emergent from analysis of data-set from phase 1 of research

Theme A captures the initial fears and influences underpinning participants' decision to engage in mature studies, and towards the fully online mode of learning. **Theme B** captures participants' perspectives on the overall quality of course provision, and in this regard summarises their experiences of accessing and engaging with the course content, assessment, etc. It also outlines their experiences of synchronous and asynchronous modes of delivery within the fully online course. This theme further captures participants' perspectives on beneficial outcomes from engagement in the programme of study. **Theme C** outlines the nature of participants' interactions and relationships in the course of their studies, and their sense of whether a community of learning was or should have been fostered within the process. **Theme D** captures the factors that motivated participants to persevere/complete the programme of study. **Theme E** captures participants' perspectives on engagement within a fully online mode of

learning in context of course, as compared to blended learning, and face-to-face learning.

4.3.1 Findings relating to Theme A – Influences, and Initial Fears, Underpinning Decision to Engage in Mature Studies/ Fully Online Mode of Learning.

The participants identified a number of influences on their decision to engage in mature studies and the fully online mode of learning, while also articulating fears that they had at the outset of their studies. The findings in theme A are structured in three sections, namely, the drivers for undertaking mature study, the drivers for undertaking fully online study, and, initial fears relating to engagement in the course.

4.3.1.1 Drivers for Undertaking Mature Study

There were a number of drivers that motivated participants to pursue mature study at degree level, which included the improvement of job opportunities, the enhancement of personal development and improvement of family circumstances.

In relation to job opportunities, interview participants spoke of being motivated by opportunities to gain a degree qualification, achieve a qualification in a new disciplinary area, and/or earn a degree with a professional focus, which in turn would lead to better job opportunities. Michelle spoke of being motivated by the *"goal of getting the degree…I was always adamant that I was getting a degree and that was it…".* Kevin identified that a degree in Business offered a move away from his foundation specialism in Science, further stating that he was motivated by personal development and opportunities for promotion towards management level.

> *"It's a stepping stone for me now to do an honours degree in Business and to move away from the Science…I have two avenues…I can do the Honours Degree in Business, would probably be in team leader role…would probably be more appealing in regards individual development, personal development, working towards management level…" (Kevin).*

Ciara wanted to achieve a qualification in a new disciplinary area to further her career and to be "more professional" – thus, she sought a degree with a professional focus – i.e. construction management. Other participants spoke of their pursuit of mature

studies to enhance their own personal development with a view to improve family circumstances. For example, David spoke of engaging in mature studies to *"better myself with education in order to be able to give more to my family"*. Mags indicated her education was incomplete and thus she felt "*frustrated when applying for jobs…. I had no umbrella to cover all my bits and bobs of education"*, and perceived engagement in mature studies to degree level as a way of overcoming this.

4.3.1.2 Drivers for Undertaking Fully Online Study

There were a number of drivers that participants identified that motivated them to undertake the fully online course, including the flexibility and convenience of course content within this mode of online learning.

The majority of the survey respondents (66%) stated that this was their first fully online course with only 34% having completed an online course previously. The majority of survey respondents (72%) also indicated that the *"flexibility"* offered by engagement in the online mode was a key factor in their decision to choose online learning over traditional face-to-face classroom learning. Furthermore, 44% of the survey respondents strongly believed that completing the online course could lead to increased job opportunities and potential employment. A further 29% of survey respondents indicated that undertaking the online course would enable them to gain entry into the job market. In terms of other drivers, 37% of the survey respondents indicated that having personal interest in continuous learning had influenced their choice to engage in online studies. Additionally, 53% of survey respondents indicated that being able to avail of an accredited online course was another reason they chose online learning.

In terms of the drivers for undertaking fully online study articulated by interview participants, Ciara mentioned the convenience of being able to access the course from her own home, while Ian added that the online course allowed him the flexibility needed to be able to "*function around his work and life*". Denise also highlighted the aspect of convenience facilitated through use of technology - *"it was a convenient and accessible way of utilising modern technology… to be able to access that level of knowledge without having to go anywhere."* She further indicated that "*taking an online course was more convenient for her as she had young children, she worked part-time, and her husband*

had a disability". For others, it was the flexibility of being able to access lecturers 24/7 that made the fully online mode of learning attractive. In this regard, both Kevin and Denise highlighted the usefulness of the archived content for catching-up or for revision purposes, as shown in excerpts below.

> *"The biggest benefit of the whole lot was having access to the online course 24 hours, and the ability to go back over in preparation for exams or understanding a topic. So, for me to be able to learn in the way I learn, it hit everything for me" (Kevin).*

> *"It offered a level of flexibility that even if I didn't do a particular thing, I could catch up at a time that convenient for me… It's so handy to come home at your own computer, turn on the loud speaker and listen back to lecturer"* (Denise).

One participant was motivated by the perceived opportunity to mix with more like-minded people within this particular mode of online learning**.** Michelle felt that the fully online mode attracted people who were possibly at the same stage of life as her and wanted to achieve the same outcome, stating: *"You are on par with each other in life I suppose…. online when you are on the forum or talking about kinda just you are on par with each other in life; so studying, it works a bit better I think".* Interestingly, Susan perceived that the online option was good as it allowed her more flexibility in terms of direction of study - "*I thought the online was a very good option for me, so I could keep my options open…I also had an idea of maybe going into self-employment…"*.

4.3.1.3 Fears Relating to Engagement in Course

The interviewed participants articulated a range of fears with respect to engagement in the online course. This included initial fears about difficulties logging onto course, apprehension about the quality of support, self-doubt about their capacity to discipline themselves enough to complete the course, and concerns about time-load required for engagement. Kevin worried about possible challenges in logging on and "*the kind of support available to him*", specifically whether lecturers would be available to answer his queries within the fully online model. Similarly, Rita expressed concerns over initial access to online system, whilst also mentioning apprehension about the experience of online learning. Kevin further had initial doubts about his capacity to complete the

course, as he was returning to education after an 8-year gap, and further articulated concerns about his own self-discipline - "*would I be able for it, based on being out of education… would this method of learning really suit me, would I be disciplined enough to actually stay with it?"*. Denise further expressed fears that she might not be able to dedicate the time required to engage in and complete the course – "*I think the biggest concern was the time factor. Would I have enough time to do it, even with the flexibility? Would the workload be too much? …".* It is important to note that evidence from subsequent analysis of participants' experiences throughout the course does show that these initial fears either didn't materialise or didn't persist beyond the initial sign-up stage. For example, Kevin did acknowledge that once the course started and contact was made with lecturers, he settled and thus his fears lessened: *"I suppose when I got into the course and got a couple of weeks, a month into it, I started to get settled… I suppose the lectures came straight back on email which was great, you could email them privately or you had the option to post on Moodle"*.

Interestingly, in terms of the wider cohort of mature students undertaking fully online studies, 55% of the survey respondents claimed that time pressures were a major concern during the course of their studies. It is interesting to note that 24% of the survey respondents also indicated that they were concerned about their capacity to succeed during their studies.

4.3.2 Findings Relating to Theme B - Quality of Fully Online Course Provision and Beneficial Outcomes

The majority of survey respondents 87% gave a rating of good to excellent with regard to their overall learning experience, so had a positive experience of the fully online mode of learning. From an analysis of data sets from interviews, a number of factors emerged as impacting or contributing to the participants' perceived quality of course provision, specifically relating to the quality of course materials, the synchronous and asynchronous forms of delivery, assessment modes and support provided, each of which are discussed in following sub-sections. Furthermore, the interviewed participants spoke of a range of beneficial outcomes which are summarised at end of this section.

4.3.2.1 Quality of Course Materials

The interviewed participants were appreciative of the flexibility and convenience of the online structure, allowing them access to quality course material at a time convenient to them. David for example points to the flexible benefits of online learning in terms of its capacity to enable the student to personalise access - *"I suppose the online system is a lot more flexible. It is built around the student… it is built around my working life in a way for me when I was working on the course… suited my schedule at that time"*.

The interviewees felt that the modular content and materials were appropriate for the disciplinary area. Michelle commented: *"I thought the structure was great, I thought it was brilliant that everything you needed was illustrated very well and, Yes, I thought it was great".* However, David and Kevin both indicated there was an issue with workload associated with a single module on each of their courses. David felt this the module in question *"contained a lot of information… had a volume of stuff to go through, …a lot of reading, it was heavy going",* and similarly, Kevin found the volume of notes in the offending module overwhelming, indicating that there was enough material for two modules.

4.3.2.2 Suitability of Synchronous/ Asynchronous Modes of Content Delivery – Live vs Recorded Lecture.

All of the participants commented on the freedom and flexibility to access the course material whenever and wherever they wanted and appeared to particularly value the options of engaging in synchronous mode via the live streaming of lecture, or in asynchronous mode via the archived recorded lectures. Some participants indicated their preference for watching the live lectures, others welcomed the opportunity to listen to the same lecture while out and about driving or walking, whereas others liked to read the lecture slides/notes. Mags was unable to attend the live lecturers because of the timing of synchronous 'live' sessions but she found that the recorded lecturers (asynchronous) suited best around her time schedule, noting: "*getting involved in the conversations with others was important, [but] being able to listen in her own time, she felt was better in terms of the learning value"*. However, she further said that she sometimes wished she could have participated and contributed to the discussions as part of the live lecture format.

Kevin, noting the challenge of being present for live lectures because of his work schedule, commented that recorded lecturers (asynchronous) worked best for him - *"I used to go to more of the recorded classes as opposed to the live ones, and that was just because I was juggling with the last few assessments and getting the dissertation to a certain point for approval"*. He further clarified that even though he did watch some live sessions and take notes during the live delivery, he used the recorded lectures to review and better understand the content. Ciara had issues with the online "delivery" of practical modules, which consisted of observing students engaged in a face-to-face laboratory session which was live streamed through the virtual platform. Ciara mentioned that she would have preferred hands on engagement in an interactive online laboratory session, or to be physically present in a face-to-face session with the lecturer for these practical sessions.

4.3.2.3 Quality of Assessment

The respondents mostly had a positive experience of the assessment mode and strategies. Ciara felt that the breakdown between continuous assessment and examination was fair, and that the overall assessment strategies suited her and enabled her to successfully complete the course. Ian also was very positive about the assessment strategy - *"The assessment strategy was what I found the best, I found it quite good in that it worked both ways, you had the time to work on an assignment and it was easy to upload, it was easy to use, it was easy to get into my lecturers and to the online Moodle quiz"*. Ian further welcomed the window afforded to students to complete online assessments (such as quizzes) – "*we had a certain time frame in which to complete and you didn't have to be somewhere at a particular time*". Michelle felt that the freedom of access to the archived lecture was invaluable in terms of enhancing understanding of the assessment specifications – *"…you were able to go back to the lecture or the recording or anything like that because if there was something in the assessment that you didn't understand you had that advantage of being able to go back and listen to what the person was trying to explain to you anyway you have a major advantage with online learning doing that"*.

However, Michelle found some assessments more challenging than others - *"it [assessment] was fine, I thought they were ok, …I found some of them easy, some of them*

difficult but I suppose that is with everything". Denise further complained of some modules with different credit weightings having multiple (continuous) assessments due at the same time and of examinations being held around the same time. Mags was sometimes stressed about the workload associated with the continuous assessment - *"Continuous assessment that was, yeah that was stressful at times…to keep up with lectures and doing work…definitely it is stressful".* In addition, Rita felt that assessments that required group-work situation didn't work within the fully online context - *"The joint assessment where you had to collaborate with somebody...when you're in the classroom that runs much smoothly…well I didn't really want to work with anyone either, you know, I just kind of wanted to do it".* Furthermore, David pointed to the need for careful consideration of some assessment deadlines and overall distribution of workload, particularly for those on Springboard programmes (these programmes required work placements at particular points in time and this reduced availability to study and/ or complete assignment work). Michelle further called for more in-depth feedback on assessments – "*[feedback on assessment] wasn't enough… Maybe you get about 10 words on what you have done for an exam or an assessment… you just get one line…".*

4.3.2.4 Supports on Offer

The participants commented on the support they received during the course of their online programme, which included academic support, technical support, and other support from peers. The level of satisfaction with academic support differed across participants, with some being very happy with level of interaction and feedback from lecturers and others commenting on the need for more integrated academic support. Most participants were happy with feedback from the lecturers and felt that any questions or comments the participants were answered adequately. David valued the timely feedback - *"feedback was in a timely, well it was a timely manner, yes"*; Rita felt that she received appropriate feedback - *"whenever I asked a question it was answered sufficiently, yeah";* and, Kevin appreciated that feedback was direct - *"…any of the stuff I requested feedback on, emails and stuff, phone calls, I was able to get a direct response, which was great".* Interestingly, Michelle argued that not being able to see the lecturer on live lecturer was a drawback for her - "*because you're missing that kind of personal touch with not being in a classroom with someone and developing a relationship with them".* Other participants felt that they needed some face-to-face sessions for some

courses that had a practical element. Rita noted that face-to-face interaction is needed with certain modules - *"The Maths, the Accounting lecture, let's say would have been a little hard, because when itis something like when you're doing sums and stuff, it's nice to have somebody in the room with you".* Similarly, Mags commented that practical work needs to be directly supported with face-to-face type supports. Ciara was very specific on the nature of support for practical element which was missing from her fully online learning experience - *"You need to have someone there to literally stand with you; this is how you do it, this is how you, step by step…I would find that the physical presence of a lecturer, someone there is much easier to understand".*

The majority of participants didn't need to access technical support as access to the course was seamless, with many like Rita noting - *"Yeah, it was all very clear, and I was able to manage login and directing my way through Moodle no problem, yeah it was good"*. Of those that did require technical support, they reported very positive experiences of technical support. Susan mentioned having some initial problems that were quickly sorted by the services - *"I had a bit of trouble in the beginning and they were very good as well with sorting it out. Ah, I didn't have any, you know, there was no delay or anything, it was very quick the way they got it done".* Other participants such as Kevin had difficulty with the 'signing into process' of the course - *"I found that frustrating getting used to things …even signing in and out and do all that stuff, so that was a bit tough"*, but reported that he later overcame that challenge with practice and thus didn't access the services of technical support. David reported some difficulties with access to broadband in his area and at times did not have adequate Internet speed required for the course - "*I found the broadband was an issue…dropped the connection sometimes, it would be good sometimes, it wouldn't be good, so I found the internet a bit of an issue".* This was outside the remit of the support services of the Higher Education Institution in question, but it is an important consideration to note in terms of future recruitment of students from areas where there is a known blackspot in broadband coverage.

Some participants commented on the value of peer support which is discussed in more detail in Theme D. Ciara found peer support very beneficial - *"I found it very useful…you ask a question…you can't find on Moodle or so and within five minutes or ten minutes*

somebody would come up you know and say look, maybe this is how we should do it, and maybe this is how it is done, or I've got this idea; we compared ideas and you know it was pretty fast…you get a response from other students." David valued the creation of a private online forum in terms of peer support, which was initiated and moderated by students - *"A Facebook page I suppose was very supportive in fairness, there were guys from Canada, Holland, and Dubai…We were in contact with each other and everyone supported each other so I would say yes".*

4.3.2.5 Beneficial Outcomes of Engaging in Fully Online Mode of Learning

The findings indicated that many of the participants reported gaining transferable skills through their engagement in the fully online mode of learning. Many participants reported improvements in their time management capabilities, with Ciara reporting an increased ability to focus on tasks for example. Susan claimed that doing an online course helped her a lot to improve her oral and written presentation skills in addition to polishing up on her level of IT knowledge. Ciara noted her engagement in online learning had enhanced her ability to access articles online and had extended her English vocabulary. Michelle reported that the experience of engaging in online learning had given her a transferable skill-set that would enhance her employability in online marketing/ business sector.

4.3.3 Findings Relating to Theme C - Nature of Interaction and Relationships in Fully Online Course of Study

The nature of interactions and relationships varied from participant to lecturer, to peers and across the learning community. The findings from the interviews have been presented in two sections, the first of which outlines the interview participants' sense of connectedness to others (lecturer/peers) and the second of which summarises the overall sense of community felt by participants across the period of their study within the fully online context.

4.3.3.1 Sense of Connectedness with Others

The interview participants reported varying levels of connectedness to others, which is now discussed in terms of participants' perceived quality of interaction with lecturer and with peers.

In terms of participants' sense of the quality of interaction with lecturers, many expressed very positive experiences of student-lecturer engagement. Sinead for example felt that the lecturers inspired her greatly to reach milestones such as assignment deadlines. In terms of participants' perceptions of the responsivity and quality of feedback from lecturers, the findings as mentioned earlier indicate the majority of respondents felt that if they contacted a lecturer they responded in a timely manner. Mags felt that interaction with the lecturers was good and contact was appropriate to adult cohort/context. Rita concurred with Mags' perception of the high-quality lecturer interactions, and further added that she felt that lecturer responses were useful. David felt that the feedback received "was constructive, good and in a timely manner". However, Michelle disagreed drawing attention to some differences in lecturer feedback across modules - "*maybe the feedback wasn't so great on some of the subjects*". Furthermore, some of the other participants such as Ian and Ciara were "frustrated" at the length of time some lecturers' took to reply to questions being posted up on Moodle. Finally, Michelle did further note that "*not being able to see the lecturer was a drawback*" for her, as she preferred to be able to visually connect with lecturer.

In terms of the nature of participant' interaction with peers within the fully online mode of learning, the findings indicate that most of the interviewed participants valued peer interaction and engaged with each other using the internal discussion forum on Moodle. Most of the respondents were comfortable engaging with peers in the online discussion forum. Ian felt very comfortable asking questions on the online forum - "*generally, I find if I had something to put forward, I wouldn't have been too worried about that"*. David expressed how important it was to engage authentically in discussions with your peers - "*the whole thing is to ask questions whether they might sound foolish or might sound right, you want to solve the question even in your own head, so I have no problem in answering a question in that situation".* Kevin felt more inclined to read and reflect on online posts, and perhaps ask questions through email at a later stage if needed - "*in general if I had anything to put up obviously I would, I'm more of a thinker, I don't just dive into things as such so I suppose its later on that I would have the question and that probably where I would have just emailed as such*". Denise particularly valued posts from peers with real-life experience - "*I also know that there are a few people on the*

course who have had businesses for years and they know an awful lot about the topics already… so they tended to get a lot of stuff on there". However, Susan disagreed about the overall usefulness of the online forum and claimed that in a lot of cases the interaction was superficial from a learning point of view - *"students didn't interact – [they] merely stated their own opinion".* Furthermore, both Michelle and Mags felt they didn't form a relationship with peers, preferring to work on their own rather than interact in online fora.

4.3.3.2 Sense of Community Across Period of Study

In terms of participants' initiation of community spaces, the findings indicate that some learners initiated new online fora independent from the institutional discussion and chat facilities. Ciara initiated a Facebook page, where questions were posted, and reported that responses from peers tended to be fast and encouraging. She further spoke of the use of these forums for fun as well as sharing disappointments. David also spoke of a Facebook page set up by peers which he found useful and attributed its success partially because it was external to the college system and peers felt freer to comment. Ian felt that a Facebook or messaging app group was an asset as it allowed students "*to write as much or as little as they wanted*". David stated that he thought that "*it [contact with peer] was very important because it kept you in the loop*" about general course matters. David felt that communicating on their own page was beneficial for getting stuff such as *"exam dates and times you were given updates regarding assessments and exams, you know there was a lot of stuff shared it was a good thing in my opinion".* Michelle too found it very helpful stating - *"if we were doing exam questions we could just go online onto Facebook and put down the questions that we didn't understand, and another student would show us how to do so we just kind of used the online formatting ourselves in a way".* Rita felt the more informal use of social media - "*allowed people to get to know one another*".

Ciara spoke of relationships developing to include chats over coffee in the "real world" - "*Always afterwards, After a lecture, We will always discuss with each other what has been discussed. You know doing it on a very sociable kind of way*". Kevin and some others further mentioned the value of meeting face-to-face with fellow students before and after examinations held at local exam centres. In this regard, Kevin noted - "*just*

before I was doing the last exam, I had met some of the students in Cork and we were just chatting, there was four of us there… just for the students maybe to discuss things over and back".

Denise wasn't aware of and had never participated in an online community, and furthermore stated she wasn't interested in participating in such forums as they were frequently used for a rant by participants. Kevin considered himself more of a thinker and was not as inclined to get involved in chat facilities offered within the learning management system. He did however feel that a student initiated social space would be helpful - *"a designated space would be beneficial as it would help students feel grounded, a Facebook page, or a social networking area, just for the student's maybe to discuss things over and back".* Michelle reported no sense of community within the designated fully online learning space and reported that the only online contact was to respond to posts that formed part of the assessment for the module. Susan also reported that the institutional discussion forum they had on one particular subject didn't inspire authentic engagement - *"nobody interacted, just gave opinions"*. Mags initially found it difficult to get into the forums but when she did move onto a different (email) platform to continue engagement, saying that*, "I met one of them [student] and I communicate with her by email a good bit so that's cool".* Of the participants that were interviewed, a sense of isolation was articulated by two of them. Ciara mentioned feeling alone within the fully online mode of study - *"…I did feel alone… when there's no-one there to rely on when you're online, to do something or you don't have that group discussion…the full-time students have that opportunity to do so at every chance you know or everyday".* And, others such as Mags however were not that convinced about the benefits of online interaction or community building - *"I feel that those Twitter and Facebook, they take up too much time for a busy person".* Interestingly, David pointed to what he considered as a cultural issue unique to his Irish peers, who he felt didn't feel naturally inclined to participate in discussion fora and thus contributed less in online social spheres.

4.3.4 Findings Relating to Theme D - Motivating Factors for Progression/ Completion of Programme Offered via Fully Online Mode of Study

The interview participants mentioned a number of factors that impacted on their motivation to progress and complete the programme of study. These ranged from having the goal of achieving a degree, access to peer and familial support throughout the period of study, and reaching milestones facilitated the completion of assignments at various stages to other factors such as being able to see the lecturer's face in online interactions, or a *"sense of duty to successfully complete"* associated with course fees being paid by workplace or themselves.

Obtaining a degree for some is an important motivating factor for some like Michelle who said: *"I suppose just the goal of getting the degree like I was always adamant that I was getting a degree".* The encouragement of a life partner was an important aspect in progressing through and completing an online course for Denise, who said - *"I just kind of have to keep going and my husband keeps reiterating that to me".* Ciara mentioned having made friends who could support and motivate one another through the course: *"I made a good few friends studying with me… we would be talking all the time, motivated each other, saying look let's just get into this…"*, and thus highlighted the need to lean on peers for support and to keep going with the studies. David said that regular updates from peers enhanced his motivation to continue with the course. Ian said that attending live lectures kept him motivated, while Michelle added that being able to see the lecturers' face during these live lecture sessions was motivating for her to keep watching. She further added that she would only watch 20-30-minutes of live lecture if lecturer's face not visible but would watch much longer if lecturer's face was visible on-screen. Rita mentioned that achieving milestones of completing tasks and assignments was motivating influence on her progression and completion of the course. Kevin was supported by his workplace which were paying for course, and felt this also acted as motivation to continue with course - "… *the company was paying for it, and I suppose you know the work I had put into it, I wanted to keep going and get it over the line, get everything done and pass the course, and that would be the motivation for me*". Likewise, Ian's company were paying his course fees, so he felt obliged to finish, he said - "I suppose you know, the work I had put into it, I wanted to keep going and get it over the line and get everything done and pass the course. Interestingly both Rita and

Michelle also mentioned that having paid their own course fees motivated their progression with course, with Michelle commenting: "*once you have paid the fees as well, you'd be quite foolish not to do it".*

4.3.5 Findings Relating to Theme E - Experience of Fully Online Learning versus Other Modes of Learning

Some of the respondents from the interviews compared their experience of fully online mode of learning, with previous experience of blended and/ or face-to-face learning, and these are summarised in sections that follow.

4.3.5.1 Advantages of Fully Online Mode of Study Compared to Blended/ Face-to-Face

In terms of the benefits of the fully online mode of study when compared to blended or face-to-face modes of learning, Mags highlighted the ease of access to recorded lecture sessions and ability to self-pace within the fully online mode of learning as particularly beneficial, using an example of her son who was attending day-time college*: "supposing some of his teachers goes too fast for him, he has no control, where I have complete control. If my teacher said something that I didn't understand I can replay it, I can replay it as much as I want, and then I can do it on my own time".*

Michelle had previously completed an online course in another Irish educational centre that used the "Blackboard" Learning Management System to provide access to the notes and other materials. However, in comparison to the fully online experience offered by the institution in this study, she found the latter experience of using the Blackboard system very impersonal. Michelle further clarified that the decision to sign up for fully online mode as opposed to face-to-face mode depends on your personal situation - she suggested that "*if one didn't have to run and house and wasn't worried about financial issues then yes face-to-face classes was a good option for under 25's, where they could develop relationships and build networks"*. Michelle's view was that those over 25 years of age generally needed more flexibility which the fully online learning mode could offer. Mags felt that a fully online course was convenient in that it allowed her to "*come home, cook the dinner, clean up and then go on to a recorded lecture, at my leisure, extremely*

convenient". Denise concurred with Mags stating that *"the convenience was great and the mode of delivery very accessible".*

Kevin indicated that the fully online mode motivated him because support was readily available and archived content facilitated opportunities for revision - "*The way I study [online] suits me….I knew all the lectures were going to be available, you're not solely relying on your own notes, you can actually go back to the live lecture and it's like watching it all over again. I find that very beneficial for studying"*. Kevin further noted the benefits of the flexible nature of the fully online mode, explaining that - "*because of his work and family commitments, attending class at a certain time every evening wouldn't work*", he liked the idea of being able to "*duck in and out of the course at a time that suited him best*". *Kevin said: "I'm very satisfied with actually doing it online and the flexibility to move things around as opposed to being fixed in the classroom and I know I made the right decision in actually going through the online application as opposed to physical [*face-to-face mode of study]*".* Michelle agreed with Kevin, saying: *"the online just fit around your own life for flexibility Is absolutely brilliant".*

4.3.5.2 Challenges of Fully Online Mode of Study Compared to Blended/ Face-to-face Learning

With regard to the challenges, Ian spoke about his *"concern regarding the lack of contact with fellow classmates"* when comparing the fully online mode of learning to other modes. Denise felt that "*the workload was much higher than another online institute she attended",* stating that she "wasn't *quite prepared for that level"* within the fully online mode of learning. Ciara suggested that maybe practical modules should be completed in a face-to-face laboratory or classroom but otherwise "*everything else concerning online learning was of benefit to my own personal circumstances".*

4.4 Summary of Research Phase 1 Findings

The main findings from the first phase of research are as follows:

The main drivers that motivated participants to *pursue mature study* at degree level, were perceived improvement in job opportunities, the enhancement of personal development and improvement of family circumstances, and the main drivers for

undertaking fully online studies were the flexibility and convenience of accessing course content within this mode of online learning. The factors that motivated participants to continue engagement with the online course included: having the goal of achieving a degree, access to peer and familial support throughout the period of study, reaching milestones such as completing assignments, being able to see the lecturer's face in online interactions, and a sense of duty accompanying payment of course fees by employer or indeed themselves.

The initial fears included possible difficulties logging onto course, apprehension about the quality of support, self-doubt about their capacity to discipline themselves enough to complete the course, and concerns about the time-load required for engagement, and these fears typically weren't realised or only materialised for a short duration at the outset of the course.

The majority of respondents had a positive experience of the fully online mode of learning, with some offering recommendations to enhance the experience as follows:

- The quality of course materials was broadly perceived to be good with the options to view live lectures and/ or to access archived recordings particularly valued. Two participants did feel that the workload for some modules was excessive and needed to be reconsidered in light of the credit weighting associated with these modules. Furthermore, the issue of streaming practical sessions was raised as impracticable with participants advising that face-to-face sessions would work better in those contexts.
- The participants mostly spoke positively about the assessment mode and strategies, welcoming the inclusion of formative and summative assessments, but some did call for more timely and in-depth feedback from lecturers, and for re-consideration of deadlines to avoid assignment due dates falling too close together.
- The support provided from technical services was generally not called upon by participants as there were few technical issues.
- Furthermore, the interview participants spoke of beneficial outcomes in the form of a range of transferable skills, including: improvement in time

management capabilities, oral and written presentation skills, IT knowledge, and digital skills.

In terms of participants' sense of the quality of interaction with lecturers, many expressed very positive experiences of student-lecturer engagement. Furthermore, the findings indicate that most of the interview participants valued peer interaction in online forums. However, whilst the participants did engage with each other using the internal discussion forum on Moodle, there was a sense of more authentic interaction and sense of community on chat applications such as "WhatsApp" and within self-created online communities like Facebook. Furthermore, some of the participants were reticent to getting engaged in online fora, indicating a preference to engage in study by themselves. Finally, some participants expressed a broader sense of isolation within the fully online mode of study, even when engaged in online communities.

The main perceived advantages of engaging in the fully online mode of learning, as opposed to blended or face-to-face modes of learning, included: the ease of access to recorded sessions and ability to self-pace within the fully online mode of learning. The main challenges were the lack of physical contact with peers and/ or with the lecturer in the context of modules that integrated a practical component.

4.5 Overview of Phase 2 Research

The second phase of research was undertaken from April to August 2019, during which a survey instrument was completed by 204 students undertaking the fully-online mode of study, and furthermore 4 lecturers involved in this mode of delivery engaged in a focus group interview. Within the second phase of research, there was no further exploration of factors relating to the influences and initial fears underpinning student participant's decision to engage in mature studies in context of the fully online mode of learning (i.e. Theme A), as it was felt that this was adequately explored in the first phase of research. Therefore, the emphasis in the second phase of research was primarily on exploring more fully the student participants' profile, their experiences of the fully online learning, and what impacted their motivation levels during the fully online mode of learning, which was needed to substantiate and explore themes that emerged in the

first phase of research. In terms of the response rate for the survey, there were responses from a total of 204 students engaged in fully online studies from three different schools, the School of Engineering, School of Science and School of Business and Social Sciences.

4.6 Overview of Student Participants' Profile in Phase 2 of Research

The student participants' profile includes presentation of findings in relation to their demographics, profile of education level, technology usage and skills, personality profile and learning style/ preference, and is discussed as follows.

4.6.1 Demographic Overview

Of the 173 respondents who indicated their age category in question 42, all were mature students over the age of 23 years, 41.62% (72) were between the ages of 40-49; 38.15% (39) were between the ages of 30-39; 10.98% (19) were between the ages of 50-59; 8.67% (15) were between the ages of 23-29; none were in the 60-69 category; and just 1 person was in the category of 70 or over . Of the 185 respondents that indicated their gender in question 39, 64.86% (120) identified as male and 34.05% (63) identified as female respondents with two identifying as Gender non-conforming; one identifying as Transgender, non-binary and Intersex, and 4 choosing not to disclose their gender. Of the 181 respondents that choose to disclose their ethnic group in question 40, the majority of the survey respondents (95.58%; 173) identified as being white Caucasian, with 2.21% (4) identifying as Asian, and 1% (2) identifying as either black African and Mixed Race. Of the 173 respondents that disclosed their employment status in question 43, a total of 94.8% (164) reported being in full time employment and 2.31% (4) in part-time employment, with a further 2.31% (4) not employed and looking for work, and just one indicated they were not employed and not seeking work. 70% (143) of the online participants were of Irish origin with the remaining 30% (61) from other countries such as UK, Spain, Canada, Australian, Russia, Netherlands, Eastern Europe and Africa.

4.6.2 Education Profile

Of the 172 respondents that disclosed their highest level of qualification in question 45, 29.65% (51) had a higher Certificate, 22.09% (38) had a higher bachelor's degree, 18.6% (32) had an ordinary bachelor's degree, 15.7% (27) held a Leaving Certificate.

Furthermore, 8.14% (14) of respondents held a master's degree, 5.23% (9) held a post graduate diploma and one respondent had a Doctoral Degree.

4.6.3 Technology Usage and Skills Profile

Of the 196 respondents to question 13 on technology usage, 81.12% (159) of respondents regularly used a laptop to access the online course as opposed to other devices such as a desktop computer which was used by 15.31% (30), smart phone which was used by 1.53% (3) and just 2% (4) respondents using a tablet. Of the 194 respondents that indicated the location of the device, 87.63% (170) of respondents indicated the devices were located in the home and a further 12.37% (24) were located at work. The participants were further asked (in question 15) to rank their degree of comfort in completing computer related tasks using a 5-point Likert scale that ranged from 'Very Comfortable' to 'Not Comfortable At All'. Of the 198 respondents, the vast majority of participants (80-96%) indicated they were very comfortable with each of the following computer related tasks: using email (96.45%); accessing the Internet (91.92%); sending (86.36%) and receiving (90.4%) documents electronically; downloading multimedia materials (80.3%); listening to audio (89.39%); viewing video (90.4%); and, using online learning platforms (84.85%). A less significant but nevertheless a strong majority were also very comfortable with typing/ keyboarding (75.9%) and in using social media, live chats and online forums (64.14%).

4.6.4 Personality Profile

Using Cattell's (1973) 16 Personality Factor Test (PFT), respondents were asked in question 31 to choose which traits best identified their personality – with 183 respondents indicating their preferences across the personality factors as illustrated in Figure 4.2:

1) *Reserved* (30.05%)-*Outgoing* (20.22%);
2) *Less Intelligent* (7.65%)-*More Intelligent* (20.22%);
3) *Affected by feelings* (16.39%) – *Emotionally Stable* (24.59%);
4) *Submissive* (9.28%)-*Dominant* (9.29%);
5) *Serious* (25.14%)-*Happy go lucky* (19.13%);
6) *Expedient* (7.1%)-*Conscientious* (34.97%);

7) *Timid* (7.1%)-*Venturesome* (13.11%);
8) *Tough-minded* (17.49%) – *Sensible* (39.34%);
9) *Trusting* (31.15%) – *Suspicious* (11.48%);
10) *Practical* (54.64%)-*Imaginative* (14.21%);
11) *Forthright* (15.48%)-*Shrewd* (3.83%);
12) *Self-assured* (21.31%)-*Apprehensive* (14.75%);
13) *Conservative* (18.58%) – *Experimenting* (16.94%);
14) *Group dependent* (3.83%)-*Self-sufficient* (44.26%);
15) *Uncontrolled* (3.83%)-*Controlled* (33.33%);
16) *Relaxed* (31.15%)-*Tense* (10.38%).

Figure 4.2: Results from Personality Factor Test

It is evident from a review of the percentage of responses for each personality factor, that the response rates differed greatly across all 16 factors, with strong respondent response rates of between 51% and 69% (105 to 126 respondents) for factors 1, 8, 10 ; moderate response rates of between 41 and 47% (76-88 respondents) for factors 3, 5, 6, 9, 14 and 16; fairly low response rates of 35%-36% (65-68 respondents) for factors 12, 13, and 15; and, an extremely low response rates below 30% (34-51 respondents) for the remaining factors 2, 4, 7, and 11. It is not fully clear why the 183 respondents didn't select an item within each of the 16 personality factors within question 31. It may have been due to limitations of the survey platform which restricted the manner in which the 16 factors were presented and furthermore allowed users to progress to the next survey question once a single response was recorded in any of the 16 personality items.

In terms of overall findings from question 31, the majority of respondents to the personality factors 1, 8 and 10 self-identified as being *reserved*, *sensible*, and *practical*, respectively. Moreover, the majority of respondents to the personality factors 3, 5, 6, 9, 14 and 16 self-identified as being *emotionally stable, serious, conscientiousness, trusting, self-sufficient,* and *relaxed*, respectively. The respondents were almost equally divided in relation to personality factor 13 between considering themselves *conservative* versus *experimenting*, while more self-identified as being *self-assured* (as opposed to *apprehensive*) to factor 12, and a strong majority self-identifying as being *controlled* rather than *uncontrolled* in factor 15. The preferences indicated for the

remaining personality factors showed that the majority of respondents identified as being *more-intelligent, venturesome and forthright*, to factors 2, 7 and 11, with equal numbers of respondents self-identifying as being *submissive* and *dominant* in relation to factor 4.

4.6.5 Learning Preference

The participants were asked in question 12 to describe their preference for learning. In relation to the 162 responses, the majority of respondents expressed their learning preference in terms of their preference to engage with audio, textual and/ or visual materials, with quite a few others mentioning a preference for active learning, demonstration, and/ or note-taking. A few respondents mentioned a preference for cramming, with one respondent noting that he was a "*Crammer- last minute with everything!" (Q12:* R138), and likewise, a further respondent noted: "*I learn better with intense study at exam times*" (Q12: R33). [Please note that the R number denotes the numbered response from an open question response field, so R138 is response number 138, R33 is response number 33]. Some respondents responded to this question on learning preference by providing descriptions of when learning was undertaken, highlighting study in evenings, weekends, etc., and some others expressed their preference for learning by themselves or with others.

4.7 Experiences of Fully-Online Mode of Learning

The analysis of the student participants' experiences of the online course, and what impacted their motivation levels during the fully online mode of learning, are now discussed under 4 of the 5 themes presented in the first phase of research, namely: **Theme B.** *Perspectives on quality of fully online course provision and beneficial outcomes*; **Theme C.** *Nature of interaction and relationships in fully online course of study*; **Theme D**. *Motivating factors for progression/ completion of programme offered via fully online mode of study*; and, **Theme E.** *Experience of fully online learning versus other modes of learning*.

4.7.1 Perspectives on Quality of Fully Online Course Provision (Theme B)

The participants were asked (in Question 36) to elaborate on their extent of satisfaction with the experience of online learning. From the comments of 163 respondents, it is

clear the majority of respondents were very satisfied with the overall quality of fully online course provision, mentioning positive aspects of the course provision such as the flexible nature of course provision - *"very satisfied. Provides flexibility in learning and studying and balancing work life" (Q36: R125)*, the accessibly of the Moodle platform, the integration of Panopto to watch lecture at own pace in own time, and the convenience of being able to access and revise content anytime from anywhere. Indeed, one respondent said the experience has motivated him to consider another online course: "*very satisfied, I had never previously done an online course but will very likely do another one after this" (Q36: R56).* The small number of fifteen respondents that indicated less satisfaction with the overall quality of fully online course provision highlighted a range of issues, including the quality of some lecturing and communication, loneliness and frustration in fully online learning, heavy workload in some disciplines, the need for more real-life examples within course content and the need for improved lecturer availability. One respondent further felt that more learning would have resulted in the face-to-face context – *"To some extent I am [satisfied with quality of online learning experience] but I feel if I had of going down the classroom route I would have gained more knowledge" (Q36:R19).*

The participants were also asked (in Question 9) if their expectations were met in relation to course content, course material, assignments and exams, and 204 responded to the first three, with 203 responding to the latter. Using the five-point Likert scale, respondents could choose from point 1 - "*met very well"*, "met a little", "neutral", "not met that well" or finally point 5 "*not met at all*". In terms of *Course content*, the majority of respondents felt that their expectations were met, with 55.39% (113) claiming that their expectations were "met very well". A further 30.39% (62) of respondents felt that the course content met their expectations "a little", with 9.8% (20) of respondents neutral on this, and 4.41% (9) felt their expectations were "not met that well" or "not met at all". In terms of *Course materials*, 51.47% (105) respondents' expectations were "met very well", with a further 32.84% (67) expectations "met a little" and 19 respondents were "neutral". Only 6.37% (13) respondents' expectations were either "not met that well" or "not at all". In terms of the *Assignments*, 39.71% (81) of respondents felt that "the assignments met their expectations" while the expectations of a further 37.25% (76) were "met a little" and 15.2% (31) of respondents were

"neutral" on this. In total, 7.84% (16) of respondents suggested that their expectations of the assignments were either "not met that well" or "not met at all". The final part of question 9 asked respondents the extent to which exams met their expectations, and 46.8% (95) respondents felt that the exams met their expectations very well, while 35.96% (73) of respondents felt their expectations were somewhat met, 10.84% (22) were neutral on this, with a further 6.4% (13) respondents who felt that their expectations of the exams were either "not met that well" or "not met at all".

The respondents to question 9 were further asked to provide clarification which they did mainly in terms of what caused dissatisfaction within each of the aforementioned areas which resulted in further comments proffered by 28 respondents. In terms of course content, some respondents were not happy with contact hours and disciplinary focus, as illustrated with comments as follows: *"overall content was poor with too few contact hours. I'm looking to learn a topic and really can't develop a big understanding with 1 hour per module per week" (Q9: R22)*, and, another stated that *"my background is construction, course content tended more towards industry or pharmaceutical sectors*" (Q9:R11). In terms of course materials, some respondents had difficulty with instructional design and currency of the course materials – one respondent for example "*found the math material hard to follow*" (Q9:R24) and another suggested that the institution did not "*supply up to date course materials*" (Q9:R28). In terms of assignments, some respondents had issues with the scheduling or design of assignments at same time, workload associated with assignments, and the inclusion of assignments over examinations. One respondent noted that: "*a lot of assignments [were] issued at the same time, little time to do project with the demands of assignments*" (Q9:R25). Another that the "*math and pci assignments were a lot of work and* hours" (Q9:R24). A further respondent claimed that they found "*some subjects' assignments questions were very confusing*" (Q9:R3). Interestingly, a respondent commenting elsewhere in the survey, noted: "*It was always helpful to interact with others especially with tough assignments as someone else may work in an area you know nothing about and vice versa which could help with some modules*" (Q32:R40). In terms of examinations, the respondents pointed to poor organisation of examination, some dissonance between sample and actual exam papers, with sample comments as follows: - *"maths exam was*

difficult; sample papers were not structured like the exam paper" (Q9:R24), and another worryingly found that the - *"final exams were predictable" (Q9:R17).*

Moreover, the respondents were further asked (in Question 10) to rate the extent to which they considered the course content and materials relevant on a Likert scale which ranged from very relevant to not relevant at all. A total of 202 respondents replied, with 54.46% (110) finding the course content and material 'very relevant', 41.09% (83) 'somewhat relevant' and 3.47% (7) remaining 'neutral' on this. Just under 1% (2) of respondents rated the course content and materials as 'not very relevant', while no respondent believed the course content and material supplied was 'not relevant at all'.

The participants were further asked to indicate their preference for the pre-recorded lecture format versus the live lecture format in question 28. A majority of 60.96% (114) preferred the live lecture format while 39.04% (73) favoured the pre-recorded lecture. The 129 accompanying comments provided some insight into what informed their preference in this regard. In the main, respondents suggested that their preference for live lectures was because they facilitated opportunities to ask questions and interact in discussions with lecturers and peers. Some examples here in support of discussion and feedback supported within the live lecture format include: "*During the live lecture, I was able to ask a question that I would not have been able to ask during a recording*"(Q28:R116); "*You have the capability to create a discussion with both the lecturer and fellow students*" (Q28:R110); and, "*It was a chance to have questions answered directly but to also interact with the other students on the course*" (Q28:R99). Other examples in support of the pre-recorded lecture detailed its ease of access for revision and self-paced learning: "*I was able to watch the lectures in my own time which suited me far better for work and family commitments*" (Q28:R37); "*Not always able to attend live lecture, also I can pause the recording, take notes and come back*" (Q28:93); and, "*Can be watched anytime, rewinded repeated slowed down etc*." (Q28:R41).

In terms of familiarity with the Learning Management System (LMS), participants were asked in question 34 if they had used Moodle before undertaking the fully online course. Of the 186 respondents, 27.96% (52) had used Moodle previously with 72.04% (134) indicating they have never used Moodle previously. In question 35, participants were asked the extent to which they felt Moodle was helpful to their learning on a Likert scale

ranging from Strongly Agree to Strongly Disagree. Of the 186 respondents, 48.39% (90) strongly agreed that Moodle was helpful to learning, and a further 42.47% (79) agreed, with 8.06% (15) staying neutral and only 2% (2) of respondents disagreeing that Moodle was helpful to their learning. This shows just over 90% of respondents felt Moodle was helpful to their learning, a very strong endorsement of this Learning Management system. The participants were further asked (in question 17) to indicate their preference between two of the media communication tools offered within the fully online course – Adobe Connect and Panopto. Of the 193 respondents, 66.84% (129) of respondents indicated a preference for Adobe Connect while 33.16% (64) preferred Panopto. In terms of Adobe Connect, some respondents found Adobe Connect more reliable particularly for synchronous or live lecture sessions, with one respondent noting: "*I liked the blended layout on screen - the ability to see the presentation, be connected with the lecturer (webcam) and with the rest of the class on the chat element - don't necessarily need to physically see everyone to feel involved*" (Q17: R31). There was criticism of Adobe Connect including some issues with cross-platform compatibility, the need to re-boot on occasion, and with quality of playback when using Adobe Connect. Of those who used Panopto, respondents indicated that its ease of use and cross platform compatibility was conducive to their need to access and review at their own time and pace – with comments including: "*Just easier to view and use, adobe can crash but most lecturers used this, panopto easier to view*" (Q17:R78), and "*I prefer Panopto because there is the option to download video/lecture content for viewing at a later time, you can watch it on your phone*" (Q17: R13). Some respondents also commented on functionality within Panopto to skim through recorded lecture content, noting: *"Panopto was much better. It enabled me to speed up lecturers who spoke slowly, or were discussing topics I was already comfortable with" (Q17:R5),* and that: *"You can speed up the Panopto during the lulls" (Q17:R3).*

The participants were asked in question 24 to select from a range of transferable skills that they had developed during the online course. The top three transferable skills that were identified by 180 respondents were academic writing skills, time management skills and organisational skills, with 58.33% (105) indicating that they had acquired academic writing skills, 55.56% (100) claiming that they had attained time management skills, and 53.33% (96) respondents indicating that they developed organisational skills

(e.g. management of workload). Other skills developed by respondents included: presentation skills by 47.22% (85), listening skills by 32.78% (59), computer literacy skills by 28.33% (51) and team work by 18.89% (34). Only 9.44% (17) of respondents indicated that they had developed leadership skills. It is important to note that 9 out of the 10 accompanying comments noted that the respondents had developed many of these transferable skills in previous courses or in the workplace, and thus the development could not be attributed solely to engagement in this specific online programme – as one respondent noted: *"all of the above are skills I already possessed. Some might have been enhanced perhaps rather than newly acquired" (Q24:R9).*

4.7.2 Nature of Interaction and Relationships in Fully Online Mode (Theme C)

The participants were asked in question 25 if they were satisfied with the quality of lecturer response to course content queries. Of the 188 respondents, 78.19% (147) indicated that they were happy with 21.81% (41) of respondents indicating they were not happy with the quality of lecturer response. In response to question 26 which queried their mode (email/live chat/ telephone/ face-to-face) of interaction with lecturer on which a total of 186 responded, 83.87% (156) of respondents indicated that they had interacted by email, 14.52% (27) by live chat, 1.08% (2) by face-to-face and only 0.54% (1) by telephone. In terms of lecturer-contact outside of allocated class time (Q27), 81% (154) of 189 respondents confirmed that contact outside class-time had been facilitated, while 19% (35) of respondents said it had not been facilitated.

The participants were asked in question 29 if it was important for them to have regular interaction with classmates, on a 5-point Likert scale ranging from *Extremely Important* to *Not Important At All*. Of the 185 respondents, 15.14% (28) of respondents indicated that it was "extremely important" and a further 36.22% (67) felt it was "very important", illustrating that over 50% of respondents felt it was important to have regular interaction with classmates. A further 30.27% (56) indicated they were "neutral" on this. On the counter side, 10.81% (20) indicated interaction with classmates wasn't so important and a further 7.57% (14) believed interaction with classmates to be not at all important.

The majority of respondents were satisfied with the quality of lecturer response to course content queries. The dominant mode of communication with lecturers was by email with a minority also using the live chat facility. About half of the respondents felt that it was important to have contact with peers, and almost 20% felt that interaction with peers 'wasn't so important' to 'not important at all'.

The participants were asked to indicate in question 32 whether they felt part of a community of learning. Of the 186 respondents, 77.42% (144) of respondents said "yes" while only 22.58% (42) said "no". There was some clarification within the 63 accompanying comments on why some respondents did or didn't feel part of a community, and what technologies supported their development of community. One respondent spoke of the regular contact from the college and the engagement with 'live' lecture sessions in fostering some sense of community – "*Surprisingly so - the college was good at keeping in touch and the online lectures themselves had a really good atmosphere - there was no time that I felt isolated/on my own/independent*" (Q32:R18). Some respondents spoke of the role of group assignments in enabling interaction and collaboration, and in helping to foster a sense of community of learning. In this regard, one respondent noted that when they met: "*there was some rapport and we formed into groups for one module" (Q32:R1);* another respondent noted that the sense of community was initiated through "*the opportunity on one subject to present as part of a team*" (Q32:R13); and, another respondent pointed to multiple opportunities for collaboration through sharing and critiquing of assessments within online platform: "*Some assignments involved collaboration (sic) with another online student and some assignments were on a shared platform to evaluate and compare*" (Q32:R49).

Many respondents pointed to the use of WhatsApp in enabling the sense of community of learning, with one respondent noting its use "*to facilitate easy communication and to help each other out with queries*" (Q32:R56). *Others felt the use of Slack, contributed to knowledge enhancement and provided support within the group.* Just one respondent mentioned the use of a Facebook group in context of community of learning. Others were resistant to the notion of being part of a community of learning, preferring to forge their own path of learning within the online course, as illustrated by respondent comments here: *"It was my choice not to involve myself with the other students so I wasn't bothered about being part of a community*" (Q32: R36); "*I have no desire to be*

part of a community learning so do not feel part of one" (Q32:R57). From explanations proffered by respondents in an earlier question (Q15), it is evident that some respondents were not comfortable with the anonymous nature of and culture of informality within some online chat facilities - *"Not overly comfortable with anonymous online chats" (Q15:R3); "I do not like social media. People say things they would not normally say" (Q15:R5)*, with one respondent indicating a preference for structured, integrated chat facilities offered within the platform - "*I do not participated (sic) in Social Media - no problem with the Adobe Connect classroom environment though and the integrated chat there*" (Q15: R2).

The participants were further asked in question 33 whether they felt that they gained support/ engagement from peers on the course. Of the 184 respondents, 77.17% (142) of respondents said "yes", while 22.83% (42) said "no", in relation to whether they had engaged with or felt supported by peers. In the accompanying 79 comments, some respondents highlighted regular contact with other course members (mainly through WhatsApp group/s) while others didn't have any contact at all with peers. In terms of the nature of contact/ interaction, group discussion was facilitated within the (Moodle) platform but more generally shifted off-site to WhatsApp groupings, and was stimulated in general by an assignment. In this regard, respondents when speaking of interaction with peers noted that "*peers encouraged and also challenged opinions*" (Q33:R19) but that the interaction was mainly prompted by assessments – "*Only when coursework or assignments dictated that we work in groups*" (Q33:R78). One respondent commented that he found "*encouraging and supportive colleagues on the same course*" (Q33:R9); another said that "*We have our own group chat through WhatsApp and we support each other their"* (Q33:R24); a further respondent commented that: "*although I did not seek it out all that often, when I had a question, I found answers within the student group*" (Q33:R11). In terms of face-to-face support, one respondent spoke of co-workers undertaking the same course as being a critical support. Finally, on the counter side, some respondents reported limited or no contact with peers, with one respondent noting that he just: "*met just one person who I kept in touch with"* (Q33:R16) while another said she had "*no communication with other students*" (Q33:R29). Other respondents felt it was their choice not to interact with peers, with a further respondent stating: "*I did not engage with any of my peers*" (Q33:R47).

Moreover, the participants were asked in question 30 whether they believed online learning to be a solitary form of learning. Of the 184 respondents, 53.8% (99) indicated that their belief was that online learning was a solitary form of learning, and 46.2% (85) felt it wasn't. The 56 accompanying comments provide some insight into what underpinned some of their beliefs, with commentary from some respondents pointing to value of online learning in facilitating self-directed and the solitary mode of study, others bemoaning the lack of meaningful interaction facilitated through the fully online mode of learning and some pointing to the use of social media such as 'WhatsApp' to support interaction among peers. Some respondents were positively disposed towards the notion of online course/s as providing a solitary form of learning. These respondents spoke of benefits to working by oneself, such as: *"you get to spend more time doing work on your own" (Q30:R1).* Some commented of opportunities being facilitated for participants to self-direct and self-pace their own learning within the online course – as one respondent notes *"… you can even learn on your own time" (Q30:R3),* and another stating*:* "*It's a choice to be solitary. There are forums if the person wants"* (Q30:R38) with a respondent further pointing to benefits of avoiding nuisance peers: *"My " yes" answer is governed by my personal preference. I prefer studying without having to engage with other students especially the ones who feel the need to share and ask endless question*" (Q30:R53). Interestingly, one respondent linked the nature of learning to the assessment mode, and thus pointing to the individual nature of examinations that formed a significant part of assessment for each module, stated: "*solitary exams, solitary learning*" (Q30:R51) – highlighting that the mode of assessment ultimately drives the nature of learning.

Another respondent felt that the solitary nature of online course was equally likely within a face-to-face setting, unless group learning was being facilitated - *"no more solitary than in class room learning, unless there are allot of team projects" (Q30: R12).* Some respondents pointed to interaction within social media to counteract the solitary nature of learning imbued within the formal online course, as follows: "*There is a ton of communication via the WhatsApp group*" (Q30:R15); "*A few of us set up a WhatsApp group for contact. Would be solitary without this*" (Q30:R49). Some respondents missing the interaction with classmates within the online course noted the following issues

including lack of support, less opportunities for discussion and clarification of ideas, and for catching up with progress of others:

"you don't have the same support as you do in the classroom" (Q30:R6);

"you don't have that option to ask your classmates about something you're not understanding" (Q30:R8);

"you never get the opportunity to discuss how others are doing informally" (Q30:R4).

4.7.3 Motivating Factors for Progression/ Completion of Online Programme (Theme D)

The survey participants were asked in question 4 to select one factor from a list of four of the beneficial outcomes of a qualification earned through the online course. A total of 203 responded as follows: 71.43% (145) of respondents indicated that a '*qualification would open up new opportunities*'; 11.33% (23) respondents believed that the qualification earned through the course would '*increase salary earnings*'; 10.84% (22) respondents indicating it would enable them '*to get the job'*; and, 6.4% (13) respondents believing it would "*meet education requirements*". The participants were then asked in question 5 to select one factor that enabled them to retain their personal focus (motivation) during the online course. Of the 203 respondents, 6.95% (75) respondents indicating that it was important for them to '*control their own learning*'; a further 34.48% (70) claiming that they wanted to '*seek increased ability*' i.e. improve their own knowledge/ skills; 20.69% (42) respondents were 'seeking a challenge' i.e. were motivated by challenge of course; 5.91% (12) respondents really wanted to strive to succeed – '*maintain effort over failure'*; and, the remaining 1.97% (4) were stimulated by unspecified '*external factors'*.

The participants were further asked in question 18 to select from five factors at a personal level that impacted their motivation to progress with and complete the course, and in questions 19 and 20 to select from four factors that impacted their motivation at professional and Intellectual levels respectively. Of the 190 respondents to question 18 (person motivation), 44.21% (84) of respondents chose the factor: "*Chance to broaden my horizons*"; 35.26% (67) chose the factor: "*Prove to myself that I can be successful*"; 16.84% (32) chose the factor: "*Improve my self-belief and confidence*", 2.11% (4) chose

the factor: "d*evelop a better understanding of myself*" 2% (5) and 1.58% (3) chose the factor: "*increase my self-esteem"*. Of the 191 respondents to question 19 (professional motivation), a strong majority of 69.11% (132) chose the factor: "*Qualifications will open up new opportunities*", with 15.18% (29) selecting the factor: "*Meet the education requirements for career*"; and 7.85%(15) of respondents each selecting "*Enable me to get a job*" and "*Will increase earning power*". Of the 191 respondents to question 20 (intellectual motivation), 39.79% (76) reported that to "*Become a better educated person*" kept them motivated on an intellectual level; 37.17% (71) indicated that to "*Develop knowledge/skills for later life*" was intellectually motivating, while the other 35.6% (68) sought to "*Experience intellectual growth/stimulation*"; and the remainder 15.71% (30) were intellectually motivated by the opportunity to "*Learn about new ideas*".

Moreover, the participants were asked in question 21 whether they felt their motivation levels increased or decreased during their course. Of the 184 respondents, 70.11% (129) reported that their motivation levels had increased during their online course, with 29.89% (55) reporting a decrease in motivation levels during the online course. From a review of the accompanying seventy comments, respondents further articulated personal, professional and intellectual factors that impacted their motivation. In terms of personal motivation, some respondents spoke being motivated to continue by internal drive to successfully complete assignments and achieve a qualification – "*Wanted to prove to myself I can do it*" (Q21:R6), and "*I wasn't sure I could do it but being successful at year 1 has definitely increased my motivation*" (Q21:R22). In terms of professional motivation, the gaining of qualifications to enhance familial circumstances and employment opportunities was articulated by several respondents - "*I felt that I was achieving a goal - getting a degree, finally*." (Q21:R33) , and another spoke of opportunity to better familial circumstances through improved employment opportunities – "*The desire to get a proper qualification to get a better job for a better family life and to be more comfortable is my motivation*" (Q21:R39). With regards to intellectual stimulation, there was evidence that experiencing intellectual growth had an impact on motivating learners to continue, as shown in these extracts: "*As I learnt new things I understood that it's even more interesting things to study*" (Q21:R17); "*I*

was always looking forward to the next module to complete my knowledge about my course" (Q21:R18); and, *"It gave me a thirst to dig deeper into my modules outside of the course...Reading books, listening to podcasts and YouTube videos on the subject" (Q21:R53).* Others spoke of confidence being impacted by feedback (or lack thereof), with one respondent noting an "*Increase in confidence based on feedback from results*" (Q21:R26).

However, the motivation for many did fluctuate during the online course, as they struggled with workload (mainly associated with assignment completion), family issues, and workplace duties. One respondent commenting on fluctuating motivation levels, said his motivation: "*Ebbed and flowed like most things in life. Motivation increased exponentially near deadline times*" (Q21:R15). Another respondent noted that motivation levels "*Decreased after 1st semester(sic) due to long break between 1st and 2nd semester(sic)"* (Q21:R14), while another claimed: "*The poor delivery and obscure marking schemes resulted in most of us on the course losing motivation through the course of the year*" (Q21:R69).

4.7.4 Experience of Fully Online Mode Versus Other Modes of Learning i.e. Blended/ Face-to-Face (Theme E)

The participants were asked what they liked most in question 7 (n=201) about taking the fully online mode of study, and what they liked least in question 8 (n=177). In terms of the former, the results show that 66.17% (133) of survey respondents most liked the flexibility of study time (facilitated through the online delivery mode), and 18.91% (38) respondents most liked the online delivery methods. Just six respondents provided some further commentary, noting that the archived live lecture sessions enabled revision at any time - "*the recorded lecturers allowed easier revision*" (Q7: R5); "*able to watch lectures back*" (Q7:R10); and that the fully online mode of learning was particularly beneficial for those who needed to work as it allowed "*working full time and studying part-time*" (Q7:R10). A further 9.45% (19) most liked that they didn't need to go to campus, with one commenting *"not having to travel to a campus [was liked most] as it just wouldn't have been possible with my work" (Q7:R11).* Just one person most liked the limited face-to-face interaction or spending time on the computer.

In terms of the latter (what respondents liked least), the results indicated that a majority of students missed the face-to-face interaction between lecturer and students, with 54.8% (97) stating that the *limited face-to-face interaction* was what they liked least. A further 20.9% (37) found that *spending time on the computer* was what they liked least. A further 14.69% (26) didn't like the online delivery methods. The remaining 10% (17) included those that liked least that there was *less need to go to campus*, and the affordance of *flexibility of study time.* In terms of explanation, 32 of the comments received revealed a range of issues that influenced what the respondents least liked, including: issues with group work particularly "*forced interaction with other students*" (Q8:R26), and poor lecturer communication/ delivery/ feedback, issue with access across differing time zones, issue with the physical set up of examinations, issues with pace of some modules or out-dated course materials, issue with having to read large amounts of material in electronic format, and an issue with the asynchronous pre-recorded lecture not being as beneficial as live synchronous lecture sessions. It should be noted that 4 respondents stated that there was nothing they didn't like about the online course, with comments such as: "*Nothing. It [the course] was perfect for my needs*" (Q8:R1).

In terms of work/life balance, a total of 193 responded to question 6 which asked of the challenges that were overcome to achieve work/life balance within the fully online mode of study, and the majority of these (124) mentioned challenges of time or time management, claiming that '*finding the time*', '*organising their time management*' and/ or '*lack of time'* was a huge challenge for them. Within these, some noted having to engage in study at night, early mornings, or at weekends, with some saying that time for socialisation and relaxation had to be reduced (or stopped completely) to facilitate study. There were several mentions of the challenge of work and study, and making time for study-work-family-self, with some others noting the issue of fatigue and *'finding the energy to study'* at certain stages within their study programme. Some managed to squeeze in some study time while at work. Others noted the challenge in differing workloads associated with assignments, and thus pressures on certain weeks to complete a large amount of work. A few respondents spoke of the challenge of returning to education after a long absence, and the specific difficulties in maintaining work-life balance with this added complication. Finally, there was some commentary

on the challenge of self-discipline, and prioritising time to study in the context of the fully online learning model. Some examples from respondents in this respect include: "*Making time and disciplining myself for online learning in the absence of a physical class room environment*" (Q6:R52) and "*Becoming more disciplined - maintaining momentum especially as against pressures from existing family and work commitments*" (Q6: R63).

The participants were asked in question 37 whether they would undertake another online course. Of the 182 respondents, 89.56% (163) of the respondents indicated they would take another course while 10.44% (19) indicated that they wouldn't take another online course. A review of the 109 accompanying comments provides some explanations for the decisions. For those that indicated they would undertake an online course, many speak of realised goals of achieving degree, improving job opportunities and/ or familial circumstances, as shown in these extracts:

> *"Because this course has worked for me, and a future online course will allow me to continue working and providing for my family" (Q37:R126)*
>
> *"It provided me with what I needed in terms of obtaining a qualification. It was an effective way of learning for those already in full-time employment" (Q37:R89)*
>
> *"I have the chance to upskill and study further level of courses and gain qualifications while I am working" (Q37:R40).*

Others spoke of the flexibility and convenience benefits of the online mode of learning in their explanations as to why they would embark with online courses in the future, as illustrated in these extracts:

> *"It was an easy way of learning and you can always pause or rewind something if you're not sure or don't understand"(Q37:R118)*
>
> *"Convenient, practical and efficient form of learning"(Q37:R75)*
>
> *"…I believe the flexibility of an online course is invaluable. There are tools such as the recorded lectures, slack, and the online library which helps with study. The lecturers were always contactable by email"(Q37:R6)*

In terms of reasons why they wouldn't undertake online study, some respondents pointed to the lack of support and time pressures within the online mode and other

simply felt that they had achieved the qualification and no further study would be needed.

The participants were asked in question 38 whether they agreed or disagreed that the course delivered entirely online met the same quality standards as classroom based (face-to-face) course, and ranked their agreement on a 5 point Likert scale from Strongly Agree to Strongly Disagree. Of the 177 respondents, 29.94% (53) indicated strong agreement and a further 33.33% (59) indicated agreement, with 21.47% (38) remaining neutral, and 15.25% (27) disagreed to some extent. From the 72 accompanying comments, there were explanations from some respondents for their agreement or disagreement on this, with many speaking of the flexibility in terms of access and the quality of content of online courses, and others recognising that quality of interaction and discussion may be better within face-to-face settings, and practical sessions are better delivered within this mode also. In terms of the positives of online, respondents mention enhanced flexibility to access course and to self-pace own learning, illustrated in the following extracts:

> *"…the major selling point for me was the flexibility it provided as lecturers are recorded and it enabled playback at my convenience" (Q28:R3);*
>
> *"I am a mature student (45) and online was really the only option for me, with commute and work my day is 11 hours, with time and fatigue key factors i could not have done the course any other way*" (Q38:R26);
>
> "*thought the online course was better than classroom learning. Classes are recorded which can be accessed at any time, and lectures can be viewed multiple times which ensures I understood each lecture topic correctly. Online classes allowed me to work full time and study part time*" (Q38:R66);
>
> *"My opinion is that online learning is better as you can review and assess data without the noise and disruptions of a class room environment*" (Q38:R18).

One respondent (while recognising enhanced opportunities for discussion in face-to-face setting) further noted the ease of transition between learning activities in an online course as compared to the physical setting - "*A classroom course may involve more interaction with lecturer and fellow students. However an online course leads the student*

to press-on with online research directly from PC with no time lag accessing library or study rooms" (Q38:R24).

In terms of positives of face-to-face over online learning, respondents pointed to the greater opportunity for students to ask questions, or engage in richer discussion in the face-to-face context, as shown in extracts here: "*Classroom student get more time and opportunity to communicate with the lecturers*" (Q38:R28); "*Face to face communication is the richest form of communication, online course misses out on that*" (Q38:R7). Some respondents pointed to a sense of aloneness in fully online study, as in the case of this respondent: "*I felt on my own at times [in online course]. Without guidance. Thank god for the other students on the course*" (Q38:R13). Some respondents spoke of the challenge in engaging in 'practical' sessions within fully online context, with one respondent claiming that "*Practical experience cannot be replicated*" (Q38:R17) within an online context. Finally, one respondent pointed to inequity of access and resource support when comparing online course provision and face-to-face course provision, as follows: "*Full time students in the college have exponentially more support and access to equipment and advisors than online students. There is no comparison*" (Q38: R41).

The respondents were asked to indicate in question 11 whether they would have preferred a face-to-face lecture to the online lecture. A total of 202 responded to this, with the majority of 73.76%(149) preferring the online lecture and 26.24% (53) favouring the face-to-face lecture. From the 113 comments received, it is evident that respondents appreciated the flexibility in online mode of learning, 24/7 access to course content and lecturer from anywhere, and self-directed nature of the online mode of learning. Some comments in this regard are included here:

> *"online [course] is self-directed, the lecture was recorded and was accessible from any location" (Q11:R102)*
>
> *"I am anti-social, live in an awkward area and this suits my personality"* (Q11:R82)
>
> "*online lecture could be accessed at my convenience and I could contact the lecturer by email with any queries, more flexible for my schedule*" (Q11:R98).

However, some respondents felt that they missed the personal aspect of face-to-face, as was noted in previous commentary. One respondent felt the lack of face-to-face was challenging but did appreciate access to online content - "*difficult… I feel I would get more out of it face-to-face but prefer having the content available to be online*" (Q11:R84). Another respondent felt that the success of synchronous or live lectures was very dependent on passion imbued by the lecturer in their online delivery, commenting that it was "*monotonous listening to online lecture for hour if not delivered with enthusiasm"* (Q11:R87). A further respondent felt that benefits of flexible nature of access to online learning out-weighed the issue of reduced opportunities for quality interaction with lecturer in the online mode, stating that the "*face-to-face lectures provide a better opportunity to ask questions and enter into discussion during the lecture*" (Q11:R93), but "*the benefit of being able to take the online lecture from wherever you are outweigh this*"(Q11:R93).

Finally, in terms of technical support, the respondents were asked in question 16 to identify the top three types of technical support/ resourcing they would deem necessary if undertaking an online course in the future. The top three choices from a review of responses from across the 197 respondents were as follows: 45.18% (89) considered assistance through 'live chat' facility as necessary; 42.64% (84) considered assistance by e-mail during regular office hours; and, 41.62% (82) would have liked the college to provide any software resourcing necessary for engagement in the online course. The next highest ranked were as follows: 24.87% (49) of respondents would like the provision of assistance by e-mail available 24 hours a day; 21.32% (42) of respondents would like the provision of support via telephone during regular office hours; 14.72% (29) of respondents would like the hardware to be provided and a further 7% (12) of respondents felt it would be necessary to provide 24/7 telephone support (or a timeframe close to that). It is interesting to note that 16.75% (33) of respondents felt that neither support nor resourcing in the form of equipment etc. was required.

4.8 Findings from Lecturer Focus Group

In August 2019, the focus group was conducted with four lecturers, comprising one female and three male lecturers from the schools of Business and Social Sciences, Science and Engineering. All four focus group lecturers were involved in the delivery of modules in the fully online mode of learning, some of whose experience of this mode of delivery was relatively recent (6 months to two years of experience), and others more experienced in the fully online mode of learning. All four lecturers had undertaken some level of college training, but one didn't fully complete the training. The format of training involved engagement in face-to-face workshops which included technical training on using Moodle, the learning management system, and an introduction to online teaching.

The format of the fully online module typically comprised of course content uploaded onto the Moodle platform, synchronous delivery of lectures using the Adobe Connect platform, and a Moodle discussion forum for general communication between the lecturer and students. In terms of Moodle content, the focus group lecturers reported uploading recorded lectures (of live sessions), and further linkage of web-based content, papers, you-tube videos, and in one case, course content from an online course in a partner institution. The quantity of online content was aligned to the course level and learning outcomes specified within module descriptors. Just one of the lecturers spoke of carefully curating the online content based on the time restrictions of the online student cohort - '*…you have to think about how much time they have, you know, because like loads of the students that I have are working full-time and have families and, you know, it's a part-time course, so you just have to try and give them enough'* [Lecturer FG1].

The live sessions were synchronously delivered through Adobe Connect. Some of the lecturers responded to questions as they were posted in real-time online during lecture delivery. Other lecturers waited to see whether there were similar questions appearing from groups of students, and in those cases, went back to the specific section in real-time to ensure all students grasped the concept/ context. In this regard, lecturer FG2 commented – '*I mean as I'm working, you're getting in questions on something that was covered a couple of minutes ago or whatever, and then very clearly if there's an issue*

around that, if two or three come in, then you just stall and go back and bring everyone back on board'. Finally, one lecturer spoke of the challenge of facilitating practical sessions within the fully online mode, specifically when it involved the use of specialised software, and reported the need to build in additional time to respond to this queries in the fully online mode of learning (whilst also noting the ease of responding to these same practical queries in a face-to-face setting).

In terms of the nature and implementation of assessment, the lecturers mainly spoke of using quizzes in the real-time assessment of learning-in-action, with lecturer FG3 making the observation that: "*you can see what students were taking in, during the lecture, so you give them a five-minute quiz and you get instant feedback on what they're following and what they're able to understand*". One lecturer spoke more generally of also setting written assignments and presentations. Three of the lecturers had integrated group-assignments, while a fourth didn't use group-work as the subject was practical and demanded that each student show a required competency level across a range of skills. The challenges of coordinating meeting times for students undertaking groupwork in the fully online setting was also highlighted, but there was recognition that similar issues arose in face-to-face context. Some lecturers pointed to the need to integrate team-work and organisational skills to help enhance the experience of team-work within the online context.

The lecturers all confirmed that they engaged and collaborated with colleagues in setting of assignment deadlines and in consideration of assignment format. One example of an accommodation made based on overall assessment load was outlined as follows by lecturer FG1 – "*The students have a dissertation the same semester that I have the students, so we, I don't give a written assessment that semester, I give a presentation*". Two of the four lecturers had integrated examinations within the overall assessment framework and confirmed that they provided sample examination papers, with one speaking further of recording a solution to one sample paper and making that available online for students. In terms of feedback on assessment performance, some lecturers spoke of using the assessment feedback facility within the Moodle platform to give detailed feedback on each aspect of the assessment, while one spoke of the creative use of a video clip (Poodle podcast) in which the lecturer summarises the

feedback for each student, with lecturer FG1 noting: '*I give them a podcast of feedback on their presentation, because you can make it a bit more personable*'.

In terms of the Moodle discussion forum, the lecturers spoke of the Moodle feedback page being the main forum of communication, and further highlighted that it was not frequently used by students and when used, it was mainly for queries about assessment. The Moodle feedback page was moderated by lecturer/s who mainly reviewed general progress matters, as in the case of lecturer FG2 who spoke of monitoring the queries '*just to see how things are progressing and what the students have to say to us*'. Lecturer FG1 further spoke of setting tasks and marks for engagement in the discussion forum as part of the assessment, and while acknowledging that the students did submit posts and would benefit from reading others' posts, further pointed out that there was limited meaningful interaction across students within the discussion forum. Lecturer FG1 also noted that many individual students and groups migrated to social media platforms like WhatsApp for communication to find out about assessments and share other experiences/concerns amongst themselves.

In terms of response times to queries, the lecturers confirmed that they responded in a timely manner to student queries with lecturer FG4 stating it would be within 24 hours. Another spoke of considering whether the response to the query would have relevance or resonance in other modules and thus engaged with colleagues to provide a shared response to individual student/s and the wider student cohort. In this respect, lecturer FG2 noted: *'Sometimes the nature of the query can be voiced by one person and may have relevance to others and if that becomes applicable, then it's a general Moodle to all students'*. However, lecturer FG2 also pointed to implications for delay in timely feedback when this happens, as it took more time to discuss and coordinate a joint response with colleagues. Moreover, this lecturer spoke of using the twice yearly (non-compulsory) face-to-face workshops, to provide an overview of matters of common interest/ concern and explain how to deal with them, and furthermore, as pivotal to building a sense of community amongst the cohort of learners, and with the lecturer. Finally, one lecturer noted students with communication difficulties resulting from having English as a second language, and thus less likely to engage in discussion forums. Lecturer FG2 further identified the emergence of two different communities amongst

the cohort, a community that formed around those that accessed the live synchronous sessions and a separate community that formed around those that accessed the archived lecture content and asynchronous discussion forum, and these communities were initiated and self-formed by students based on time demands of workplace or family – '*you very quickly saw a pattern emerge of those that were online live and those that were visiting it after the event when they had time and listening to playback. Again, it sorted, it separated them into effectively almost two communities'*.

Lecturer FG1 attributes community formation within the former to the lecturer facilitation of relaxed and safe online space within the live lecture sessions – '*So people certainly feel a little bit more relaxed about sharing things and I think there is, you know, I think there is… we certainly have a role in that and I think the live lecture is a starting point for that and then if you can have interactive things within the lecture like breakout rooms and that, that can help as well'*.

Lecturer FG2 further spoke of the beginning of each live session being important for the lecturer in getting to know issues, as there tended to be open communication for a few minutes while students got connected to the system – '*And it's just brilliant and then they start batting stuff around and just by that silent five minutes you can learn a lot as to what's going on'*.

Lecturer FG3 also spoke of the benefits of the live sessions in enabling lecturers to get to know and build relationships with students - '*I think with the live lecturing as well from that definitely does help too in terms of you getting to know them and you're all going through an experience together, that I just found - especially early on in the semester'*, but also noted that community building was impacted by the profile of learners and group dynamics – '*you know if you have a small group and they're quiet and they're not really that interested in engaging with each other or you, that can make it quite difficult to build that sense of* [community]'.

Lecturer FG1 noted the sense of community that develops even though the course is delivered in fully online mode – '*there is that kind of camaraderie and support …I've been very surprised over the years at how many of them come for graduation and are obviously all looking forward to seeing each other and meet up the night before. For a group that are online it's quite surprising, but that seems to be the case. So, they obviously did have some kind of relationship and social network, despite the fact that*

they're online'. Lecturer FG2 spoke of genuine efforts to foster a sense of community with all students in either setting, but did note that sometimes the transition in returning to education after long periods, and other personal or workplace matters, does have an impact on students' overall engagement and experiences within the online course – '*I mean you can only go so far to create an open and friendly environment, but if the students themselves have the barrier, that their barrier are just too high, you can't break that down, whereas on a face to face in a classroom you have a better chance*'. Lecturer FG1 further spoke of the importance of the lecturer's face being visible within the live sessions (i.e. web cam being switched on during the live session) in connecting with students – '*they* [students] *actually prefer to see your face and I know some people* [lecturers] *don't like that and that's fine, but they do actually prefer it, because again like it's just building that connection*'. Moreover, lecturer FG2 pointed to the need for lecturers to be respectful of and make allowances for workplace and familial demands experienced by many online students, by ensuring greater clarity on assignments, and providing timely feedback on student queries and on performance on assessments.

It should be noted that some of the focus group lecturers did not appear keen to interact or engage with learners in other social media platforms due to concerns around the need to navigate through large quantity of messages, or lack of desire to engage with social media in general, and their general preference appeared to be that course communication would remain within the institutional platform. In this regard, lecturer FG3 commented that: '*WhatsApp could get out of hand, you know? You could just have tons of messages coming in all the time and no real structure or may be hard to follow what's being said, whereas the Moodle forums* are there for that purpose'. However, they did acknowledge that students were self-creating WhatsApp groups, and were supportive of these developing organically within cohorts of students.

From an institutional perspective, the focus group lecturers supported the move towards online learning but did propose that additional training was needed on the fully online pedagogical model, as well as more resourcing and technical support for the fully online mode of delivery. There was a sense that the initial training for lecturers was not sufficient, with suggestions that follow-up sessions would have been beneficial. Criticisms of the initial training included a lack of training on fostering interaction/

community with students, with lecturer FG1 noting: '*I don't think the initial training… gave me the skills to be* interactive. *It just gave me the technical skills to be able to, you know, carry out an online lecture and impart the information and do all that, but it didn't give me the skills to have that more advanced interaction with students'*. Some focus group lecturers spoke of learning on the job, with lecturer FG1 commenting of: "*own kind of trial and error and trying things ou*t", and lecturers FG2 and FG3 both speaking of the value of staff support from more experienced colleagues in the office and the online learning centre. There was further evidence of the need for more training on pedagogical processes of the fully online mode of learning, as some lecturers perceived this mode as basically the same as face-to-face learning. Furthermore, some lecturers commented that the balance needed to be maintained between online (fully online and blended) and face-to-face modes of learning within the institution, as both were considered equally beneficial modes of student learning, with lecturer FG3 noting – '*there'll always be a place for face to face learning*'.

In terms of the workload associated with the fully online mode of learning, some lecturers spoke of the additional time load associated with preparation and review of student work (such as presentations) which was considered to be much longer than in face-to-face context. Lecturer FG3 did comment that the flexibility in terms of responding to student queries within the fully online mode was beneficial, as it allowed a work-around family commitments –'*I found it worked for me, because I could do it from home and we've young kids like, so you're missing a bit of time with them that is only a couple of minutes',* but lecturer FG4 further pointed to the challenge in responding to queries coming in at any time of day and night. Finally, in terms of additional resourcing for students, there is a need to provide additional language support for those students with English as a second language to improve their communicative skills.

4.9 Overall Summary of Findings from Research Phase 2

The main findings from the second phase of research are outlined in this section, beginning with an overview of findings from the student survey, and then presenting the overview of findings from the focus group with lecturers.

4.9.1 Summary Findings from Student Cohort

The demographics of the student participants undertaking the fully online mode of study showed it was being accessed by mature students (those over 23 years of age) with the majority being in the 30-49 age category, and that there was circa 2:1 male to female ratio with the remainder identifying as Gender non-conforming; Transgender, non-Binary or Intersex; or didn't declare their gender. These participants were predominantly Irish (identifying as White-Caucasian) with just over 4% of non-Irish participants from across Asia, Africa, Europe and Canada, and just under 95% of the participants were in full-time employment. The majority (over 80%) of the respondents already held at least an undergraduate degree which was interesting given that the fully online programmes being undertaken were all being awarded at undergraduate degree level. The vast majority of participants were adept in undertaking common computer-related tasks, including: using email, using the Learning Management System, accessing the Internet, downloading/ uploading material, and using social media. The majority of respondents self-identified as having the following personality traits: *reserved*, *sensible*, and *practical,* with further reference to their being: *emotionally stable, serious, conscientiousness, trusting, self-sufficient,* and *relaxed.* Finally, the majority of respondents expressed their learning style in terms of their preference to engage with audio, textual and/ or visual materials, with quite a few others mentioning a preference for active learning, demonstration, and/ or note-taking.

It is clear the majority of student participants were very satisfied with the overall quality of the fully online mode of online course provision, mentioning positive aspects such as the flexible nature of course provision and the ease of access to content at any time and from anywhere. The majority of respondents further indicated that the course content, materials, assignments and indeed examinations were relevant to course and met their expectations very well. The participants liked least the limited face-to-face interaction and having to spend time on the computer. The issues that need to be addressed within course content, materials, and assessment are as follows: the contact hours and disciplinary focus need to be reviewed for some course content; the instructional design and currency of some course materials could be improved; the workload and scheduling of assignments could be re-visited in some modules to ensure better distribution of deadlines across modules; and in some cases, there is a need for better alignment of

sample examination papers with the actual papers, and to reduce the predictability of examination papers on some modules. In terms of other issues, some participants disliked the forced interaction with peers for group work; some had issues with lecturer communication skills and feedback, scheduling across time zones, issues with pace of some modules, issue with having to read large amounts of material in electronic format, and with the asynchronous pre-recorded lecture not being as beneficial as live synchronous lecture sessions.

The majority of student participants preferred the live delivery of lecture sessions as opposed to viewing the pre-recorded lecture sessions. The main reasons for preferring the former was that the synchronous mode of the live lectures facilitated opportunities to ask questions and interact in discussions with lecturers and peers, and in terms of reasons for preferring the latter, the provision of the pre-recorded lectures appeared to be beneficial for revision purposes and for self-pacing and self-directing own learning. The vast majority of participants also felt that Moodle was helpful to their learning, and also there was a two to one preference for using Adobe Connect as opposed to Panopto for communication purposes. The reasons for preferring Adobe Connect included its perceived reliability in live lecture delivery, and reasons for preferring Panopto included its ease of use and cross platform compatibility.

The top three transferable skills that were identified by student participants were academic writing skills, time management skills and organisational skills. Other skills developed by respondents included: presentation skills, listening skills, computer literacy skills and team work. However, a minority of respondents indicated that they had developed leadership skills.

A majority of student participants felt part of a community of learners which some respondents attributed a range of factors relating to the instructional design of curricular aspects and communications, including: the inclusion of group assignments, opportunities to share and critique assignments in LMS, the regular communications/ contact from the college, and the 'live' lecture sessions. However, there was a stronger sense of community being built in non-institutional fora, mainly through participants' self-creation of WhatsApp groups to share, discuss and support each other. Many of the participants did note that engagement and discussion around the assessment

prompted interaction with peers in community fora. Finally, whilst acknowledging the opportunities for interaction and community-building, it is important to note that just over half of the participants overall did feel that online learning was solitary in nature. Moreover, it is important to acknowledge that some participants did not wish to engage with peers, and were resistant to being part of a community of learners, preferring to forge their own learning pathways.

In terms of motivation levels, most student participants reporting fluctuating motivational levels throughout the duration of the study – however, overall the vast majority of participants felt that motivation levels had increased during the course with a minority reporting a decrease in motivation levels. The participants were motivated by a range of personal, professional and intellectual factors to progress with the course. In terms of personal motivational factors, the majority of participants were motivated mainly by their desire to broaden their horizons and to improve their self-esteem (self-belief and confidence). In terms of professional motivational factors, the vast majority of participants were motivated by the belief that gaining the qualification would open up new opportunities for them, with a minority indicating it would fulfil the education requirements for a career. In terms of intellectual motivational factors, the majority of participants were motivated by the desire to become better educated and to develop lifelong learning skills. Separately, participants also pointed to the need to control or self-direct own learning as a driver that enabled them to persevere with learning throughout the course. The de-motivating factors for participants included issues with workload (mainly associated with assignment completion), family issues, and workplace duties.

There were issues highlighted in maintaining a work/life balance by student participants, and these included challenges of time/ time management, management of workload (mainly associated with assessment), challenge of returning to education after a long absence, and challenge of self-discipline required in self-directed study.

The majority of student participants felt that the quality of the fully online mode of learning equalled that of face-to-face learning. In comparing and contrasting these two modes of learning, participants pointed to the flexibility in terms of access, opportunity to self-pace/ self-direct own learning and the quality of content of the fully online mode

of learning, but also recognised that the quality of interaction and discussion may be better within face-to-face settings, and furthermore that practical sessions would better be delivered in a face-to-face setting. In terms of the support within the fully online mode of learning, the participants called for support via a 'live chat' facility and email contact with college during office hours, and in terms of resourcing, participants called for the supply of equipment by the college.

4.9.2 Summary Findings from Lecturer Focus Group

The format of the fully online module typically comprised of course content uploaded onto the Moodle platform, synchronous delivery of lectures using the Adobe Connect platform, and a Moodle discussion forum for general communication between the lecturer and students. The lecturers reported diverse forms of content being uploaded to the learning management system, which included the recorded 'live lecture' sessions, and linked web-based content, papers, you-tube videos, and in one case, course content from an online course in a partner institution. The lectures reported being cognisant of the need to ensure that the online content aligned with the course level and learning outcomes specified within module descriptors, but just one of the lecturers spoke of carefully curating the online content in response to likely time constraints of the online student cohort. There was recognition of time challenges in facilitating practical sessions within the fully online mode, specifically when it involved the use of specialised software.

The live lecture sessions were synchronously delivered by the lecturers through Adobe Connect, with lecturers adopting differing approaches in terms of responding to student queries. In this regard, some lecturers responded to individual questions as they were posted in real-time online during lecture delivery, and others waiting to see whether group reply would suffice before deciding to post a reply and/ or to revise a problematic component of the course.

In terms of the Moodle discussion forum, the lecturers spoke of the Moodle feedback page being the main forum of communication, and further highlighted that it was not frequently used by students and when used, it was mainly for queries about assessment. In terms of response times to queries, the lecturers confirmed that they responded in a

timely manner to student queries. Furthermore, one lecturer commented on the usefulness of the twice yearly face-to-face workshops in clarifying matters for students, and furthermore in terms of building sense of community.

Moreover, the lecturers reported a sense of the existence of two separate communities amongst the student cohort, those that accessed the live synchronous sessions and those that accessed the archived or pre-recorded lecture content and asynchronous discussion forum, and these communities tended to self-form based on time demands of students' workplace or family. There was further acknowledgement of the role of direct (visual) contact with lecturer being pivotal to community building in the former, and recognition of the role of WhatsApp in the formation of the latter. It should further noted that some of the focus group lecturers did not appear keen to interact or engage with learners in other social media platforms.

In terms of assessment modes, there was evidence of a diversity of assessment modes and formats being utilised including informal assessment of learning in action (quizzes), as well as more formal formative and summative assessments. The lecturers reported collaborating with colleagues in setting of assignment deadlines and in consideration of assignment format to reduce the possibility of overlap in assignment deadlines and overload of assignment work at particular times of year. There was innovative use by one lecturer of individualised podcasts for student feedback on assessment. There was further evidence of group work being integrated across module/s but lecturers noted challenges 'timewise' for students in coordinating collaboration meetings within the fully online mode of learning.

From an institutional perspective, the focus group lecturers generally supported the move towards online learning, recognising that its flexibility can be beneficial in terms of their work-life balance. However, the lecturers did point to the need for more training on the pedagogical model for fully online learning, as well as more resourcing and technical support for the fully online mode of delivery. There were further calls for consideration of the additional time-load for lecturers in online moderation and assessment corrections in the fully online mode. Finally, in terms of additional resourcing for students, it was recognised that there was a need to provide additional

language support for those students with English as a second language to improve their communicative skills.

4.10 Chapter Summary

This chapter presented the findings from the first two phases of research of this study of the fully online mode of learning. The final chapter moves forward to discuss these findings in the context of the overarching research questions, and makes recommendations on how the experiences of participants might be enhanced, and implications for educators and policy makers within the participating institution.

Chapter 5: Conclusions and Recommendations

5.1 Introduction

This study set-out to explore mature students' expectations and experiences of the fully online mode of learning within the context of higher education. The previous chapter presented the findings from the first and second phases of research, and thus summarises the participants' motivations and fears for initial and/ or continued engagement in the fully online mode of learning, and their experiences of course provision and peer interaction. It further outlines some lecturer perspectives of the fully online mode. The final chapter draws together the overall conclusions from the research study, responding to the core research questions within the discussion, and further outlining the recommendations of the study, and the researcher's final reflections on this research journey.

5.2 Overview of Research Approach

The focus of this Case Study research was to investigate mature students' expectations and experiences of the fully online mode of learning within the context of a particular higher education institution in Ireland. The Pragmatic paradigm underpinned the research approach, and in this respect, attention was focused on exploring the research problem, with practical consideration of the methods and processes that best facilitated collation and analysis of student experiences of the fully online studies in the targeted institution. This Mixed Methods research study was completed between 2016 to 2019, using a multiphase mixed methods approach which gathered quantitative and qualitative data across two different phases of research. The initial phase of research mainly explored from a qualitative perspective the experiences of a small sample of 9 mature students undertaking a fully online mode of learning in 2016-2017. The second phase of research was undertaken in 2019 and deployed a survey to gather both qualitative and quantitative data from a sample of 204 participants, and in doing so, captured the experiences of the broader cohort of mature students undertaking the fully online mode of learning within the target HEI. Furthermore, a focus group was helped with 4 lecturers engaged in the facilitation of fully online courses, with a view to better understanding the place of educator and seek clarifications on issues identified by students in relation to the online course. The researcher utilised a range of data

collection tools across the two phases of research, including semi-structured interviews with individual students and questionnaires with broader population of students undertaking fully online studies, and a focus group with lecturers. In terms of data analysis, the qualitative datasets were analysed using a thematic analysis process, where open codes were established, and relational coding was used to identify and draw connections between the open coding categories, further refining the data until themes could be established and findings could be articulated. The quantitative data-sets were compiled, analysed and presented in descriptive statistical format. The overall findings have been collated and are now discussed in terms of the following research questions:

- What are mature students' expectations and experiences of the fully online mode of learning within this HEI?
    - What influences and inhibits initial and continued engagement by mature students within a fully online mode of learning?
    - What are mature students' experiences of the quality of course provision, and of engagement within its fully online context compared to other modes of learning?
    - What are mature students' dispositions towards and experiences of peer interaction and communities of learning within the fully online mode of learning?
- How might the implementation of the fully online mode of learning be enhanced and progressed within this HEI?

5.3 Discussion of Overall Findings

An interesting starting point for the discussion is in the review of the profile of mature students accessing the fully online mode of learning course across the two phases of study, as illustrated in Figure 5.1. In the first phase of research, just over half of the 47 participants were in full-time employment and a further 17% in part-time employment, and the remainder were mainly looking for work. In the second phase of research, just under 95% of the 204 participants were in full-time employment, illustrating a significant increase and overwhelming majority of mature students in full-time employment. With respect to the latter, the participants were predominantly Irish (identifying as White-Caucasian) with just over 4% of non-Irish participants from across Asia, Africa, Europe

and Canada, and the majority were in the 30-49 age bracket – traversing the so-called *established-career* to *mid-career* age brackets (Super and Hall, 1978). Furthermore, there was approximately a 3:2 and 2:1 male to female ratio of participants in phase 1 and phase 2 respectively of the research. The disciplinary areas of choice for mature students across both levels were within Schools of Business, Engineering and Science (with slight preference for the first two), and this directly relates to what was being offered by the home institution in a fully online mode of learning at the time of this research study, and thus, no further insights can be gleaned or inferred from this. Most interestingly from a demographic perspective is that the vast majority of participants (over 80% in both phases of research) already had at least an undergraduate degree, and were prepared to undertake a second undergraduate degree to diversify into some new disciplinary pathway, or to improve on their initial undergraduate qualification (i.e. move from level 7 to a level 8 degree level).

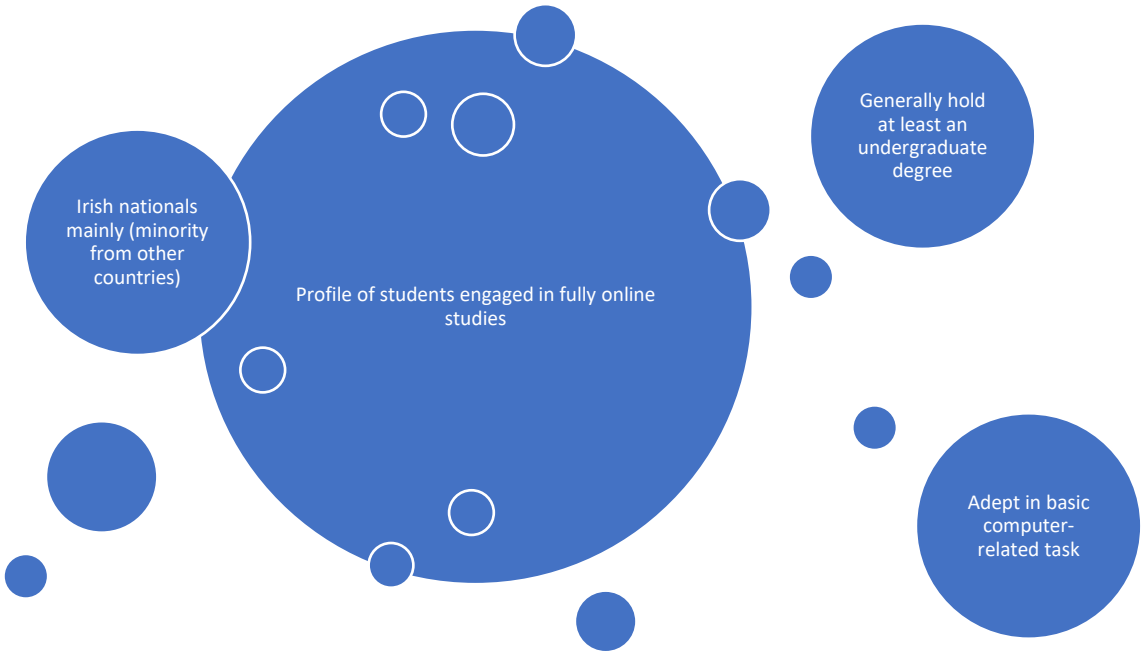

Figure 5.1: Profile of Students Engaged in Fully Online Learning

The significant increase in numbers of mature students in full-time employment in the second phase of the study could point to the impact of recovery in the Irish economy which had been dampened in the economic austerity that existed when the first phase of research was undertaken in 2016 and had substantially improved by 2019 (when the second phase of research was undertaken). According to the Central Statistics Office, CSO, the unemployment rate was 8.8% in June 2016 compared to 4.5% in June 2019 in Ireland. The fact that those in full-time employment were seeking to enhance their

qualifications to improve their future prospects for promotion within the workplace, or potential for change in career, is interesting at a number of levels. Firstly, it aligns with projections nationally (HEA, 2019; DBEI, 2018) and internationally (European Commission, 2014) that more people in employment will seek to upskill or add to their qualifications profile across the trajectory of their career/ lifespan. Secondly, from an institutional perspective, the changing demographic means that course providers will need to think more carefully at their recruitment focus, with particular consideration of the potential role of the work-place and work-based learning within the context of fully online mode of learning. Furthermore, institutional management may need to reconsider and tailor their induction programmes, as one would expect those students already holding a degree qualification to need less support than those entering undergraduate degree programmes for the first time, and lastly, supports (such as modules in English Language for Academic purposes) may need to be re-directed to support those mature students accessing the course from other jurisdictions where English is a second or third language.

In the second phase of research, we further learned (perhaps unsurprisingly given their decision to engage with a fully online mode of learning) that most participants were adept in undertaking common computer-related tasks, including: using email, using the Learning Management System, accessing the Internet, downloading/ uploading material, and using social media. Therefore, in practice, the participants did not need much technical support. Furthermore, the majority of respondents expressed their pedagogic preference to engage with audio, textual and/ or visual materials, with quite a few others mentioning a preference for active learning, demonstration, and/ or note-taking.

Moreover, in the second phase of the research, we learned that the majority of respondents self-identified as having the following personality traits: *reserved*, *sensible*, and *practical,* with further reference by varying participants' numbers to their being: *emotionally stable, serious, conscientiousness, trusting, self-sufficient,* and *relaxed.* The hope had been that we could ascertain whether any correlation existed between personality traits and specific factors, such as motivation levels – alas, participants' response rates across this question varied considerably resulting in huge diversity in the

response rates for each personality trait, which meant any form of quantitative testing would not have been valid. It is nevertheless worth noting that the aforementioned personality traits have been foregrounded by participants, and as such provide a representation of the *personality leaning*s of this cohort of mature students undertaking the fully online mode of learning, which might be of interest to future studies in this domain.

The profile of students accessing this mode of learning has been outlined, and so, the discourse now moves forward in the following sub-sections to articulate the expectations and experiences of students who embarked on this fully online mode of learning, thus to discuss the main findings from this research study.

5.3.1 Mature Students' Expectations and Experiences of the Fully Online Mode of Learning

This section discussed findings from the first core research question - *What are mature students' expectations and experiences of the fully online mode of learning within this HEI?* With respect to students' expectations, the mature students expectations of the course were examined only in the first stage of research, and in this regard, a critical review of their initial fears or concerns about the course, as well as their expectations in terms of what prospects the course might offer to them, is presented in the initial sub-section 5.3.1.1. With respect to students' experiences, the mature students experiences of the fully online mode of learning was explored across both stages of research, and these are collectively discussed in the following three sub-sections: 5.3.1.2 Experiences of the Quality of Course Provision, 5.3.1.3 Peer Interaction and Communities of Learning, and 5.3.1.4 Fully online learning vis-à-vis Other Modes of learning.

5.3.1.1 Influences and Initial Fears in Initial and/ or Continued Engagement of Students in a Fully Online Mode of Learning

The first phase of research explored in some depth the influences on participants' decisions to engage with online studies.

The main drivers that motivated participants to pursue mature study at degree level, were perceived improvements in job opportunities, the enhancement of personal development and improvement of family circumstances. The drivers for undertaking

fully online studies were the flexibility and convenience of accessing course content within this mode of online learning, which aligns with findings of Horspool and Lange (2012) and Toufaily, Zalan and Lee (2018). The initial fears included possible difficulties logging onto course, apprehension about the quality of support, self-doubt about their capacity to discipline themselves enough to complete the course, and concerns about the time-load required for engagement, and these fears typically weren't realised or only materialised for a short duration at the outset of the course.

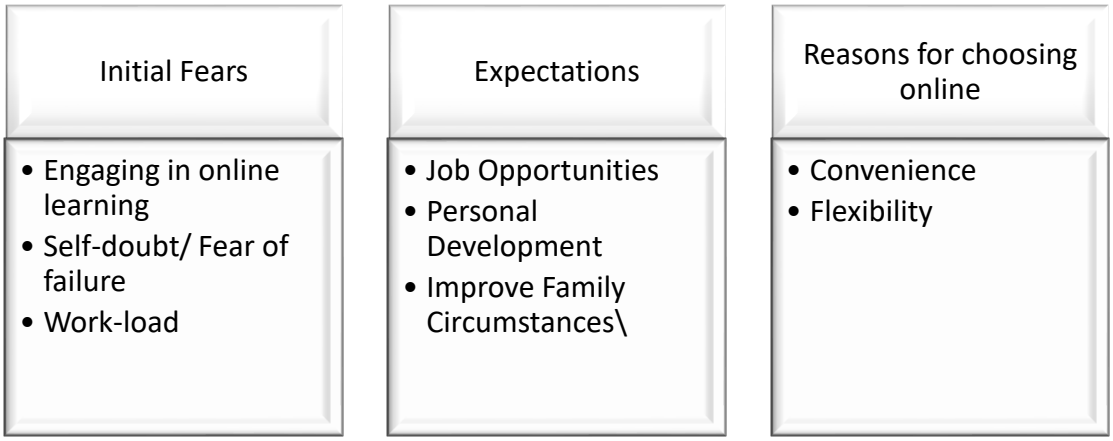

Figure 5.2: Initial Fears and Influences

In the first stage of research, it was also shown that the factors that motivated participants to continue engagement with the online course included: having the goal of achieving a degree, access to peer and familial support throughout the period of study, reaching milestones such as completing assignments, being able to see the lecturer's face in online interactions, and a sense of duty accompanying payment of course fees by employer or indeed themselves.

5.3.1.2 Experiences of the Quality of Course Provision

It was evident in the first and second phases of the research that the majority of respondents had positive experiences of the fully online mode of learning, mentioning positive aspects such as the flexible nature of course provision and the ease of access to content at any time and from anywhere, which echoed assertions from Nguyen (2015) and Song (2010) that the integration of online technologies would widen access to learning through its potential to facilitate more flexible modes of learning.

The format of the fully online module typically comprised of course content uploaded onto the Moodle platform, synchronous delivery of lectures using the Adobe Connect platform, and a Moodle discussion forum for general communication between the lecturer and students. The lecturers reported diverse forms of content being uploaded to the learning management system, which included the recorded 'live-streamed lecture' sessions, and linked web-based content, papers, you-tube videos, and in one case, course content from an online course in a partner institution. The lecturers reported being cognisant of the need to ensure that the online content aligned with the course level and learning outcomes specified within module descriptors, but just one of the lecturers spoke of carefully curating the online content in response to likely time constraints of the online student cohort. The live lecture sessions were synchronously delivered by the lecturers through Adobe Connect, with lecturers adopting differing approaches in terms of responding to student queries. The quality of course materials was broadly perceived to be good by students with the options to view live lectures and/ or to access archived recordings particularly valued by participants in both levels of research. The course content, materials, assignments and indeed examinations were found to be relevant to the course by participants in the second phase.

The majority of students in the second phase of this research study felt that the quality of the fully online mode of learning equalled that of face-to-face learning. In comparing and contrasting these two modes of learning, participants pointed to the flexibility in terms of access, opportunity to self-pace/ self-direct own learning and the quality of content of the fully online mode of learning, but also recognised that the quality of interaction and discussion may be better within face-to-face settings, and furthermore that practical sessions would better be delivered in a face-to-face setting. The fact that students reported mainly positive experiences within what could be considered as a pared down model of fully online learning (i.e. live-streaming or archiving lecture sessions, with minimal additional resources and support in online learning management system) is interesting, as the pedagogical quality of these models is an issue raised by some. In this regard, McCowan (2017) asserts that students are more likely to experience reduced quality of learning experience due to '*the impoverishment of conceptions of learning in pared-down instruction-only models, and the loss of synergies between diverse elements of universities*' (p.745). There was no access to individual

students' levels of performance in this study as the surveys were anonymous, but nevertheless the students participating in this study had all successfully progressed through at least one year of studies, so the programmatic and modular outcomes had been successfully met by them, which points to successful progression even within this pared down model of fully online learning.

In terms of assessment modes, there was evidence of a diversity of assessment modes and formats being utilised including informal assessment of learning in action (quizzes), as well as more formal formative and summative assessments. Thus, there was 'assessment in learning' and 'assessment of learning', but no evidence of 'assessment for learning'. The lecturers reported collaborating with colleagues in setting of assignment deadlines and in consideration of assignment format to reduce the possibility of overlap in assignment deadlines and overload of assignment work at particular times of year. There was innovative use by one lecturer of individualised podcasts for student feedback on assessment. Across both phases of research, the participants mostly spoke positively about the assessment mode and strategies, welcoming the inclusion of formative and summative assessments, but some did call for more timely and in-depth feedback from lecturers, and for re-consideration of deadlines and workloads across modules to avoid assignment due dates falling too close together. This aligns with findings of Toufaily *et al.* (2018), Boling *et al. (*2012) and Stansfield *et al*. (2004) who reported that students valued timely feedback and validation on their performance, and of Cole *et al.* (2014) who found some student dissatisfaction aligned to workload issues. In terms of the Moodle discussion forum, the lecturers spoke of the Moodle feedback page being the main forum of communication of assignment and other general course information, and further highlighted that it was not frequently used by students and when used, it was mainly for queries about assessment. In terms of response times to queries, the focus group lecturers reported that they responded in a timely manner to student queries. Furthermore, one lecturer commented on the usefulness of the twice yearly face-to-face workshops in clarifying matters for students, and furthermore in terms of building sense of community. In the second phase of research, there was further articulation of specific issues as follows: the contact hours and disciplinary focus needing to be reviewed for some course content; the instructional design and currency of some course materials could be improved; and in some cases,

there was expression of the need for better alignment of sample examination papers with the actual papers, and to reduce the predictability of examination papers on some modules. The focus group lecturers did speak to the latter, confirming that they had provided sample papers and indeed one mentioned further having recorded an explanation of how to respond to various questions within the sample paper.

There was further evidence of group work being integrated across module/s but lecturers noted challenges 'timewise' for students in coordinating collaboration meetings within the fully online mode of learning. The inclusion of group-work in online studies is no doubt a challenge for students and perceptions of its value as an engagement strategy has been shown in a study by Bolliger and Martin (2018) to be more highly rated as an engagement strategy by lecturers than by students. However, the inclusion of collaborative work, whilst highly important from a pedagogical perspective, does bring with it the difficulties of scheduling, allocating work, and engaging in groupwork for students who can only access each other through the online forum.

Across both phases of research, the issue of live-streaming practical sessions (such as statistics courses) was raised as impracticable with participants and one of the focus group lecturers, advising that face-to-face sessions or longer sessions to allow for more explanation at an individual level, would work better in those contexts. There was further recognition in this study of time challenges in lecturer facilitation of practical sessions within the fully online mode, specifically when it involved training of students in using specialised software. The former echoes findings by DeVaney (2010) who found that generally students had higher levels of anxiety and were not as favourably disposed towards a statistics course being delivered in the online mode.

The vast majority of students also felt that Moodle was helpful to their learning, and also there was a two to one preference for using Adobe Connect as opposed to Panopto for communication purposes. The reasons for preferring Adobe Connect included its perceived reliability in live lecture delivery, and reasons for preferring Panopto included its ease of use and cross platform compatibility.

Furthermore, across both phases of research, participants spoke of beneficial outcomes in the form of transferable skills, which at the first phase included improvement in time management capabilities, oral and written presentation skills, IT knowledge, and digital skills. The top three transferable skills that were identified by respondents were academic writing skills, time management skills and organisational skills. Other skills developed by respondents included: presentation skills, listening skills, computer literacy skills and team work. In addition, a minority of respondents indicated that they had developed leadership skills. This latter aligns with assertions by Song (2010) that online technologies are changing the way people not only establish new skills but present, disseminate and communicate information.

5.3.1.3 Peer Interaction and Communities of Learning/Inquiry within the Fully Online Mode of Learning

In the first phase of research, many participants expressed very positive experiences of student-lecturer engagement and valued peer interaction in online forums. However, whilst the participants did engage with each other using the internal discussion forum on Moodle, there was a sense of more authentic interaction and sense of community on chat applications such as "WhatsApp" and within self-created online communities like Facebook. There was further acknowledgement of the role of direct (visual) contact with the lecturer being pivotal to community building in the former, and recognition of the role of WhatsApp in the formation of the latter. It should be further noted that some of the focus group lecturers did not appear keen to interact or engage with learners in other social media platforms. Furthermore, some of the participants were reticent to getting engaged in online fora, indicating a preference to engage in study by themselves. Finally, some participants expressed a broader sense of isolation within the fully online mode of study, even when engaged in online communities. This absence of face-to-face contact compounded issues of connection, inclusion and belonging as outlined by Kebritchi *et al.*, and thus, lecturers need to be aware of the importance of fostering and supporting communities of learning.

In the second phase of research, the majority of students reported feeling part of a community of learners which some respondents attributing a range of factors relating to the instructional design of curricular aspects and communications, including: the

inclusion of group assignments, opportunities to share and critique assignments in LMS, the regular communications/ contact from the college, and the 'live' lecture sessions. The value of collaborative activities and peer review in fostering engagement was also rated highly by lecturers in a study by Bolliger and Martin (2018). The focus group lecturers reported a sense of the existence of two communities amongst the student cohort, those that accessed the live synchronous sessions and those that accessed the archived or pre-recorded lecture content and asynchronous discussion forum, and that these communities tended to self-form based on time demands of students' workplace or family. Brown and Duguid (2000) assert that learning occurs in social contexts, and in this regard the mode of accessing the learning content (i.e. synchronous and asynchronous) has influenced the shaping of the learning communities – thus, the students in this study have been socialised into interacting mainly within the two separate groupings that access either the 'live streamed lecture session' or the 'archived version of live lecture on the learning management system'. In terms of choice of media for communication, students reported a stronger sense of community being built in non-institutional fora, mainly through participants' self-creation of WhatsApp groups to share, discuss and support each other. This aligns with findings from Motteram and Forrester (2005), DeVilliers (2010), Griesemer (2011) and Baker (2013) that pointed to rise and value of social media in education contexts, particularly in terms of fostering online communities of learning/Inquiry.

5.3.1.3.1 Community of Inquiry Model

Garrison, Anderson and Archer (2000) clearly shows the Social, Cognitive and Teaching Presence in a community of Inquiry (Figure 2.1). The findings from this research have supported the presence of these elements in the emerging communities that evolved through interaction synchronously and asynchronously. Each element has evolved, starting with:-

Social Presence - Students wanted their online experience to have open communication, to have group cohesion with a social media presence for their own collaboration, discussion and reassurance, they seemed to prefer using external sites rather than using Moodle for this purpose. Their reasons for perusing an online programme was for job/employment and progression but it was also important that this

online programme slotted into with their life and work and for each to work to its best advantage time management was essential.

Cognitive Presence - During this research process students recalled wanting to explore, learn and achieve their goal, they liked the integration with others and they wanted to achieve a resolution to obtain a qualification. While they acknowledged that this process was solitary in nature, they felt it triggered ideas and events within themselves

Teaching Presence - Students liked the design and organisation of the online course but wanted to be able to gain more knowledge about the curriculum design, methods and how assessments should be completed. It became evident that two different communities emerged, those accessing live synchronous sessions and archived content. While they liked direct, face to face and a live presence they were also happy to have the archived sessions for time management and revision. They highlighted the fact that they preferred if feedback was direct and timely and that the quality and standard of assessment be maintained and be similar to previous years. They acknowledge that technical support was available to them but that was something not used frequently.

The results are interesting because these are possibly the same criteria required from full time students. The research also highlighted the fact that age, employment status or qualifications had little to do with the online course or its participants. Every student was indifferent to the other, each starting over regardless of past experiences, qualifications or criteria.

Finally, whilst acknowledging the opportunities for interaction and community-building, it is important to note that just over half of the student-participants overall did feel that online learning was solitary in nature. El-Seoud *et al.* (2014) did point to the use of strong study groups to reduce any sense of isolation. In the context of this study, it was further found that engagement and discussion around the assessment prompted interaction with peers in community forums. Moreover, it is important to acknowledge that some student-participants did not wish to engage with peers, and were resistant to being part of a community of learners, preferring to forge their own learning pathways. In this regard, as Ross (2011) asserts, we need to adopt a critical stance in the use of

digital practices and tools to avoid engendering or forcing particular ways of interacting and expression within the online context.

Yarm and Rossini (2012) assert that those undertaking a fully online course are self-motivated in terms of engagement, and this plays an important role in their progression and performance within the online course. In terms of motivation levels of participants in this study, most students reported fluctuating motivational levels throughout the duration of the study – however, overall the vast majority of participants felt that motivation levels had increased during the course with a minority reporting a decrease in motivation levels. The students were motivated by a range of personal, professional and intellectual factors to progress with the course. In terms of personal motivational factors, the majority of participants were motivated mainly by their desire to broaden their horizons and to improve their self-esteem (self-belief and confidence). In terms of professional motivational factors, the vast majority of participants were motivated by the belief that gaining the qualification would open up new opportunities for them, with a minority indicating it would fulfil the education requirements for a career. In terms of intellectual motivational factors, the majority of participants were motivated by the desire to become better educated and to develop lifelong learning skills.

Separately, students also pointed to the need to control or self-direct own learning as a driver that enabled them to persevere with learning throughout the course. The de-motivating factors for participants included issues with workload (mainly associated with assignment completion), family issues, and workplace duties. Yoo and Huang (2013) found that gender and age profile contributed to engagement, with females having stronger intrinsic motivation and those aged in their twenties and thirties having higher long term extrinsic motivation, but in the context of this study, the preliminary examination did not suggest that there likely existed a significant relationship between gender and age profile, and any of the aforementioned motivational factors.

There were issues highlighted by students in maintaining a work/life balance, and these included challenges of time/ time management, management of workload (mainly associated with assessment), challenge of returning to education after a long absence, and challenge of self-discipline required in self-directed study. The lecturers also

commented on workload issues impacting on them in terms of additional time being required to engage in online moderation and in correcting assessment within the fully online mode. The nurturing of a community online has been recognised as important in online learning (Mercer, 2000; Rovai, Wighting, and Lucking, 2004). If students are to feel part of and connected within an online learning community, then they need to work, listen and learn from one another, enabling them to cope and problem solve together (Motteram and Forrester 2005; Yuen 2003).

5.3.1.4 Perspectives on Engagement within its Fully Online Context Compared to Other Modes of Learning

The main perceived advantages of engaging in the fully online mode of learning, as opposed to blended or face-to-face modes of learning, included: the ease of access to recorded sessions and ability to self-pace within the fully online mode of learning. The main challenges with respect to engagement highlight by participants in this study were the lack of physical contact with peers and/ or with the lecturer in the context of modules that integrated a practical component. In terms of other issues, some student-participants disliked the forced interaction with peers for group work; some had issues with lecturer communication skills and feedback, scheduling across time zones, issues with pace of some modules, issue with having to read large amounts of material in electronic format, and with the asynchronous pre-recorded lecture not being as beneficial as live synchronous lecture sessions. The participants liked least the limited face-to-face interaction and having to spend time on the computer. A study by McCarthy (2015) called out the importance of feedback, recognising that feedback is a fundamental feature of the learning process in terms of evaluating student performance and achievement. Merry and Orsman (2008) also found that students preferred feedback through a video/audio format, because the quality was good, it was easier to understand, and they felt had more depth and was more personal than written feedback. This aligns with findings from a study conducted by Ice *et al.* (2007) who found that students felt that video/audio feedback was viewed as being more supportive and conveyed more than just words as in the case with written feedback. The video format thus allowed students experience tone, expression, articulation and importance which all add to the depth of the communication and the feedback that the student needs

(Boling *et al.* 2012; Stansfield 2004; Chickering and Gamson, 1997). In some cases, feedback was provided by lecturers in video/audio format and this was welcomed by students, acknowledging Delahunty *et al.* (2013) who argue that the role of lecturer is pivotal in fostering connections, and the development of an online learning community.

In the second phase of research, the majority of students reported a preference for the live delivery of lecture sessions as opposed to viewing the pre-recorded lecture sessions. The main reasons for preferring the former was that the synchronous mode of the live lectures facilitated opportunities to ask questions and interact in discussions with lecturers and peers, and in terms of reasons for preferring the latter, the provision of the pre-recorded lectures appeared to be beneficial for revision purposes and for self-pacing and self-directing own learning. Vanhorn *et al.* (2008) study of an online communication course found that lecturers typically preferred asynchronous modes of communication forums (discussion threads and replies), but that there was a lack of student engagement in this mode which was also a finding of this research. In the asynchronous mode, the students in this study typically migrated off institutional forums and used personal social media to interact with their peers.

5.3.2 Enhancing and Progressing the Fully Online Mode of Learning in Higher Education

In terms of the second core research question - *How might the implementation of the fully online mode of learning be enhanced and progressed within this HEI?* - the findings provide a basis for some projections on how the implementation of the fully online mode of learning might be enhanced and progressed within the specific Higher Education Institution. In this regard, the findings offer guidance to the targeted HEI on how it is currently responding in its fully online learning offerings to calls for more flexible access to higher education at a national level by the Irish government in their strategies for future jobs (DBEI, 2018; 2019) and similar strategies at European levels (European Commission, 2014). From an institutional perspective, while there was broad support by students and lecturers for the integration and promotion of fully online learning, the findings indicate the need to address a number of issues to improve the overall experience as outlined herein.

In terms of the student experience, while overall the quality of course provision was recognised as being good, there were calls from students for more curating and culling of content by lecturers in some modules. In addition, there was recognition of the need to provide additional language support for those students with English as a second language to improve their communicative skills, and in doing so, their engagement within online for a within the fully online context. Furthermore, more work is needed to understand the needs of the two communities of learning that organically form based on students' preference for attendance at 'live lecture sessions' as opposed to the pre-recorded (archived) versions. Moreover, from a technical perspective, the software designated for communication and connection within the online course should be cross-platform compatible, and be robust and resilient, so that learners and lecturers alike can seamlessly connect and develop the type of relationships that contribute to meaningful engagement within communities of learning.

In terms of training, lecturers need for more training on the pedagogical model for fully online learning, as well as more resourcing and technical support for the fully online mode of delivery. In terms of the latter, there is a need for additional training on facilitation of online learning and on fostering meaningful engagement and interactions within online communities. Furthermore, there is need to address differences in replies to feedback from lecturers in the learning community. The additional time-load for lecturers in online moderation and assessment corrections in the fully online mode also needs to be articulated and addressed within institutional work-load models.

5.4 Contributions of this Research Study to Knowledge and Practice

The research study makes the following contributions to knowledge and practice:

Firstly, this study offers a unique vignette into the enactment of fully online learning as experienced by students in a higher education institution in Ireland. In this regard, it revealed the deployment of a 'pared down' model of fully online learning by the Higher Education Institution (HEI), with students being offered real-time access to on-site face-to-face lecture sessions that were streamed *live* during day-time hours, as well as access to recorded versions of these live lecture sessions that had been archived with other resources on the learning management system. The institutional systems used for

student-lecturer and peer-to-peer communications included: Adobe Connect, Panopto, Moodle discussion forums, and email. This provision of fully online courses directly responds to calls by the HEA (2019), DBEI (2018; 2019) and the European Commission (2014) for provision of more flexible access to higher education to prepare citizens for the knowledge economy. The students reported being very satisfied with the overall course design and structuring of learning within this model of fully online learning, and indeed the student participants of this study were all successfully progressing with their online courses showing that the programmatic learning outcomes were achieved despite the pared down model of fully online learning. However, some students did point to the need for more timely communications and feedback from lecturers, and more opportunities for interaction with peers and lecturers, thereby enabling connection, inclusion and belonging as outlined by Kebritchi *et al.* (2017). They further suggested that face-to-face contact would be preferable for more practical modules.

Secondly, the study revealed interesting information about the profile of students undertaking this fully online mode of learning including but not limited to the fact that many already had undergraduate degree level qualifications, and the majority were in full-time employment. The participants in this study were all undertaking an undergraduate degree programme in fully online mode, so the fact that many of them already had been awarded an undergraduate level of degree was of interest. As some of the participating students mentioned the 'Springboard' programme - the Irish government's career re-orientation programme that was established in 2008 during the onset of austerity in Ireland - it is likely that the re-engagement by some of those (who already had been awarded degrees in undergraduate studies) was linked to this initiative i.e. they needed to re-orient or change their degree to get full-time employment. However, this profile of learners seeking a second undergraduate degree level qualification may also be suggestive of a new trend in education, where even those with degrees in full-time employment will engage in re-education to strengthen or safeguard their likelihood of employment in the future economy. In their review of an online distance-learning course in Russia, Leshem and Davidovitch (2011) also found that the majority of students accessing the online course had a bachelor's degree or higher and that they intended to complete the programme to earn a degree (even when this level was already attained). O'Connell (2016) contends that academic degree programmes

which are delivered through online mode of learning have resulted in the creation of high quality pedagogical practice in higher education and the emergence of high quality technology contexts which support and improve the learning experience for students who participate in this mode of learning (HEA 2019).

The future of education and training in the digital age and the move towards the automation of work along with transitions to a low carbon economy, brings new opportunities for employment but also a degree of uncertainty about the nature of work and careers, particularly the danger of not being able to find employment as highlighted in the Government of Ireland, and Irish Department of Business Enterprise and Innovation's (DBEI) *Future Jobs Ireland* reports in 2018 and 2019. Expectations of a linear career pathway (a so-called 'job for life') of our citizens will need to be moderated, as they will likely need to re-engage with, and re-orient their education at multiple points in their lifelong learning trajectory. The Higher Education Authority of Ireland in 2019 called on higher education institutions to '*facilitate flexible learning pathways, so that citizens can access educational opportunities and develop relevant skills to tackle current and future global challenges, throughout their lives' (HEA, 2019, p.1)*. This study provides some evidence of career re-orientation in action, and in this regard, provides a further warrant for asking those involved in higher education in Ireland to critically consider their programmatic offerings in terms of the much needed flexibility in learning pathways, particularly online modes of learning, to enable transitions towards future employment. This study also raises the question as to whether supports offered in such programmes should remain the same or differ from those offered to the novice undergraduate students i.e. there is a need for further investigation into whether the needs of more experienced undergraduate students are different to those of novice undergraduate students, and what the impacts of this are for course design and implementation.

Thirdly, the study affirms and further contributes to knowledge about the fully online model of learning. In this regard, the study traced factors impacting the student experience of fully online learning that aligned with existing findings highlighted within the literature, including confirmation by some students of a sense of isolation created by perceived separation from peers and lecturers, which aligned with findings from a

study undertaken by Phirangee and Malec (2017), of frustration with delays in lecturers responding to queries or with feedback on assignments which pointed to the need for timely feedback as highlighted by Lister (2014), and of inadequacies in the provision of courses with practical sessions as also shown in a study by DeVaney (2010). The study further traversed new territory in its mapping or identification of a new pattern of engagement within the context of the fully online model of learning deployed in the targeted higher education institution, specifically the reported emergence of the two separate communities of learning – one of which formed through contact made among the fully online students who were accessing the 'live-streamed lecture' sessions, and the other which was formed by those fully online students accessing 'recorded lectures' archived within the institutional learning management system. In both cases, the students tended to migrate off institutional forums to use their own personal social media/ networking applications for communication about the course and sharing their experiences of engagement in the fully online mode of learning.

Fourthly, the research reveals the need for professional development of lecturers, particularly in terms of the skills required to be interactive online with students, in addition to the technical training required to carry out and deal with technical issues should they arise during an online session. Raising the lecturers awareness of appropriate pedagogical approaches for online learning, and of ways to foster communities of learning, within the fully online mode of learning. Alvarez *et al.*'s (2009) classification of roles and competencies of the university educator - designing, social, cognitive, technological and managerial - might be useful in framing the training needs. This training needs to further improve understanding among lecturers of the need for timely responses and feedback to students. The study also pointed to the need for re-consideration of workload allocation for lecturers by higher education institutions, in light of the additional time-load associated with fostering meaningful interaction and engagement within communities of learning, in the fully online mode of learning.

5.5 Recommendations

The following key recommendations have been made in relation to dissemination and further studies in this area.

The *first recommendation* of this study is that the Higher Education Institutions (HEI) body, the Irish Universities Association(IUA) and the Higher Education Authority (HEA) in Ireland be invited to critically review the findings from this study, with a view to highlighting the interesting new profile of students embarking on fully online studies (i.e. the majority already have undergraduate degrees, and are in full-time employment) and furthermore, to inform current policies that aim to promote the fully online mode of learning across the eight remaining Institutes of Technology, the Technological University of Dublin, and the seven universities on the island of Ireland. In this regard, the vignette presented in this study offers an evidence-based account of what works and what needs to be improved from the perspective of students who have engaged with fully online learning offerings in an Irish higher education settings. In order to activate quality learning within fully online settings, there also must be acknowledgement by management in HEI that lecturers need additional time to foster meaningful interaction and engagement within communities of learning, in the fully online mode of learning, and this should be reflected within workload allocation models.

The *second recommendation* of this study is for the development of a training course on fully online learning for lecturers, and furthermore, that completion of this training course becomes mandatory for lecturers prior to engagement within a fully online course.

The training course should raise awareness of the variety of online students, their backgrounds, knowledge or expertise not just in the online programme they are pursuing but the knowledge (or lack of) online communication, educational platforms and team work. The training course should help lecturers be able to facilitate and encourage collaboration and interaction among students and lecturers. Help them make friends, create teams and build strong study groups. It is through this interaction that lecturers will be able to monitor student presence and participation and provide relevant feedback. The lecturer/student relationship will provide an awareness of student worries and concerns and assist in the construction, design and necessary requirements to help the lecture be cognisant of the needs of the online student. The training course will further facilitate appropriate pedagogical approaches for online learning, and of ways to foster communities of learning and feedback, within the fully

online mode of learning. Finally, the greater need for "Time", as previously mentioned, to create, develop, enhance and improve the course structure and roll out of same, in addition to the time required for monitoring of students behaviour, students progression and "Time" to facilitate answering of questions in addition to feedback from both summative and formative assessments. The literature review in this study highlighted Computer Support Collaborative Learning (CSCL) a format of learning and instruction which can adopt the social nature of learning using a variety of technological and pedagogical strategies (Jeong, Hmelo-Silver and Jo 2019). It is this format that the researcher feels can enhance students experience of online learning.

The *third recommendation* relates to further interrogation of the new pattern of engagement identified within this study i.e. the emergence of the two communities of learning– one of which formed through engagement in the live lecture sessions, and the other formed through engagement with archived resources. Further research needs to be undertake to ascertain whether this is unique to the model of fully online learning enacted within this institution, or whether this has emerged elsewhere, and further consideration is needed of the implications of this on quality learning and/ or sense of connectedness or community within the context of the fully online mode of learning. Flexibility within fully online learning is paramount for the mature online students, acknowledgement of whether the student prefers a live session over the archived session, vise-versa or a combination of both is essential as this confirms how the fully online course should be structured and rolled out.

The *fourth recommendation* is that further research be conducted on other fully online course contexts to further refine and articulate factors and processes that foster quality learning. The findings from this research study will be disseminated at national conferences including the Educational Studies Association of Ireland and of the United Kingdom conferences in April and September 2020 respectively, and furthermore that a paper will be submitted to the Irish Journal of Education Studies and the British Journal of Educational Technology. Through these dissemination processes, it is anticipated that opportunities for comparative research studies will emerge from higher education institutions on the island of Ireland and the United Kingdom, and through engagement in further research. Comparison with other fully online courses would be recommended

in addition to using the data obtained in this research in regard to the development and structure of all fully online courses, acknowledging the student profile and personality, their need for flexibility, interaction and feedback.

5.5.1 Future Guidelines of Practice for Online Programmes

The was no typical profile of an online student however what was typical of all students was the need for flexibility and accessibility in how they wanted to learn, and the security of knowing that someone was there. For future online courses these three element are paramount to ensure the smooth running of an online programme. Initial introduction and communication should be encouraged prior to the start of an online programme, this introduction and communication through discussion forums should outline the roles of all participants (students/lecturers), the curriculum design and outline and the learning objectives. Basic training on the learning platform (Moodle/Blackboard) with particular reference to downloading documents and uploading assignments, easy access to the archived lecturers, and connection via discussion forums both internal and external to the education platform thus ensuring the aforementioned flexibility and accessibility and security. The research indicated that it was these element which were important to the online students, if that is the case, then it is these elements that will ensure the retention rates for online programmes continue at a high level.

In addition, it is these guidelines of practice that follow the basics of El-Seoud *et al.* (2014) who provided a typology of how lecturers can enhance student motivation, the nine classifications outlined by El-Seoud et al. (2014) are strongly present in Recommendation 2 and 3 of this study.

1. Facilitate collaboration among students
2. Encourage interaction among students;
3. Build strong study groups so that students do not feel isolated;
4. Assist students to make friends by meeting fellow students online;
5. Monitor the online presence of students and
6. Support them with continuous feedback;
7. Construct the learning materials and
8. Provide resources to meet the requirements of the students;

9. Be intuitive to the anxiety and worries of student's engagement both with the online material and tools, as this might have a negative impact on their accessibility and motivation of online learning.

5.6 Chapter Summary

The students who took part in this research project did not fall into a particular profile, they were mixed in age, gender and nationality. Their level of qualifications, experience or job title was not evident. However what was evident was their need for change, to better themselves and to progress on a personal or work related level. It was also clear from the personality question, that they were determined to achieve their goal, even if that meant time management and adjustment of their work life balance.

5.7 Thesis Summary

This research study offers a unique vignette into the enactment of fully online learning as experiences by students in a higher education institution in Ireland. Building on existing literature and contributing to the current body of knowledge, it highlights the student profile, their expectations and experiences and formulates the lecturer's points of view, strongly emphasising their need for training, additional time and resources.

The recommendations outlined, developed after analysis of the data collection. It is anticipated that these recommendations will raise awareness to the appropriate pedagogical approaches for online learning and foster communities of learning within this specific demographic which in turn will refine and articulate factors and processes that foster quality learning.

5.8 Final Reflection

This research journey was challenging and at times infuriating but in this last paragraph, I must acknowledge my growth as a researcher over the period. I embarked on this research journey as a novice and am exiting having developed the tools and thinking that will benefit me in future research endeavours. The most interesting and worthwhile aspect of this journey was engagement with the participating students to gain insight into the reasons why they chose the fully online mode of learning, and the challenges and benefits encountered through their learning pathways. The inclusion of lecturers' voice in the latter end of the research study offered interesting insights and

indeed some contradictions to what had emerged from the cohort of students. The research process was enriched by having both student and lecturer contributions, and I am grateful to all who took the time to participate in this research study. The findings of the research will inform my professional practice as a lecturer on online courses as part of my continuing professional development.

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Appendices

Appendix A: Ethical Approval from DCU REC

Ollscoil Chathair Bhaile Átha Cliath
Dublin City University

Ms Siobhain O'Connor McGowan
Institute of Education, DCU

11th April 2016

REC Reference: **DCUREC/2016/033**

Proposal Title: **Student Perspectives: An investigation into the students experiences of learning in an online course in an Irish HE**

Applicant(s): **Ms Siobhain OConnor McGowan, Dr Trudy Corrigan and Dr Carmel Kealey**

Dear Siobhain,

Further to expedited review, the DCU Research Ethics Committee approves this research proposal.

Materials used to recruit participants should note that ethical approval for this project has been obtained from the Dublin City University Research Ethics Committee.

Should substantial modifications to the research protocol be required at a later stage, a further amendment submission should be made to the REC.

Yours sincerely,

Dónal O'Mathúna

DCU Research & Innovation

Dr Dónal O'Mathúna Chairperson DCU Research Ethics Committee

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Informed Consent Form

I. ***Research Study Title***

A case study exploring mature students' expectations and experiences of the fully online mode of learning in a higher education institution in Ireland

II. Clarification of the purpose of the research

The aim of this research study is to investigate the lived experience of mature students studying online from the perspective of the students who have experienced the phenomenon in an Irish Institute of Technology and to see how we can learn from their experience in order to promote flexibility, which will help to inform our programme delivery and the supports we offer to the students.

III.Confirmation of particular requirements as highlighted in the Plain Language Statement

Requirements may include involvement in interviews, completion of questionnaire, audio/video-taping of events. Getting the participant to acknowledge requirements is preferable, e.g.

<u>Participant – please complete the following (Circle Yes or No for each question)</u>

I have read the Plain Language Statement (or had it read to me) ..... Yes/No

I understand the information provided.....Yes/No

I have had an opportunity to ask questions and discuss this study .....Yes/No

I have received satisfactory answers to all my questions .....Yes/No

I am aware that my interview will be audiotaped .....Yes/No

IV. Confirmation that involvement in the Research Study is voluntary

Participation in this study is voluntary and you can choose not to take part or to stop your involvement in this study at any time. Participants have the right to withdraw from the process at any stage of the interview process, and will have the opportunity to review the content of their interview with the researcher. All information provided will be held in the strictest of confidence. This will not impact on their learning experience.

V. Advice as to arrangements to be made to protect confidentiality of data, including that confidentiality of information provided is subject to legal limitations

The information that is collected will be kept private and stored securely and safely on the researcher's computer. The computers are protected with a password. Your name will not appear on any information. You will be assigned a fictitious name when the information is being written in a report by the researcher. Anonymity will be ensured when presenting the findings of the research and pseudonyms will be used where necessary. The information that is gathered in the study will be kept for four years. After this time, it will be destroyed. Once the researcher is finished with the interview transcripts they will be shredded immediately.

VI. Any other relevant information

Your involvement in the study is voluntary and you can choose not to take part or to stop your involvement in this study at any time. Because you will be completing a questionnaire to being with once your click on the link to access the questionnaire you are indicating that you consent to participate in this study. Participants have the right to withdraw from the process at any stage of the interview process, and will have the opportunity to review the content of their interview with the researcher. The interview questions are designed to elicit information on the lives and lived experiences of students. The interviews will take place in IT Sligo. Where a students are overseas taking the online course and express and interest in taking part, the option for you will be to conduct the interview using Adobe Connect or Skype. The finding of the study might

help to understand the experiences of mature students studying online form the perspective of the students involved in online learning and to draw academic conclusions to inform 'best practice' and more about the type of student on these programmes. The participant might decide that you do not want to answer a question. If this happens, you do not have to answer any question you do not wish too.

VII. <u>Signature:</u>

I have read and understood the information in this form. My questions and concerns have been answered by the researchers, and I have a copy of this consent form. Therefore, I consent to take part in this research project

Participants Signature: _____

Name in Block Capitals: _____

Witness: _____

Date: _____

Plain Language Statement

I. Introduction to the Research Study

As part of my Doctorate in Education with DCU, I am carrying out a study on students' experiences of online study. This information sheet will tell you what the study is about. Principle Investigator: Dr. Trudy Corrigan, Dept. of Education Studies, DCU. trudy.corrigan@dcu.ie, 01 700 7865

II. Details of what involvement in the Research Study will require

The aim of the study is to evaluate the lived experience of mature students studying online from the perspective of the students who have experienced the phenomenon in an Irish Institute of Technology and to see how we can learn from their experience in order to promote flexibility and better supports for the students. Your involvement in the study will be voluntary. You will be asked to complete a questionnaire where you will be invited to come forward for an in-depth interview. The interview will last between 30 – 45 minutes. The interview will consist of 12 semi-structured questions about your experience of studying online. The interviews questions are designed to elicit information on the lives and lived experience of students. The interviews will take place in IT Sligo. If you are taking the online course outside Ireland and express an interest in taking part, the option for you will be to conduct the interview using Adobe Connect or Skype.

III.Potential risks to participants from involvement in the Research Study (if greater than that encountered in everyday life)

There is little possibility of any physical risk as a result of participating in this research study. You are not asked to perform any tasks as part of the survey or interview that could result in physical harm. You will sign a consent form indicating that you understand that you are asked to participate in a research study, and that you can refuse to continue to be part of this research study and that the information provided will be kept in the strictest of confidence. You will be made aware that your participation in

this study will be recorded (audio) and if you feel uncomfortable at any time, you can ask that the recording equipment be switched off. Once the researcher is finished transcribing the interviews, the data and recordings will be kept securely for four years and after that time, the data will be shredded, and audio files deleted. If you are upset by questions that you are asked when thinking about your experiences, support is available to you. I will be cognisant of this at all times and will ensure that you are not made to feel uncomfortable as part of the research process. Should this occur, I will actively work with both you and support services available to ensure that issues for you will be resolved before the research is completed. You will receive phone numbers, email addresses of these services (e.g. Student Support Services, Guidance counsellor). Confidentially will be ensured when presenting the findings of the research and pseudonyms will be used where necessary.

IV.Benefits (direct or indirect) to participants from involvement in the Research Study

The findings of the study might help to understand the experiences of mature students studying online from the perspective of the students involved in an online learning and to draw academic conclusions to inform 'best practice' and more about the type of student on these programs.

V. Advice as to arrangements to be made to protect confidentiality of data, including that confidentiality of information provided is subject to legal limitations

The responses to the interviews will be held in the strictest of confidence, they will be doubly password protected and only the PI and the researcher will have access to them. Confidentially will be ensured when presenting the findings of the research and pseudonyms will be used where necessary.

VI. Advice as to whether or not data is to be destroyed after a minimum period

All results will maintain the anonymity and confidentiality of the individuals involved. No data that could identify the participants will be included in the findings. The students who take part in the in-depth interviews will be offered the opportunity to view the results should they wish. Once the researcher is finished with the transcripts, they will be stored securely for 4 years, and after the 4 years will be shredded and the audio files deleted.

VII. Statement that involvement in the Research Study is voluntary

Your participation in this study is voluntary. You can refuse to continue to be part of this research study and that the information provided will be kept in the strictest of confidence.

VIII. Any other relevant information

The students of interest are registered online students from the School of Business and Social Sciences and School of Science, and School of Engineering approximately 60 students, who will firstly complete a survey. It is not feasible to interview all students therefore, it is hoped that at least 10% of students will volunteer for interview. Should any more than 10% of the students express an interest in taking part in the research, the researcher will randomly select the students based on a lottery system. The researcher will inform the students that are not being selected for the interview by e-mail and reassure them that this will have no impact on their learning experience. Gender, ethnicity or religion of participants is not relevant for this research, so all students enrolled online on the relevant courses will be invited to participate. Where possible, gender balance will be adhered to in terms of selection of participants for the interview process to ensure equal balance of perspectives. Participants will be sourced by sending an e-mail outlining the research, including consent forms will be sent to the relevant population via the registrar's office in the case institution to invite them to participate with the research. There will be no incentive offered for participation.

If participants have concerns about this study and wish to contact an independent person,

please contact:

The Secretary, Dublin City University Research Ethics Committee, c/o Research and Innovation Support, Dublin City University, Dublin 9. Tel 01-7008000

Appendix B: Data Collection Tools for Research Phase 1

Survey from Research Phase 1

Student Experiences of learning online

Online Student Experience - Doctorate of Education Research

Dear Student
As part of my Doctorate in Education with Dublin City University (DCU), I would like to investigate the experience of mature students studying online from the perspective of the students' who have experienced the phenomenon in an Irish Institute of Technology and to see how we can learn from your experience in order to promote access. The findings of this research study might help to understand the experiences of mature students studying online and to draw academic conclusions to inform 'best practice'. Your time in completing this short survey is very much appreciated

1. Tick Age Group

- ◯ 23 - 30
- ◯ 31 - 40
- ◯ 41 - 50
- ◯ 51 - 60
- ◯ 61+

2. Gender

- ◯ Male
- ◯ Female

3. Employment Status - Are you currently....?

- ◯ Employed - working fulltime
- ◯ Employed - working part-time
- ◯ Not employed - looking for work
- ◯ Non employed - not looking for work
- ◯ Retired
- ◯ Disabled - not able to work

4. What School of Online Study do you belong too?

- ◯ Engineering
- ◯ Science
- ◯ Business
- ◯ Social Sciences

5. What is your level of study?

- ◯ Level 6
- ◯ Level 7
- ◯ Level 8
- ◯ Level 9

6. What did you choose online learning over traditional face to face classroom learning?

	1 - Strongly agree	2 - Agree	3 - Neutral	4 - Disagree	5 - Strongly disagree
Flexibility	◯	◯	◯	◯	◯
Personal interest in continuous learninng	◯	◯	◯	◯	◯
Availability to receive an accredited course online	◯	◯	◯	◯	◯
Recommendation	◯	◯	◯	◯	◯
Increased job opportunities with current employer	◯	◯	◯	◯	◯
Increased job opportunities with potential employere	◯	◯	◯	◯	◯
Entry into the job market	◯	◯	◯	◯	◯

7. Please indicate to what extent, if any, the following issues were of concern to you during your studies?

	1 - Of major concern	2 - Of some concern	3 - Of little concern	4 - Of No concern	N/A
Time Pressure	◯	◯	◯	◯	◯
Financial Pressure	◯	◯	◯	◯	◯
Ability to Succeed	◯	◯	◯	◯	◯
Interaction with other peers	◯	◯	◯	◯	◯

8. Did you attend an online course prior to your current online course?

◯ Yes

◯ No

If Yes, please specify

9. Overall, how would you rate your overall learning experience in your field of study?

◯ Excellent

◯ Good

◯ Fair

◯ Poor

◯ Very Poor

10. If you would be willing to take part in a short interview related to this research, please provide your name and contact details (phone or e-mail) below. Many thanks

Done

Research Phase 1: Semi-structured Interview Questions

Q1 Tell me about yourself in terms, of age, background, education and employment history, family etc

Q2 What is your general area of online study?

Q3 Can you tell me exactly why it was that you decided to undertake an online course?

Q4 Can you tell about the structure of the online course?

Q5 Have you got experiences of other learning environments and how does this compare to online previously?

Q6 Can you describe your experience of the online course that you found satisfying besides getting a good grade? Can you give me a specific situation?

Q7 Can you describe the experience of the online course that you found most frustrating besides getting a poor grade? Can you give me a specific situation?

Q8 Can you describe exactly your experiences with online learning? Be specific, for example, tell me about your typical study day or week, what seems to work best for you undertaking this method of study, how do you stay motivated?

Q9 What do you understand about work/life balance in relation to your online studies? How important is this in your life?

Q10 As a student, how to you view the feedback from the lecturers?

Q11 Did your group/class have a social community space for example, a Facebook page, Twitter account?

Q12As a student, how do you think the technical support provided from the Institute was?

Q13 In your view, is online learning more conducive to positive work/life balance than traditional face-to-face classroom learning?

Q14 Can you think back to before you started your online course (experience now, time management, job opportunities with existing or alternative employer, entry into the job market?

Q15 What did you learn from the online experience, for example, learning environment, interaction with peers? How has your skills developed, or

improved while being involved with online education? Did online learning tick all the learning boxes for you?

Q16 .....Is there anything else you would like to add or share?

Appendix C: Data Collection Tools for Research Phase 2

Survey from Research Phase 2

Copy of STUDENT EXPERIENCES OF LEARNING IN AN ONLINE LEARNING ENVIRONMENT

INTRODUCTION

Dear Student

As part of my Doctorate in Education with Dublin City University (DCU), I would like to investigate the experience of mature students studying online from the perspective of the students' who have experienced this in an Irish Institute of Technology and to see how we can learn from your experience in order to promote access. The findings of this research study might help to understand the experiences of mature students studying online and to draw academic conclusions to inform 'best practice'. Your time in completing this survey is very much appreciated.
For those of you who are on a Blended Online Course, some of these questions may not apply.

1. Please answer all of the following about your course:

What course are you enrolled in? (faculty, dept?)

What was the duration of your course?

What year are you currently in?

2. Was your course?

- ◯ Blended
- ◯ Online
- ◯ Traditional Face-to-face

3. Was your Course?

- ◯ Full-time
- ◯ Part-time

4. **Career Focus –** How will this qualification benefit you? Please tick one?

- ◯ Enable me to get the job
- ◯ Meet education requirements
- ◯ Increase salary earnings
- ◯ Qualifications open up new opportunities

5. **Personal Focus -** which of the following do you relate to during the online course? Please pick one.

- ◯ Seek challenge
- ◯ Maintain effort over failure
- ◯ Seek increased ability
- ◯ Control your own learning
- ◯ Contribute to external factors

6. What challenges did you have to overcome in order to achieve the best work/life balance?

7. What did you like **MOST** about taking the online course?

- ◯ The online delivery methods
- ◯ Limited face-to-face interaction
- ◯ Flexibility of study time
- ◯ Spending time on computer
- ◯ Less need to go to campus
- ◯ It matched my Personal Goals

Other (please specify)

8. What did you like **LEAST** about taking the online course?

- ◯ The online delivery methods
- ◯ Limited face-to-face interaction
- ◯ It matched my Personal Goal
- ◯ Flexibility of study time
- ◯ Spending time on computer
- ◯ Less need to go to campus

Other (please specify)

9. Please answer all of the following questions:

	My expectations were met very well	My expectations were met a little	Neutral	My expectations were not met that well	My expectations were not met at all
Did the course content meet your expectations?	◯	◯	◯	◯	◯
Did the course material meet your expectations?	◯	◯	◯	◯	◯
Did the assignments meet your expectations?	◯	◯	◯	◯	◯
Did the exams meet your expectations?	◯	◯	◯	◯	◯

If not, please state why?

10. Was the course content and materials supplied relevant?

Very relevant	Somewhat relevant	Neutral	Not very relevant	Not relevant at all
◯	◯	◯	◯	◯

11. If you had a choice would you have preferred?

- ◯ Face-to-Face lecture
- ◯ The online lecture

Please explain your answer

12. What is your learning style?

Copy of STUDENT EXPERIENCES OF LEARNING IN AN ONLINE LEARNING ENVIRONMENT

TECHNOLOGY

13. What technological devices do you use on a regular basis for course work?

- ◯ Laptop
- ◯ Desktop
- ◯ Smart Phone
- ◯ Tablet

Other (please specify)

14. Where is the device located that you **PRIMARILY** use to access your online course?

- ◯ My Home
- ◯ My Workplace
- ◯ A college computer lab
- ◯ The library or other pubic location off campus
- ◯ The home of a friend or family member

Other (please specify)

15. Are your comfortable completing the following computer related tasks?

	Very comfortable	A little comfortable	Neutral	Not comfortable that much	Not comfortable at all
Using Email	○	○	○	○	○
Typing/Keyboarding	○	○	○	○	○
Accessing the Internet	○	○	○	○	○
Sending documents electronically	○	○	○	○	○
Receiving documents electronically	○	○	○	○	○
Downloading documents	○	○	○	○	○
Downloading multimedia materials	○	○	○	○	○
Listening to audio on the device	○	○	○	○	○
Viewing video on the device	○	○	○	○	○
Social Media, Live Chats, Online Forums	○	○	○	○	○
Using online learning platforms e.g. Moodle	○	○	○	○	○

If not, please state why?

16. What kinds of technical support do you consider to be **NECESSARY** if you were to take another online course **(Pick your top 3 options)**

- ☐ Assistance by telephone available during regular office hours
- ☐ Assistance by telephone available 24 hours a day (or a timeframe close to that)
- ☐ Assistance by e-mail available during regular office hours
- ☐ Assistance by e-mail available 24 hours a day
- ☐ College provided required hardware
- ☐ College provided required software
- ☐ No assistance or equipment required
- ☐ Assistance through live web chat

17. Which media communication platform would you prefer?

- ○ Adobe Connect
- ○ Panopto

Please explain your choice

Copy of STUDENT EXPERIENCES OF LEARNING IN AN ONLINE LEARNING ENVIRONMENT

PERSONAL AND PROFESSIONAL MOTIVATION

18. What kept you motivated on a **PERSONAL** level to continue with the course of study, choose one or more of the following:

- ◯ Improve my self-belief and confidence
- ◯ Develop a better understanding of myself
- ◯ Increase my self-esteem
- ◯ Prove to myself that I can be successful
- ◯ Chance to broaden my horizons

19. What kept you motivated on a **PROFESSIONAL** level to continue with the course of study, choose one or more of the following:

- ◯ Enable me to get a job
- ◯ Meet the education requirements for career
- ◯ Will increase earning power
- ◯ Qualification will open up new opportunities

20. What kept you motivated on an **INTELLECTUAL** level to continue with the course of study, choose one or more of the following:

- ☐ Experience intellectual growth/stimulation
- ☐ Learn about new ideas
- ☐ Become a better educated person
- ☐ Develop knowledge/skills for later life

21. As a mature student do you feel your motivation levels increased or decreased during your course?

- ◯ Increased
- ◯ Decreased

Please elaborate

22. Did you find it difficult to concentrate at times?

- ◯ Yes
- ◯ No

23. If Yes, was it due to:

- [ ] Increased workload
- [ ] Time required with family
- [ ] Overuse of screen time
- [ ] Absence of the lecture on camera
- [ ] Distraction from external factors

Other, please specify

24. During your course did you learn any of the following transferable skills? Please choose one or more

- [ ] Organisational skills (e.g management of workload)
- [ ] Leadership
- [ ] Computer Literacy skills
- [ ] Listening skills
- [ ] Academic writing skills
- [ ] Time Management skills
- [ ] Team work
- [ ] Presentations skills

If No, please elaborate

Copy of STUDENT EXPERIENCES OF LEARNING IN AN ONLINE LEARNING ENVIRONMENT

INTERACTION WITH LECTURER

25. Were you satisfied with the quality of response from the lecturer in relation to the course content?

- ◯ Yes
- ◯ No

26. Did you interact with the lecturer by?

- ◯ E-mail
- ◯ Live chat
- ◯ Telephone
- ◯ Face-to-Face

27. Did the lecturer facilitate contact outside of allocated class time?

- ◯ Yes
- ◯ No

28. Did you prefer the

- ◯ Pre-recorded
- ◯ Live lecture

Why

Copy of STUDENT EXPERIENCES OF LEARNING IN AN ONLINE LEARNING ENVIRONMENT

INTERACTION WITH STUDENTS

29. Is it important for you to have regular interaction with classmates?

Extremely important	Very important	Neutral	Not so important	Not at all important
◯	◯	◯	◯	◯

30. Online learning is a solitary form of learning?

- ◯ Yes
- ◯ No

If you agree, please state why?

31. Choose from column 1 or column 2 which option best reflects your personality.

☐ Reserved	☐ Outgoing
☐ Less intelligent	☐ More intelligent
☐ Affected by feelings	☐ Emotionally stable
☐ Submissive	☐ Dominant
☐ Serious	☐ Happy go lucky
☐ Expedient	☐ Conscientious
☐ Timid	☐ Venturesome
☐ Tough-minded	☐ Sensible
☐ Trusting	☐ Suspicious
☐ Practical	☐ Imaginative
☐ Forthright	☐ Shrewd
☐ Self-assured	☐ Apprehensive
☐ Conservative	☐ Experimenting
☐ Group Dependent	☐ Self-sufficient
☐ Uncontrolled	☐ Controlled
☐ Relaxed	☐ Tense

32. Did you feel part of a community of learning?

◯ Yes

◯ No

Please elaborate

33. Did you feel you gained support/engagement from your peers on the course?

◯ Yes

◯ No

Please elaborate

34. Have you used Moodle before this course as part of a class?

- ◯ Yes
- ◯ No

If Yes, please elaborate

35. Moodle was helpful to my learning?

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
◯	◯	◯	◯	◯

36. To what extent are you satisfied with your experience of online learning, please elaborate

37. Would you take another online course?

- ◯ Yes
- ◯ No

If Yes, Why? - If No, Why Not?

38. Do you agree or disagree that the course delivered entirely online meet the same quality standards as classroom course? **(FOR FULLY ONLINE STUDENTS ONLY)**

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
◯	◯	◯	◯	◯

Please elaborate

Copy of STUDENT EXPERIENCES OF LEARNING IN AN ONLINE LEARNING ENVIRONMENT

DEMOGRAPHIC INFORMATION

39. Check one or more options that reflect your gender

- [ ] Woman
- [ ] Man
- [ ] Transgender
- [ ] Gender non-conforming
- [ ] Non-binary
- [ ] Intersex
- [ ] Prefer not to say

40. Which ethnic group do you associate with?

- ◯ White/Caucasian
- ◯ Asian
- ◯ Black/African
- ◯ Mixed Race
- ◯ Traveller

Other (please specify)

41. Specify you Nationality?

42. Please indicate your age?

- ◯ 23 - 29
- ◯ 30 - 39
- ◯ 40 - 49
- ◯ 50 - 59
- ◯ 60 - 69
- ◯ 70+

43. Please state your current employment status

- ◯ Employed - Working Full Time
- ◯ Employed - Working Part time
- ◯ Not employed - Looking for work
- ◯ Not employed - not looking for work
- ◯ Retired
- ◯ Looking after children and home Full-time
- ◯ Full-time carer for another Adult
- ◯ Part-time carer for another Adult
- ◯ Disabled - Not able to work

44. Please indicate your currently salary scale, choose only ONE from the following

- ◯ Under €20,000
- ◯ €21,000 – €29,999
- ◯ €30,000 - €39,999
- ◯ €40,000 - €49,999
- ◯ €50,000 - €59,999
- ◯ €60,000 - €69,999
- ◯ €70,000 - €79,999
- ◯ €80,000 - €89,999
- ◯ €90,000 - €99,999
- ◯ €100,000+

45. Please state the highest level of education you currently hold

- ◯ Leaving Certificate
- ◯ Higher Certificate
- ◯ Ordinary Bachelor Degree
- ◯ Honours Bachelor Degree
- ◯ Post Graduate Diploma
- ◯ Masters Degree
- ◯ Doctoral Degree

Other (please specify)

46. Any further comments relating to your online experience

Research Phase 2: Focus Group Questions

PRIOR EXPERIENCE - how long have you been engaged with online tutoring?

Has that all been blended or fully immersed

Do you use social media and what platforms do you use?

Training - what training did you take was it tutoring for blended or fully immersed

What format did it take – how was the training delivered – was there a face to face workshop and well prepared did you feel for fully immersed – have you noticed a difference between blended and fully immersed

Did you feel the training you received was adequate, would you like more?

ASSESSMENT

Typically, what type of assessment do you set for online learning

Do you liaise with colleagues when setting assessments (any cases of reported overlap in deadlines)

Do you include group work as part of your assessment – any issues reported there highlighted by students

Do you include discussion forum posts or other work in assessment exercise? If Yes, have you noticed any challenges for students engaging in this

What support and/or feedback do you provide for your students in preparation for assessments – and how responsive are you – do you get to them quickly – what's your timeline for providing support – do you reply straightaway or a policy 24hr etc

What about examination – Do you provide sample papers - do they align with the actual exam paper?

COURSE CONTENT

1)What resources beyond the archived lecture do you provide (typically)

How do you decide on the amount of reading material or the format of reading material and the assignment workload?

Have students every queried having too much or too little extra material

Mediating discussion while delivering online - Did you experience in mediating the discussion in the live lecture section?

How do you deal with that?

INTEREACTION/ SENSE OF COMMUNITY

How would rate the quality of interaction with your students from a learning perceptive .....Was it good, what made it good?

Do you think a sense a community developed?

Do you think you have role in fostering a sense of role with learns within the fully immersed mode of online learning?

How best you think you can enable that/ fostered

Have you noticed or have any difficulties in doing this?

How useful do you think Adobe and Panopto and live chat facilities are in enabling interaction and or sense of community

Chat facilities – would you be willing to engage with learners on a learner created 'Whatsapp' Forum?

SUPPORT CHALLENGES FOR LECTURES

What are the challenges for lecturer in extending support hours for students?

Did they take in consideration support for students in different time zones?

Have you had to put in place support for non-Irish participants – what challenges, and how were they addressed – e.g language, cultural issues, time zone, feel more isolated?

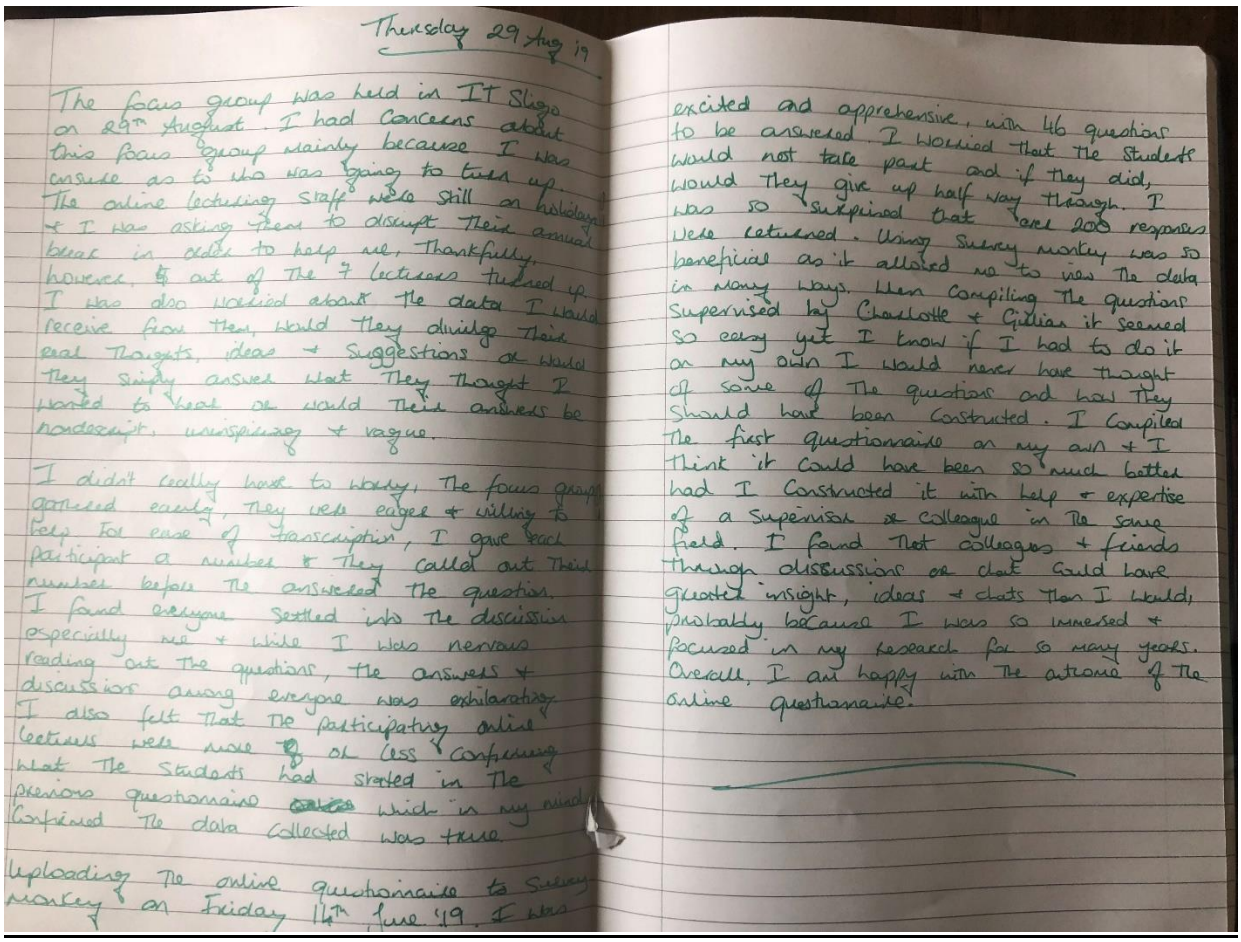
Did you feel you need additional training to support learning from different cultural context?

Do you perceive any work/life balance with the move toward lecturing to fully immersed online mode of learning?

How do you feel about the institute move towards increasing the number of fully immersed deliver of online programmes as opposed to blended or as opposed to face to face?

Any other questions.

APPENDIX D: Researcher Diary

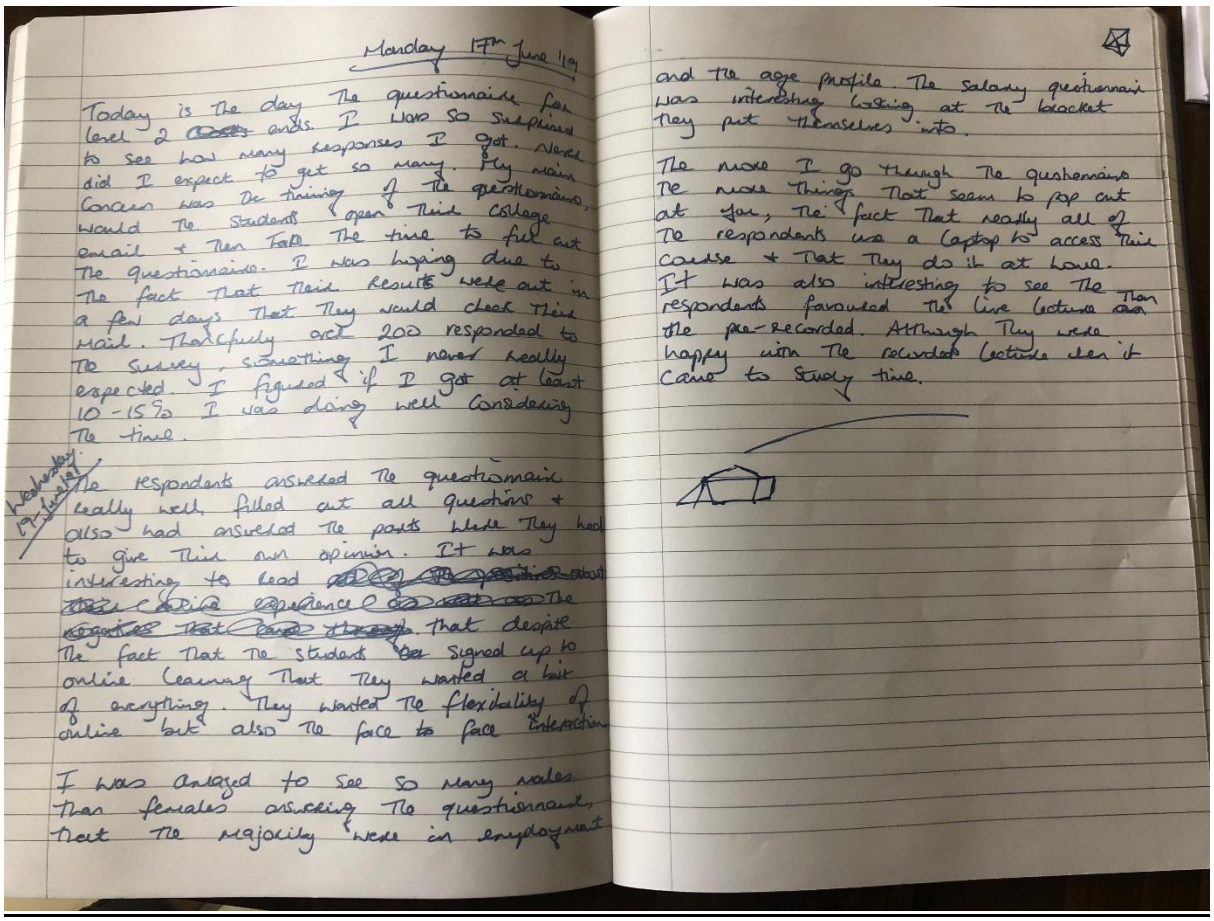


Thursday 29 Aug 19

The focus group was held in IT Sligo on 28th August. I had concerns about this focus group mainly because I was unsure as to who was going to turn up. The online lecturing staff were still on holidays & I was asking them to disrupt their annual break in order to help me. Thankfully, however, 8 out of the 7 lecturers turned up. I was also worried about the data I would receive from them. Would they divulge their real thoughts, ideas & suggestions or would they simply answer what they thought I wanted to hear or would their answers be inadequate, unsupportive & vague.

I didn't really have to worry. The focus group progressed easily, they were eager & willing to help. For ease of transcription, I gave each participant a number & they called out their number before the answered the question. I found everyone settled into the discussion especially me & while I was nervous reading out the questions, the answers & discussions among everyone was exhilarating. I also felt that the participating online lecturers were more & or less confirming what the students had stated in the previous questionnaire ~~which~~ which in my mind confirmed the data collected was true.

Uploading the online questionnaire to Survey Monkey on Friday 14th June '19. I was excited and apprehensive, with 46 questions to be answered I worried that the students would not take part and if they did, would they give up half way through. I was so surprised that over 200 responses were returned. Using Survey Monkey was so beneficial as it allowed me to view the data in many ways. When compiling the questions supervised by Charlotte & Gillian it seemed so easy yet I know if I had to do it on my own I would never have thought of some of the questions and how they should have been constructed. I compiled the first questionnaire on my own & I think it could have been so much better had I constructed it with help & expertise of a supervisor & colleague in the same field. I found that colleagues & friends through discussions or chat could have granted insight, ideas & chats than I would, probably because I was so immersed & focused in my research for so many years. Overall, I am happy with the outcome of the online questionnaire.



Monday 17th June '19

Today is the day the questionnaire for level 2 ~~crafts~~ ends. I was so surprised to see how many responses I got. Never did I expect to get so many. My main concern was the timing of the questionnaire, would the students open their college email + then take the time to fill out the questionnaire. I was hoping due to the fact that their results were out in a few days that they would check their mail. Thankfully over 200 responded to the survey, something I never really expected. I figured if I got at least 10-15% I was doing well considering the time.

Wednesday 19th June

The respondents answered the questionnaire really well, filled out all questions + also had answered the parts where they had to give their own opinion. It was interesting to read ~~about~~ their experience ~~of~~ the ~~negatives that came through~~ that despite the fact that the students ~~be~~ signed up to online learning that they wanted a bit of everything. They wanted the flexibility of online but also the face to face interaction.

I was amazed to see so many males than females answering the questionnaire, that the majority were in employment and the age profile. The salary questionnaire was interesting looking at the bracket they put themselves into.

The more I go through the questionnaire the more things that seem to pop out at you, the fact that nearly all of the respondents use a laptop to access their course + that they do it at home. It was also interesting to see the respondents favoured the live lecture than the pre-recorded. Although they were happy with the recorded lectures when it came to study time.

APPENDIX E: Sample Interview Transcript

KEVIN

R – Ok Kevin, so if want to just start off by telling me a little about, perhaps your background, your education, your employment, am that would be great.

K – Yeah, so am, let's go, am, I was doing mechanical engineering in WIT, so I stopped that about 6 months, I started working, ah, worked in different industries, worked in engineering, worked in CMC programming, ah, worked in traffic manufacturing, currently in the pharmaceutical industry the last fourteen years, ah, I finished a Bachelor of Science in GMP Technology in 2008, and recently just completed the Bachelor of Science Business Management Applications in Sligo this year, ah 2016. Currently, I suppose my last role, or the current role that I'm in now, is a team leader role, I'm in that role the last two years, ah three years before that, I was working as ah, technical trainer development training program, and also worked within the ah, the lean manufacturing area as well, as a lean co-ordinator, ah, similar to a lean coach in the area and previous to that then within the company I've worked in different areas within the process through validation, verification introduction new products, ah, technical transfer process all that stuff, ah, so I just build on my experiences so to this part of company back to 2002, ah that's just a brief history Siobhain.

R – Ok perfect

K – Very Brief

R – So what is your general area of online study, Engineering, Science or Business?

K – Say that again Siobhain, you've broken up, say that?

R – What's your general area of online study, Engineering, Science or Business?

K – Ah Business currently

R – Business

R – So can you tell me exactly, why it was that you decided to undertake an online course?

K –Having previously spend three and half years in the WIT doing evening classes and some Saturdays, I felt with my current background with family and obviously the length of time I spend in work, eh, with my current role, with that, an online course would suit me better, so eh, I had done a little bit of research with regards to different types of

online modules, looked for some advice from colleagues at work who had done particular courses through online. Ah, but the main reason was the flexibility and the ability to kind of you know, go in at different times and duck and duck out of the actual course work would suit me better as opposed to being fixed, where you had to be down in the classroom for a certain time every evening, because with the way I work and with the way things are at home with the kids and stuff like that it wouldn't have suited me. And I wasn't really prepared to sign up for that, as opposed to the online.

R – So in terms of convenience and your study time, and weekends that was important to you?

K – Yah, and I suppose the way I learn, the type of learner I am that, if I'm in the classroom I'll be taking my notes, but it's after that is the time that I actually take it I and get a deeper understanding of it so by doing it online I even watch the recorded sessions, I could record, I could rewind a couple of minutes back if I wanted to hear it again, and I suppose the way I study as well it suites me that I knew all the lectures were going to be available, eh you're not solely relying on your own notes, you can actually go back to the live lecture and it's like watching it all over again. Ah I find that very beneficial for studying as well.

R – And just going back to something that you had mentioned there about family time, what do you understand by your work life balance in relation to your online studies? Like how important is that in your life?

K - So how important, is it really important to me, am, so I have two daughters who are autistic, so one is different from the other in regards to spectrum and where they fall on it, but they still have their own individual needs. So ah it was very important to me because, ah I work two shifts operations as well so, if I was to take time off, to attend to physically attend a classroom, I'd have to work in the time as well on top of the excessive time I was already doing, so therefore, it was critical for me and I suppose I sat down with my wife and I had a chat with me before I took on the course, those are the different things I have to weigh up in order to you know, make for me to make the decision for going online.

R – Ok

R – Did you face any barriers or fears or concerns before going into the online?

K – Ah I suppose the only fear I felt was but was I be able for it being out of third level education since 2008. Em, I kind of said to myself, look am I going to be able for this, ah, the only fear was I really had was the logging on, you know, if I got lost along the course, what kind of support was there but I suppose when I got into the course and got a couple of weeks, a month into it, I started to get settled, you know I knew the different avenues, email, I suppose the lectures came straight back on email which was great, you could email them privately if you wanted to as well and you also had the option to post stuff on the general section within Moodle. So the only fear would have been would I be able for it based on being out of education for a while and would the online really suit me, would I be disciplined enough to actually stay with it, eh, but it did work out for me in the end, yeah.

R – And as a student how did you view the feedback from the lecturers, was that in a timely manner, was the feedback constructive?

K – So I suppose we are all busy, across, whatever work area, yes, the most I was waiting was probably a day, but that is understandable, get up in the morning the lecturer might be doing lectures until that evening they mightn't get to their email in certain times during the day, so it was instantly to be back, you could say more or less in a day. I was actually very impressed with the way how organised it was, I felt probably it might be a little dis-organised because of the volume of students etc but any of the stuff I requested feedback on, emails and stuff, phone calls, I was able to get a direct response which was great.

R Ok, so, in terms then of the structure, you did mention that suited your line of study, sorry suited your style of learning

K – Yah

R – So did all of the modules suite your style and did it suit the online learning?

K – Ah first, with doing the online learning, ah so, having previously discussed it, I wouldn't go back to on the role of attending of physically attending a classroom, in regards the content, ah, suiting my needs, it did suit my needs and the way it was delivered, eh, in different aspects of the forum, obviously, there was the emails, the online class, etc, so it did meet my requirements, in order for me to understand the concept or the topic to be with it the traditional study for myself but yah, it was ok for me to understand and everything yeah.

S – And what was your style of learning? Are you more of a read/write person, a more visual, audio?

K – I would say a more read and write so I suppose ah you know like when we would be going through the modules I have the notes there but I would be writing my own notes eh, but it's kinda like after class I might read through them again and then I'd write my own summary notes, that's how I'd take in stuff em as opposed to just taking it in the class, I might have to go away and think about it and you know draw it up in a certain way that fit into my head I suppose

R – And did you find the assessment strategy used suited the online methods?

K- sorry say that again Siobhain

R – Did you find that the assessment strategies that were used did they suit the online methods?

K- Am yah, so before when I was physically doing classes you'd have to attend labs and all this kind of stuff in the WIT. EM the breakdown of the between the written and the assessment am, I suppose on a personal basis continuous assessment for myself ah, just because of the time that goes into it, I'd nearly prefer to do an exam, Ah but the breakdown of it I think was fair, eh in regards to the 40% for assessment, 60% for exam so, it kinda like, it was a fair reflection over the whole course period of the module, the two or three months depending on the subject. Ah you had a chance to be in a good position going into the exam, am which could, well it did actually take the pressure off I suppose, Ah but again if you were solely just doing the exam obviously there is a lot more points then for an exam but I suppose it was a fair reflection. Ah, the last course I did there was only like 10% continuous assessment, so I didn't really focus much on that because I was more focused on taking in the information, understanding it, in preparation for the exam, so that was slightly different for me, ah but that is truly on a personal basis, I'd probably prefer to do an exam as opposed to do continuous assessment but I suppose with that amount of marks, when you look at it overall it was fair,

R – And had you got experiences of other online environments

K – No, haven't done any formal online, I have done some online learning in work but not nothing in an online course or study that I did at that level

R – And can you describe your experience of the online course that you found satisfying perhaps besides getting a good grade? Was there any one specific situation?

K – Am, for me it was probably satisfying to get to submit the reports and not see them again, I suppose other than getting the feedback on them, am, one particular thing satisfying, am

R – Or was there anything that you found frustrating about the online?

K – The only thing I probably found frustrating was probably the volume of probably the economic subjects, there was , I had done economics for my leaving cert but the volume of notes that we had for that, I think we had about two folders, I felt that was probably a bit too much, with regards the volume but with the other subjects, I don't think it was as bad. Am no I can't think nothing else ah Siobhain

R – ok

K – probably have to think about it, I'm probably just hitting a blank. The only think I can think of that was probably a bit negative, in a way I suppose, the other aspects of it were positive, on a personal level I had to go in and do the work, I didn't want to do it on some nights like everything else but you have to do it , but across the board it was positive, I don't think, does the practical have any negative things about, it was only that volume for that one subject.

R – Ok

R – And can you describe your experience of your online learning? [11:07] so for example, tell me about your typical study week, what seems to work best for you? What methods did you use?

K – Typical study week, well before Christmas I started out trying to hit all the classes best I could when I was on days, the alternative shift, the evening shift, I did the subjects in the morning so that would mean, eh, three evenings or three mornings ah doing the work, and them probably spending a little revising on a Saturday and a Sunday but when we got into doing the continuous assessment I used to do it over the weekends. Ah then after Christmas then, I felt I was probably getting a bit eh the bright evenings and stuff probably not as focused and then obviously had to do the dissertation as well so it just kinda passed in between two three nights a week, ah two or three mornings a week and using the weekends kinda to spend purely on assessments, working on dissertations, eh that would be the typical layout for me. Ah a lot of the time and probably the last half

of it, the last three months to go, I used to go to more of the recorded classes as opposed to the live ones, and that was just because I was juggling with the last few assessments and getting the dissertation to a certain point for approval

R – Ok

K – Yeah

R – How did you stay motivated?

K – Eh lol, I suppose motivated, I was very motivated up to Christmas, I think it's a natural thing with any course, am after a while it can get halfway through and you are looking for the finishing line. I suppose it was really like I put in a good bit of work before Christmas and I suppose didn't want to leave myself sparing, em, obviously the company were paying for it, and I suppose you know, the work I had put into it, I wanted to keep going and get it over the line and get everything done, eh and pass the course and that would be the motivation for me, at the end of the day and that I have one eye on look to go on and to something else within Sligo and so obviously I said to myself if I don't do well in this then obviously it could restrict me in going ahead and I suppose while I was there I said look put the last effort into it now and get it over the line.

R – And did your class have a social community space? For example, did you have a Facebook page or Twitter account?

K – No, em, no Facebook or Twitter account, not that I know of. I'm not on Facebook myself, em, but not that I know of. From any of the emails and posts and stuff there was no kinda of, there was no leader in the group or whatever, to listen up, we'll start up this Facebook page, I think there was good communication going over and back, eh, but like everything probably could have been a bit better, em but there was no socially not that I'm aware of anyway, eh

R – Would you have found something like useful?

K – em, yeah it would have been, I mean because an example, just before I was doing the last exam I had met some of the students on the course in Cork and we were just chatting, there was four of us there and they were talking about the economics exam was very hard and I think they failed it and all of this stuff, I was saying to myself, Jesus, I mustn't have been too bad and I think I did pretty ok in it, eh I suppose it would have been able to get that kind of eh, sense of grounded feeling if there was some kind of a Facebook page, or a social networking area, just for the students maybe to discuss things

over and back. EM we did have one discussion with a student when I was doing one of the assessments we had to do the joint collaboration but when that subject was, when that assessment was done I didn't really hear from the student again but I would have probably done a bit of grounding and I suppose when in some of the accountancy stuff or some of the economics there would have been some stuff there, terminology and understanding some of that. When you are looking at it online, see everyone doing calculations and they are all getting it off on time and everything and you are saying to yourself, oh, am I not getting this so, it does create a little bit of doubt, eh, in yeah but I suppose you would get that grounding from other people, eh, if you did have the social network.

R – Ok. And did you feel comfortable engaging in discussions or questioning others, like sharing your information opening while you were studying online?

K – eh, through the chat box or through the lectures or just in general?

R – Em, through the chat box and in general

K – yea so in general if I had anything to put up obviously I would, I'm more of a thinker, I don't just dive into things as such so I suppose its later on that I would have the question and that probably where I would have just emailed as such. No I made did response to a couple of things, partings and we had a couple of other things we had to answer in the post as well, eh, but ya no, I've no bother putting up stuff if I have something to say on it, em, but again I think you know it is something that I'm kinda of valuing not valuing it but valuing it in my own way, eh, if Ii see something there I can kinda understand it, probably read over it again, then I question then I ask but, there was no problem, you know everybody was nice and friendly, the lectures, there was no stupid question that was called out load of times, yeah there was no problem putting up any post or through the chat box

R – and you mentioned there that when you were working as part of a group, did you learn more working on your own or as being part of a group?

K – eh, working on my own. Eh, when I did the collaboration assessment when I think it was the first assessment that I did, eh, I think I got straight into it, I think we had it, I had it issued about a week I got straight into it straight away, obviously I didn't know the other person so I didn't know what the expectations were like, so, eh, I ended up sharing the report and everything else, but I more or less had it done, and they just did a couple

of corrections and everything else, to make it look, they were happy enough with it so, so no I didn't learn anything from the group as such, maybe one or two things from the chat box you'd pick up stuff but no I would have learnt most of it on my own.

R – And did any of your past experiences help you while you were online? So maybe helping you understand your assignments, apply methods to tasks?

K – yeah so if some of the subjects, so obviously having a background in lean, background in training development, technical training element, eh, leadership, eh some of the things regarding leadership building, em, economics I would have done in school, yeah, there would have been some things from school, one or two things, small things since I left school, I suppose from doing the other course, I didn't go in completely cold, I knew what third level education was like as such, eh so that did help me, what did help me as well was in my previous role I used to write up a lot of reports, eh, in regards technical assessment and problem investigation etc, so that did help me kinda structure a report, you know in the background etc, eh, so that was fine, eh what else is there, from the lean side, in knew the different concepts of lean and everything else and that did kind of give me probably a bit too much knowledge in regard the dissertation I did but, yeah, previous work experience did help assist me, probably understanding things and being able to write an assessment etc

R – And did you reflect on what you learnt after a discussion or after a class or at the end of an assignment or the semester, did you reflect on what you had learnt?

K – In regards to like when the assessment was done like and handed it in?

R – Yeah, or even after a discussion or after a class, did you feel that you had learned something?

K – yes, so I remember one of the assessments that we had for economics module I done very well in it and when I handed it in, the feedback I got I didn't think it was right feedback so I got more feedback and I kinda reflected it on it, and actually you know what I didn't really fully answer the question and I didn't understand and I said look, I didn't really fully understand the question before I jumped into it, eh, ya I took everything I learnt on things giving back feedback etc, yeah

R – And as a student how do think the technical support provided from the institute was? Did you receive any type of support?

K – Ah I suppose just the original thing of logging on to Moodle and everything else, I thought that was done very well, in regards emails, getting set up, I did have a problem, and I got an email back from the IT services itself within Sligo. Eh, I was surprised how well it ran in regards through the Abobe Connect. You know there was very little drops in signals, you know I think I commented even to yourself Siobhain of the big IT Dept you have up there, it's such a massive thing that you do up there but know overall I didn't have issues with anything else, just once when I was set up, getting around the Moodle itself was off, there was no issue

R – And if you had a complaint was there anyone that could address or try to solve your problem?

K – yeah so the course leader, eh I think, what is the name of the course leader on the course Siobhain?

R – Annie

K – Annie yeah, so I knew Annie, was the course leader so obviously if I had any queries and stuff like that it went directly to Annie but I suppose as you go on through emails and stuff like that you kinda build up a relationship with the lecturer makes it a bit easier, but if I did have a problem with anything, you know for whatever reason I would have probably contacted the lecturer themselves directly and then if I wasn't happy with that at all then I would have probably looked at sending it maybe to Annie or try to come to an agreement on it, if I wasn't happy with it. eh the only thing I had, there was a delay in getting a lecturer or sorry getting the supervisor yourself Siobhain, so I did write to highlight that with Annie and she explained look there is things going on with meetings and stuff like that, you'll get someone in the next couple of weeks, but that was all, there was nothing else Siobhain

R – Ok. Did you find that you could get support from your fellow classmates?

K – yea, eh, I got on, yeah, so, if you put anything through on email or through onto the post, people came back, there was other people putting up posts, they would have go replies back, eh within a couple of hours, lets say from other classmates. It would have been probably the same kinda classmates because maybe because of the time difference and stuff, if I seen something going up and if I could answer it, I would have answered it but I felt a lot of the times, when I'd see a post, someone may have already

answered it, you know, so I wasn't going to add to that, unless if I had something that would have added to it, so if I felt they had answered the question then fair enough

R – And in your view is online learning more conducive to your positive work life balance than traditional face to face learning? [22:28]

K – yeah so, it would yeah, it suits me a lot better

R - Can you think back to before you started your online course, so describe your experience now in terms of your personal satisfaction?

K -So personal satisfaction in completing the course, It's great to have it finished and some time back, but overall when I think of it yeah I'm very satisfied with actually doing it online and the flexibility to move things around as opposed to being fixed in the classroom and I know I made the right decision in actually going through the online am application as opposed to physical.

R- And how do you think the online course has impacted you as an individual so perhaps in terms of time management, job opportunities with your existing or an alternative employer or entry into the job market?

K – Am well I suppose am by finishing the bachelor of Science in business and having done science already obviously it's a stepping stone for me now to do an honours degree in business and move away from the science bit so I have kind of two avenues and I can go back and finish off an honours degree in science or I can do the honours degree in business, am would probably been in a team leader role you know the business one would probably be more appealing in regards individual development personal development towards or working towards management level and also like you know if I moved on to the business degree you know options for a master's and other types of things but in regards time keeping stuff, I'm fairly good at all that stuff in regards work I suppose I have to be with the role an I'm in and balancing workload so I'm always balancing workloads but the need to balance workload and stuff probably help me with the course as well because I was able to go, this is due now, this is due now, and prioritise what needs to be done first. On an individual basis and positively impacted it probably helped me a small bit in regards prioritising time keeping when you are talking about work Workloads and schedules and stuff

R – Ok. And how were your skills developed or improved been involved in online education?

K - I suppose just keeping with the course or in online education Siobhan?

R - Just in online education

K - Well I suppose if reign back to some of the subjects and stuff it makes and some of the meetings I mean you're talking about capital appraisal and project I can relate back to some of that so um how is it improved overall in online learning um

R - Have you been able to apply any of the skills that you learned elsewhere in your job?

K- Is it skills from the specific topics or skills from online learning itself?

R – The skills we'll say from the course? Have you been able to apply those skills elsewhere in terms of your job

K – Yeah, so I suppose to people management course and the financial course some of the IT stuff as well around mark all that stuff is all starts to make sense, there is little things along the way my day to day activities, capital appraisal Projects, some of the IT staff as well as making a bit more sense to me I can relate back to it and again having done the dissertation as well that it is kind of cleared up one or two things in regard key member thoughts and everything else, yeah there has been a few small things used along the way Siobhain as I completed.

R- So would you agree that what you have learned from your course you are able to apply that knowledge?

K- I would. And it's coming back to me even getting back its coming back to me talking about the economics you can understand stuff now going through budget reading stuff on the news I find myself looking at the Business Edition on the news on RTE and everything else what's the talk is about I'm able to relate back to that whether through the economics type thing some of the accountancy type stuff I'm able to relate back to that I have an understanding of it, yes it's kinda more alike day today stuff and some elements then in work as well.

R - And do you think that that the online learning ticked all the learning boxes for you?

K – Am as in literally me, me understanding between learning the course and everything I would say yes, the biggest benefit of the whole lot was having access to the online course 24 hours and the ability to go back over in preparation for exams or understanding the topic, so for me to be able to learn in the way I learn it hit everything for me yeah. It worked out better than actually classroom being in a classroom do you know what I mean because somethings in a classroom you can drift left or right, I felt

that the lecturers were sticking to schedule that they had to hit that night, ok if we veered off left or right with a bit of chat we still got back on track and completed what we need to do, it hit everything for me to be able to learn and understand it.

R - And did you learn anything about yourself from being involved in an online class?

K – AM, well first of all I was questioning myself why am I doing going back doing this that was probably one of the things that came up, am, the other thing about myself, am, I suppose, I realised that it will take up a lot of time and it can be difficult at times as well, am. The more I do on presentations and stuff online they had to submit that they came across you know fairly well ok I wasn't as nervous as what I thought I would have been that was something I learnt about myself, apart from that then Siobhan I can't think of anything offhand like.

R - So do you have anything else you'd like to add or share about your learning experience involves in online education?

K - I suppose I just to have shared with you some phone calls over the summer and it is well organised lectures are you can see that the lectures are into what they are doing, and they believe in it. I remember sitting down with Annie I'm going through one of the classes and she had spoken about that the numbers were starting to dwindle down and then you went down to the online and that nearly doubles or trebles in numbers and that there was a bit of a struggle between engineering and business department in regards going down the online route and that is was something that was being promoted in one half of the college you know eventually then the different subjects they took it up and they saw the benefit of it so I think, no, it's well organised you get the advantage of everything that you need, actually better access, you can see the lecture once a week in the college it works well you know the lecturers are friendly they are very educated in their own field you can see that when you're talking topics, experiences etc. I think the notes are well laid out, no issues with the notes I thought the notes for a very good and the subject as well no overall I feel very positive I don't have anything negative to say about online learning in general, it is hard to get in and do it but you have to do it at the end of the day, you don't get nothing for nothing, but it is better for me.

R – Ok did you feel there was a wide range of courses available to you with online?

K – Yeah, so I was surprised about the amount of online courses that were available. Am, I had asked to go straight into the degree course but obviously you know, I was told

by Annie you know you need to do this course before you apply for the degree course but um yeah I think there is enough on offer for what I was looking for so I have done some of the science stuff as well, having done the economics and business for my leaving cert and done well and I said sure look I'll give this a go, eh, it was something that I always wanted to do so you know there is enough information there in general there Siobhain

R – Ok well that is all, thanks very much for taking the time to take the interview

K – No bother no bother, I hope I didn't blow the head off you too much there did I?

R – No it was great, I'll just pause the recording now.

The END

APPENDIX F: Quantitative Data Analysis

Model 1

Motivation on a Personal Level * Gender Identification Crosstabulation

			Gender Identification		
			Woman	Man	Total
Motivation on a personal level	Improve my self-belief and confidence	Count	11	20	31
		% within Motivation on a personal level	35.5%	64.5%	100.0%
	Develop a better understanding of myself	Count	1	2	3
		% within Motivation on a personal level	33.3%	66.7%	100.0%
	Increase my self-esteem	Count	1	0	1
		% within Motivation on a personal level	100.0%	0.0%	100.0%
	Prove to myself that I can be successful	Count	22	43	65
		% within Motivation on a personal level	33.8%	66.2%	100.0%
		Count	23	55	78

	Chance to broaden my horizons	% within Motivation on a personal level	29.5%	70.5%	100.0%
Total		Count	58	120	178
		% within Motivation on a personal level	32.6%	67.4%	100.0%

Motivation on a Personal Level * Q42Age Collapsed Crosstabulation

			Q42Age collapsed				
			23-29	30-39	40-49	50+	Total
Motivation on a personal level	Improve my self-belief and confidence	Count	0	12	14	2	28
		% within Motivation on a personal level	0.0%	42.9%	50.0%	7.1%	100.0%
	Develop a better understanding of myself	Count	1	1	1	0	3
		% within Motivation on a personal level	33.3%	33.3%	33.3%	0.0%	100.0%
	Increase my self-esteem	Count	0	0	0	1	1
		% within Motivation on a personal level	0.0%	0.0%	0.0%	100.0%	100.0%
		Count	7	19	23	9	58

	Prove to myself that I can be successful	% within Motivation on a personal level	12.1%	32.8%	39.7%	15.5%	100.0%
	Chance to broaden my horizons	Count	6	33	32	8	79
		% within Motivation on a personal level	7.6%	41.8%	40.5%	10.1%	100.0%
Total		Count	14	65	70	20	169
		% within Motivation on a personal level	8.3%	38.5%	41.4%	11.8%	100.0%

Motivation on a Personal Level * Employment Status Crosstabulation

			Employment Status				Total
			Working full time	Working part time	Not employed: looking for work	Not employed: not looking for work	
Motivation on a personal level	Improve my self-belief and confidence	Count	25	1	1	1	28
		% within Motivation on a personal level	89.3%	3.6%	3.6%	3.6%	100.0%
	Develop a better understanding of myself	Count	3	0	0	0	3
		% within Motivation on a personal level	100.0%	0.0%	0.0%	0.0%	100.0%
	Increase my self-esteem	Count	1	0	0	0	1
		% within Motivation on a personal level	100.0%	0.0%	0.0%	0.0%	100.0%
	Prove to myself that I can be successful	Count	57	1	1	0	59
		% within Motivation on a personal level	96.6%	1.7%	1.7%	0.0%	100.0%
	Chance to broaden my horizons	Count	77	0	2	0	79
		% within Motivation on a personal level	97.5%	0.0%	2.5%	0.0%	100.0%

Total	Count	163	2	4	1	170
	% within Motivation on a personal level	95.9%	1.2%	2.4%	0.6%	100.0%

Motivation on a Personal Level * Q45EdLevel collapsed Crosstabulation

			Q45EdLevel collapsed					Total
			Leaving Cert	Higher Cert	Ordinary Batchelor Degree	Honours Batchelor Degree	Post-graduate Degree	
Motivation on a personal level	Improve my self-belief and confidence	Count	7	7	7	5	7	33
		% within Motivation on a personal level	21.2%	21.2%	21.2%	15.2%	21.2%	100.0%
	Develop a better understanding of myself	Count	0	0	0	2	1	3
		% within Motivation on a personal level	0.0%	0.0%	0.0%	66.7%	33.3%	100.0%
	Increase my self-esteem	Count	1	0	0	0	0	1
		% within Motivation on a personal level	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
	Prove to myself that I can be successful	Count	9	23	13	9	3	57
		% within Motivation on a personal level	15.8%	40.4%	22.8%	15.8%	5.3%	100.0%
	Chance to broaden my horizons	Count	10	20	12	19	13	74
		% within Motivation on a personal level	13.5%	27.0%	16.2%	25.7%	17.6%	100.0%

Total	Count	27	50	32	35	24	168
	% within Motivation on a personal level	16.1%	29.8%	19.0%	20.8%	14.3%	100.0%

Motivation on a Professional Level * Gender Identification Crosstabulation

			Gender Identification		
			Woman	Man	Total
Motivation on a professional level	Enable me to get a job	Count	8	6	14
		% within Motivation on a professional level	57.1%	42.9%	100.0%
	Meet the education requirements for career	Count	10	17	27
		% within Motivation on a professional level	37.0%	63.0%	100.0%
	Will increase earning power	Count	5	8	13
		% within Motivation on a professional level	38.5%	61.5%	100.0%
	Qualification will open new opportunities	Count	36	89	125
		% within Motivation on a professional level	28.8%	71.2%	100.0%
Total		Count	59	120	179
		% within Motivation on a professional level	33.0%	67.0%	100.0%

Motivation on a Professional Level * Q42Age collapsed Crosstabulation

			Q42Age collapsed				
			23-29	30-39	40-49	50+	Total
Motivation on a professional level	Enable me to get a job	Count	2	7	4	2	15
		% within Motivation on a professional level	13.3%	46.7%	26.7%	13.3%	100.0%
	Meet the education requirements for career	Count	2	7	9	6	24
		% within Motivation on a professional level	8.3%	29.2%	37.5%	25.0%	100.0%
	Will increase earning power	Count	2	7	3	0	12
		% within Motivation on a professional level	16.7%	58.3%	25.0%	0.0%	100.0%
	Qualification will open new opportunities	Count	8	44	55	12	119
		% within Motivation on a professional level	6.7%	37.0%	46.2%	10.1%	100.0%
Total		Count	14	65	71	20	170
		% within Motivation on a professional level	8.2%	38.2%	41.8%	11.8%	100.0%

Motivation on a Professional Level * Employment Status Crosstabulation

Motivation on a Professional Level * Q45EdLevel collapsed Crosstabulation

			Q45EdLevel collapsed					Total
			Leaving Cert	Higher Cert	Ordinary Batchelor Degree	Honours Batchelor Degree	Post-graduate Degree	
Motivation on a professional level	Enable me to get a job	Count	2	5	1	4	2	14
		% within Motivation on a professional level	14.3%	35.7%	7.1%	28.6%	14.3%	100.0%
	Meet the education requirements for career	Count	9	7	4	2	2	24
		% within Motivation on a professional level	37.5%	29.2%	16.7%	8.3%	8.3%	100.0%
	Will increase earning power	Count	2	3	4	1	2	12
		% within Motivation on a professional level	16.7%	25.0%	33.3%	8.3%	16.7%	100.0%
	Qualification will open new opportunities	Count	14	35	23	29	18	119
		% within Motivation on a professional level	11.8%	29.4%	19.3%	24.4%	15.1%	100.0%
Total		Count	27	50	32	36	24	169

	% within Motivation on a professional level	16.0%	29.6%	18.9%	21.3%	14.2%	100.0%

Model 11

Reliability Statistics

Cronbach's Alpha	N of Items
.909	11

Item Statistics

	Mean	Std. Deviation	N
Level of comfort with various computer tasks: email	1.05	.315	197
Level of comfort with various computer tasks: keyboard	1.31	.672	197
Level of comfort with various computer tasks: internet	1.11	.438	197
Level of comfort with various computer tasks: send docs	1.20	.603	197
Level of comfort with various computer tasks: receive docs	1.14	.470	197
Level of comfort with various computer tasks: download documents	1.15	.467	197

Level of comfort with various computer tasks: download multimedia	1.22	.533	197
Level of comfort with various computer tasks: listening to audio	1.13	.408	197
Level of comfort with various computer tasks: listening to video	1.12	.380	197
Level of comfort with various computer tasks: social media live chats online forums	1.51	.855	197
Level of comfort with various computer tasks: online learning platforms e.g Moodle	1.19	.518	197

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Level of comfort with various computer tasks: email	12.08	16.591	.529	.908
Level of comfort with various computer tasks: keyboard	11.81	15.306	.436	.916
Level of comfort with various computer tasks: internet	12.02	15.311	.744	.897
Level of comfort with various computer tasks: send docs	11.93	13.934	.834	.890
Level of comfort with various computer tasks: receive docs	11.99	14.949	.792	.894
Level of comfort with various computer tasks: download documents	11.98	14.928	.805	.894
Level of comfort with various computer tasks: download multimedia	11.91	14.583	.782	.894
Level of comfort with various computer tasks: listening to audio	11.99	15.893	.613	.903
Level of comfort with various computer tasks: listening to video	12.01	15.990	.630	.903

Level of comfort with various computer tasks: social media live chats online forums	11.62	13.217	.660	.909
Level of comfort with various computer tasks: online learning platforms e.g Moodle	11.93	14.888	.723	.897

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
13.13	18.050	4.249	11

Descriptive Statistics

School Department		N	Minimum	Maximum	Mean	Std. Deviation
-99	Q15, comfort with computer-related tasks scale	9	1.00	2.91	1.3333	.63798
	Valid N (listwise)	9				
Business	Q15, comfort with computer-related tasks scale	24	1.00	3.00	1.2273	.50438
	Valid N (listwise)	24				
Science	Q15, comfort with computer-related tasks scale	64	1.00	2.91	1.2330	.46492
	Valid N (listwise)	64				
Engineering	Q15, comfort with computer-related tasks scale	100	1.00	2.45	1.1473	.24611
	Valid N (listwise)	100				

Descriptive Statistics

Gender Identification		N	Minimum	Maximum	Mean	Std. Deviation
-99	Q15, comfort with computer-related tasks scale	16	1.00	3.00	1.1818	.51746
	Valid N (listwise)	16				
Woman	Q15, comfort with computer-related tasks scale	59	1.00	2.82	1.1402	.35863
	Valid N (listwise)	59				
Man	Q15, comfort with computer-related tasks scale	119	1.00	2.91	1.2261	.38348
	Valid N (listwise)	119				
7	Q15, comfort with computer-related tasks scale	3	1.00	1.00	1.0000	.00000
	Valid N (listwise)	3				

Descriptive Statistics

Q42Age collapsed		N	Minimum	Maximum	Mean	Std. Deviation
.	Q15, comfort with computer-related tasks scale	28	1.00	1.73	1.1201	.24375
	Valid N (listwise)	28				
23-29	Q15, comfort with computer-related tasks scale	14	1.00	1.27	1.0260	.07504
	Valid N (listwise)	14				
30-39	Q15, comfort with computer-related tasks scale	65	1.00	3.00	1.1762	.41126
	Valid N (listwise)	65				
40-49	Q15, comfort with computer-related tasks scale	70	1.00	2.91	1.2273	.39935
	Valid N (listwise)	70				
50+	Q15, comfort with computer-related tasks scale	20	1.00	2.73	1.3500	.49202
	Valid N (listwise)	20				

RESULTS						
	n	mean	sd	z-score	p-value	
male	119	1.2261	0.3835			
female	59	1.1402	0.3586			
diff		0.0859	0.0584	1.470	0.142	not significant
business	24	1.2273	0.5044			
science	64	1.2330	0.4649			
diff		0.0057	0.1182	0.048	0.962	not significant
science	64	1.233	0.46492			
engineering	100	1.1473	0.24611			
diff		0.0857	0.0631	1.358	0.174	not significant
business	24	1.2273	0.50438			
engineering	100	1.1473	0.24611			
diff		0.0800	0.1059	0.756	0.450	not significant
30-39	65	1.1762	0.41126			
40-49	70	1.2273	0.39935			
diff		0.0511	0.0699	0.731	0.464	not significant
40-49	65	1.1762	0.41126			
50+	20	1.35	0.49202			
diff		0.1738	0.1213	1.433	0.152	not significant
40-49	70	1.2273	0.39935			
50+	20	1.35	0.49202			
diff		0.1227	0.1199	1.023	0.306	not significant

A Z-score >1.96 is considered significant, as p-score would be less than 0.05. All Z-scores above are below 1.96 and p values are greater than 0.05, thus there are no statistical significant results for the comparisons above.

Note: The degree of comfortability of the 23-29 age group was shown to have a statistical significance, when compared to other age groupings - this age group rated themselves as being more comfortable in completing computer–related tasks when compared to the other age-groups. T-score used here instead of z, as sample size is much less than 30 (i.e. there were 14 in the 23-29 category, so t-test applied). (z score used where sample size greater than 30.) All p values below are less than 0.05, thus the results indicate statistical significant results for the 23-29 age-category.

	n	mean	sd	**t-score**	**p-value (t)**	
23-29	14	1.026	0.07504			
30-39	65	1.1762	0.41126			
diff		0.1502	0.0548	**2.740**	**0.0076 (t)**	Sig
23-29	14	1.026	0.07504			
40-49	70	1.2273	0.39935			
diff		0.2013	0.0518	**3.888**	**0.0002 (t)**	Sig
23-29	14	1.026	0.07504			
50+	20	1.35	0.49202			
diff		0.3240	0.1118	**2.897**	**0.0089 (t)**	Sig