Mine the gap: an exploratory case study of online postgraduate education in an Irish tertiary institution.

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Thesis submitted to Dublin City University in fulfilment of the requirements for award of the degree of Doctor of Education.

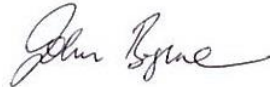Institute of Education
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Declaration

I hereby certify that this material, which I now submit for assessment on the programme of study leading to the award of Doctor of Education is entirely my own work, and 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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Abstract

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Mine the gap: an exploratory case study of online postgraduate education in an Irish tertiary institution

As online and blended learning continues to grow in higher education, there is a need for renewed focus on the self-regulating needs of online students, which are greater than for traditional students. This exploratory case study researched the experience of students and tutors on a number of online postgraduate courses at a higher educational institution in Ireland. Based on a pragmatic philosophical stance, mixed methods were used to collect data from the 2019-2020 cohort of students and their tutors. This incorporated an online student survey using a questionnaire based on the Postgraduate Taught Experience Survey (an instrument used extensively in the UK), in parallel with semi-structured interviews with the tutors. Follow up interviews were held with a number of students and a final review with tutors completed the data collection phase. Key findings were that students expressed satisfaction with their course experience in most areas and tutors felt that they met the students' needs in how they approached their work. Students were aware of the requirement on them to self-manage their learning but no specific training or support was provided on self-regulated learning (SRL), either by the tutors or as embedded features in the course material. Students were less positive about the extent to which they experienced consistency in teaching, assignment marking and feedback. Students reported variability in how different tutors weighed the importance of aspects such as referencing and presentation over substantive content, as well as inconsistency in marking and feedback when more than one tutor graded an assignment. It was found that the amount of teaching time was low and the level of reliance on part-time tutors was high when measured against appropriate comparators. Tutors experienced a good degree of freedom in how they tutored but felt a sense of disconnectedness from the institution. Recommendations made include provision of SRL training for students and tutors; the revision of course material to include SRL-supportive features such as prompts and the creation of a closer bond between tutors and full-time faculty. While arising in a local context, these recommendations are supported by the literature and are relevant, *mutatis mutandis*, to any educational institution experiencing similar issues.

1 Introduction and Background

1.1 Introduction

Online learning plays an increasingly important role in higher education, generating a requirement for renewed focus on the needs of online students. As online delivery becomes more prevalent, either in a pure form or blended with traditional methods, the incidence of students learning in an online setting will increase and become a familiar feature in higher education. To advance understanding of the needs of online learners, this thesis took the form of a case study exploring the experiences of online postgraduate students and their tutors in a higher educational institution in Ireland ('the HEI'). This introductory chapter sets out the main concepts involved in the research, including online learning, Self-Regulated Learning (SRL) and the postgraduate nature of students. It describes the research context, establishes the significance of the research and identifies overarching research questions. Finally, it outlines the structure of the remaining chapters of the thesis.

1.2 Online Learning

Online learning is a form of learning in which instruction takes place using web-based technology, in an asynchronous or partially synchronous setting, with no face-to-face lectures (Broadbent, 2017, p. 25). It has experienced significant growth in recent years, taking over as the primary mode of distance education from traditional methods such as distributing student binders containing subject matter notes, manuals and workbooks (Seaman, Allen and Seaman, 2018). The wide availability of cost-effective and scalable information and communication technologies has made online courses accessible to a diverse audience, regardless of their physical location. Once students have a reliable and performant internet connection, they can productively engage with courses delivered entirely online. The subject matter of these courses can feature rich content such as images and video, taking advantage of internet connectivity and the processing power of modern IT equipment, the costs of which have been falling in real terms for several decades. Alongside traditional educational courses, this combination of technological capability and reducing cost has also supported the development and proliferation of Massive Open Online Courses (MOOCs) on platforms such as edX, Coursera and FutureLearn, in which virtually unlimited numbers of students can be enrolled on courses of varying duration and complexity.

The Covid-19 pandemic forced most teaching and learning to go online at all levels of education, including higher education (Dhawan, 2020). As a result, a majority of students and teachers, whose previous experience was exclusively classroom based, became familiar with online

delivery, even if this was in a less controlled way than desirable. Although much educational endeavour has now returned to an on-campus setting, there is evidence that aspects of online delivery were found to be beneficial for students, especially the flexibility that it afforded, for example in viewing recorded lectures (QQI, 2020; Yang, 2021). In the immediate future, this may result in some course elements being delivered online while others, perhaps the majority, will continue to be delivered in a traditional way. This combined method of delivery existed well before Covid-19 and has been labelled blended learning or 'the integration of classroom face-to-face learning experiences with online learning experiences'. This is the definition used by Garrison and Kanuka (2004, p. 96) and favoured in Irish statutory quality assurance (QQI, 2018).

According to the educational publisher Pearson's Global Learners' Survey report, a number of trends that were nascent but already evident have become more pronounced in the wake of the Covid-19 pandemic (Pearson, 2020, pp. 8–20). Firstly, online learning will become an integral part of the university experience in the future (2020, p. 8). Secondly, online learning has the potential to expand access to education and, thirdly, there is a growing belief that a university education was less relevant to job and career prospects than vocational training, the latter point suggesting that university courses need to be better attuned to the requirements of the workplace. These trends highlight the requirement for online programmes to meet the needs of learners and for the issue to be considered in a wider educational context.

The Pearson view on the likely proliferation of online learning has been supported by projections on the demand for higher education up to the middle of the century. Brown and Keogh (2021) describe one such scenario, in which as many as 1 billion additional places would be required to meet the global need by 2050. To illustrate the scale of the demand on traditional HEIs, they estimated that building one 30,000-student capacity university every day of every year up to 2050 would provide less than one third of the additional places required. Even if these growth projections are overly optimistic, it is clear that trying to address the demand for higher education by building traditional infrastructure would be extremely challenging, expensive and resource-intensive. Digital education, therefore, must not simply be part of the solution but will have to be at the 'heart of the mission' for HEIs if the ambition of transforming lives by access to higher education is to be realised (2021, pp. 381–382).

The economics of making higher education more widely available means that online delivery will grow strongly, so learners must be capable of taking advantage of opportunities that will increasingly be offered online. According to Reich and Ruiperez-Valiente (2019), as completion rates for online courses are low by comparison to traditional courses, online learners must be

helped to be more self-sufficient. In particular, they need to learn how to use their self-regulatory skills. Self-regulation has a key role to play in the online learning environment, to adapt to the inevitable changes in teaching, learning and assessment dynamics and, crucially, it is a skill that can be taught and learned. Equally, the online teaching role differs from that of the traditional face-to-face setting and pedagogy that worked in a traditional setting cannot be assumed to work as effectively if moved online unaltered (Ní Shé *et al.*, 2019).

1.3   Self-Regulated Learning

Self-regulated learning (SRL) is a well established concept pre-dating the use of online technologies in the educational sphere. SRL involves students initiating metacognitive, motivational, and behavioural strategies designed to improve their environment and methods for acquiring knowledge (Zimmerman, 2015). In more general terms, self-regulation has been defined as a dynamic, contextualised process that individuals use in an attempt to purposefully initiate, manage and adapt their pursuit of specific goals (Cleary and Callan, 2018, p. 338). Therefore, it encompasses planning, executing and monitoring of tasks. In the educational context, that means how learners plan their study, what practices they use in studying and how they keep track of progress, adjusting their activity as necessary. The practice of self-regulation is fundamental for students to be successful at primary, secondary and tertiary education (Panadero and Alonso-Tapia, 2014), while for online learners specifically, self-regulation has been found to be positively associated with academic achievement (Broadbent and Poon, 2015). In a review of Zimmerman's widely used cyclical model of self-regulation, Panadero and Alonso-Tapia defined self-regulation as 'the control that students have over their cognition, behaviour, emotions and motivation through the use of personal strategies to achieve the goals they have established' (2014, p. 450). This definition highlights the important components of self-regulation: first, cognition must be controlled, with the cognitive element of self-regulation often labelled metacognition; second, behaviour and emotions need to be managed and controlled according as learning tasks are tackled, behaviour being the process of getting on with the necessary learning tasks, and the emotions aspect including both positive and negative emotions; third, being aware of the need to generate and maintain motivation towards achieving goals; and, finally, the need for students to set themselves goals and then self-regulate towards their achievement (2014, pp. 450–451). While all learners are, to varying degrees, responsible for regulating their own learning, there is a particular onus on online learners to manage or self-regulate their learning, given the comparative lack of collegiate support and the absence of a proximate physical cohort of fellow learners. The relative isolation of the online learning experience, compared to more supportive traditional settings, means that self-

regulating learners must have a particularly strong motivational store to sustain them through their educational journey.

Research has shown that the ability to self-regulate is not an innate skill that learners possess (Pérez-Álvarez, Maldonado-Mahauad and Pérez-Sanagustín, 2018) and, further, even learners' knowledge of self-regulation does not automatically translate into their putting useful self-regulating strategies into effect (Foerst *et al.*, 2017). However, the literature suggests that self-regulation in online learning is a skill that learners can develop and its practice can be observed. The resultant learned student behaviour arises from internal processes, including the affective, cognitive, metacognitive, and motivational components of self-regulation. These take place during the typical cyclical phases of self-regulation: planning, execution and monitoring, and self-evaluation (Pogorskiy and Beckmann, 2023, p. 2).

As students need help to develop their SRL capabilities, it is considered good practice that this be done at an early stage of their studies. Provision of such help has been conceptualised in different ways, including the use of first year seminars. However, this has not been done in the specific context of the online environment, for which research on high-impact practices remains 'sparse' (Stephen and Rockinson-Szapkiw, 2021, p. 2). Nevertheless, the notion of early intervention to provide students with the skills they need to successfully achieve their educational targets is well established. More than a decade ago, Tinto claimed that 'regardless of the form and focus, evidence of the effectiveness of freshman seminars, when properly implemented, is widespread' (2012, p. 34). Stephen and Rockinson-Szapkiw (2021) designed a high-impact first semester seminar for students in a US university, aimed at improving their self-regulation skills. Although studying at undergraduate level, the 48 participants were mostly employed full-time and nearly two thirds had children, so they were not typical undergraduates, young and straight out of second level school. Findings showed that students who participated in a high-impact group outperformed other students in their SRL practice, which, the authors claimed, confirmed other research findings that engaging in reflective activities in a course can help to improve students' time management, study skills and learning strategies, as well as their self-monitoring and self-evaluation, all of which are associated with successful learning (2021, pp. 12–13).

Having the ability to self-regulate gives students some of the tools and techniques needed to achieve their academic goals. Research suggests that students who develop good SRL skills demonstrate the ability to plan, carry out and control their learning activities such that they 'can learn faster and outperform those with weaker SRL skills' (Kizilcec, Pérez-Sanagustín and

Maldonado, 2017, p. 18). Hartwig and Dunlosky (2012) conducted research with over 300 undergraduates at Kent State University, examining their study habits and college grade point average (GPA) results. They found that students' use of self-testing and rereading techniques were both positively associated with GPA, while how students scheduled their study time was also important, with lower performers using fewer time-scheduling techniques (2012, p. 126). Another interesting finding from their research was that 64% of students answered 'No' to the survey question "Would you say that you study the way you do because a teacher (or teachers) taught you to study that way?". If generalisable, this suggests that study skills in general, not just SRL, are not being taught to students at third level, so they may not be studying in an optimal way (2012, p. 128). In any event, the ability to self-manage cannot be taken for granted, even for experienced and highly educated professionals. Research conducted among learners in a UK MOOC context, with a target audience of computer science teachers, undergraduates and professionals, 60% of whom already had Bachelor or higher degrees, found that the participants could not regulate their learning effectively. The researchers concluded that there was a need for MOOCs to incorporate some means of fostering the development of SRL skills in participants (Onah *et al.*, 2021, p. 294). Among online forms of study, MOOCs may be particularly deficient in lacking the kind of effective support and learning pedagogy found in traditional educational settings and they may tend to adopt a one-size-fits-all approach. However, the typical MOOC represents one point on a continuum of online delivery scenarios that includes college undergraduate and higher degree courses, so this suggests a more general need for online environments to include facilities that promote active engagement, helping learners to self-regulate their learning (2021, p. 293).

A number of attempts have been made to design-in ways of nurturing online learners' self-regulatory skills. Several systematic literature reviews have been conducted to examine research concerned with measuring and supporting learners' self-regulation in online learning (Pérez-Álvarez, Maldonado-Mahauad and Pérez-Sanagustín, 2018; Araka *et al.*, 2020; Viberg, Khalil and Baars, 2020). According to Pogorskiy and Beckman (2023), who reviewed the literature, a common thread runs through the reviews, despite other differences, which is the pursuit of the principle of supporting learners' self-regulation by providing help with goal setting, dealing with feedback and self-evaluation, and with monitoring. Goal setting may not come naturally to all online learners and research in a MOOC setting suggests that courses do not generally provide much support to students to help them set and work towards achieving realistic goals (Conde Gafaro, 2022). For more formal, diploma or degree-level courses, it is all the more important that SRL supports are built in to help students in higher stakes learning. Outside of any subject-

specific support in online learning, Pogorskiy and Beckman found that the concentration is on helping learners develop general self-regulatory skills. However, it was pointed out that developing skills is not a simple process and is likely to take place over an extended period of time in a dynamic, non-linear way. This suggests that the beneficial effect of processes or interventions designed to foster self-regulation skills may not be visible in the short term, with a longer measurement period being needed (2023, p. 3).

Zheng (2016) conducted an interesting meta-analysis of research into the effects of SRL scaffolds on academic performance in computer-based learning environments between 2004 and 2015. A total of 29 articles met the author's inclusion criteria and were included in her final analysis with a total sample size of 2,648 students. Supporting other research findings that the promotion of SRL practice by students is beneficial for them, the aggregate finding from Zheng's analysis was that SRL scaffolding overall had a medium positive effect on academic performance. Given the larger sample size involved in the meta-analysis, this provides stronger supporting evidence than individual research studies with smaller sample sizes. Findings also suggested that Web-based learning environments provided an optimal setting for supporting SRL. Furthermore, whatever scaffolds are deployed should support the whole ambit of SRL, from goal-setting, planning and executing strategies through to adapting metacognition. By contrast, approaches that scaffold only one phase of SRL fall short in their effectiveness. This finding makes sense given that SRL involves a cycle of planning, setting goals, identifying and carrying out and executing tactics and reflecting on the process. Scaffolds should be complementary in mapping to this cycle. It was also interesting that over 70% of the research cases studied by Zheng employed hints or prompts as a means of scaffolding (2016, pp. 191–193).

As good practice in self-regulation has been shown to be beneficial to online learners, it is important that course design and delivery take this into account (Winters, Greene and Costich, 2008). In this context, delivery must incorporate the very important teaching element, especially as understanding and use of SRL-supportive practices may noy be common among teachers (Lawson *et al.*, 2019, p. 231). If the underlying course design is not coherent and aligned with student needs, any self-regulating supports may be futile. Jaggars and Xu devised a comprehensive framework for understanding indicators of quality in delivery of online courses (2016). Their framework proposed four main areas of quality, which were explained as follows by Fischer *et al.,* (2022) who applied them to a number of science courses: *Course organisation*: this involves the clarity and consistency of the course structure; *Learning objectives and alignment*: with the online learning environment's demand for independent study by students,

learning objectives have to be chosen and presented carefully, with assessments aligned to those learning objectives, for example, within student assignments; *Interpersonal interactions*: In online courses, where the absence of physical presence may weaken students' sense of belonging, teachers can provide help by having a strong social presence; *Technology*: using technology for its own sake should be avoided, as it can add to students' stress levels. Instead, students should be made aware of how technology will be used in their courses, its benefits for them and what will be required of them, technologically speaking, together with sources of support. One of Fischer *et al.'s* tentative findings was that higher ratings on the Course Organisation design characteristics may be related to better student performance (2022, pp. 14–15), which seems intuitive but highlights the importance of ensuring a coherent approach to all aspects of course design and delivery to maximise student performance. An important rider is that there is still potential for a gap to exist between course organisation as a design objective and how that design is implemented in practice (2022, p. 15). It can be argued that research that looks only at the design aspect will not provide full insight into how a course is operating in the classroom, be that real or virtual.

Despite the growing incidence of online learning, with its increased demands on students' ability of self-reliance, self-regulation has not received renewed focus, even with the impact of Covid-19. For example, Yang, who reviewed the online experience of over 130 business postgraduates in Ireland, recommended that students receive prior instruction on tools and platforms to prepare them for online delivery (2021, p. 17). Although recognising that students who are able to 'regulate their own learning' (2021, p. 17) responded better to online delivery, there was no recommendation that students should be helped to develop SRL skills. Also, even well-cited research studies examining the effect of Covid-19 on online learning do not include SRL as a factor (Adedoyin and Soykan, 2020; Bahasoan *et al.*, 2020; Dhawan, 2020). Quality and Qualifications Ireland (QQI - www.qqi.ie) is the state agency responsible for promoting the quality, integrity and reputation of Ireland's further and higher education system. Its combined 2021 and 2022 reports on Quality in Higher Education in Ireland's public institutions mention self-regulation just once, in a reference to a third party publication. Similarly, in the QQI institutional quality reviews carried out between 2019 and 2022 on Dublin City University; the National University of Ireland, Galway; the University of Limerick; Maynooth University; Trinity College Dublin and University College Dublin, there is not a single mention of self-regulation. This suggests that the practice of SRL is being somewhat assumed but, as discussed, SRL is not an innate skill and requires nurturing in students, especially in the online context, so this may be masking an underlying problem of deficiency in the self-regulating capability of students and

teachers. The QQI institutional reviews, however, all consider the experiences of postgraduate students in the above-named HEIs, some in considerable detail. This indicates the national importance of this cohort of students, whose role in this research is discussed next.

1.4   Postgraduate Students

Online postgraduate students returning to education are typically adults who bring a wealth of knowledge and experience to their learning environment. There is a long acknowledged need for these learner characteristics to be recognised in how course content is organised and presented and how teaching is approached (Winters, Greene and Costich, 2008). In that respect, research on the characteristics of adult learners recommended that any case studies and examples used in a course designed for adult students should be authentic and the material studied should be of immediate and not future relevance (Cercone, 2008). Part-time adult students value the flexibility inherent in online delivery to combine study with their other life demands. Also, research suggests that they do not necessarily self-identify as students, unlike their undergraduate or full time postgraduate counterparts (O'Shea, Stone and Delahunty, 2015). More than ten years ago, Angell *et al*., (2008) looked specifically at the needs of almost 200 postgraduate students in a UK university, who were found to have requirements distinct from those of undergraduates, so the need to cater specifically for postgraduates is not a new idea. The researchers determined that course providers can derive clear benefits from understanding these requirements and that the quality of education offered to postgraduates should be closely monitored to ensure its overall coherence. Furthermore, any aspects of the educational service identified as requiring improvement should be acted upon in a timely way (2008, p. 237). Angell *et al.,* went on to recommend that HEIs make a 'concerted effort' to understand the needs of postgraduates, noting that periodically measuring student attitude was the key to 'better track their own progress and improvement' (2008, p. 251), a recommendation that remains relevant today.

Adult postgraduate students should be facilitated in connecting theoretical concepts they study with the real-life experience that they, as mature adults, bring to bear on their learning. The ability to construct meaning from taught examples of concepts in action and to relate these to their individual contexts are key in enabling students to gain maximum benefit from their studies (Swaggerty and Broemmel, 2017; Trespalacios, 2017). In this regard, consideration needs to be given to the impact of learning theories appropriate to self-regulating postgraduate students, especially constructivism (Bada, 2015), where higher order thinking skills are required.

1.5 Researcher

The researcher has been a tutor on the HEI's postgraduate programmes for over fifteen years, as well as being a graduate of one of them, so this research could be categorised as insider research, wherein the researcher shares an identity and experiential base with participants (Asselin, 2003). Over the course of time as a tutor, self-reflection raised concerns as to how the experiences of those involved in the programmes could be better understood and potentially improved. Without being formulated in the context of any technical framework, these concerns included how and to what extent the student perspective was understood and reflected in course content and delivery and whether, as course providers, the HEI offered students a consistent and even experience as they moved from module to module within their course. Later, from studying on the EdD programme, this extended to considering if and how the students' status as self-regulating learners was recognised and provided for within course design and delivery.

Furthermore, being an insider researcher could potentially provide an opportunity to delve more deeply into aspects that are typically covered in a more superficial way in regular student or teacher surveys. Drilling down into specific issues could complement these survey data and provide greater insights into issues. Also, being an insider offered the prospect of gaining greater access to participants, with the potential to yield more useful results than if a third party were to carry out the research. The issue of self-regulation threw additional light on the situation of the students and their tutors, raising the questions of if, and to what extent, they were both aware of SRL and the implications it had for them. For the researcher, it also posed the question of how the issue should be explored with them, be that in advance of data collection or within the data collection process and the need to steer a line between helping to inform participants about an important issue and appearing to influence them in a particular direction.

1.6 Significance of the Research.

1.6.1 Forces at Work on HEIs

Over a decade ago, the National Strategy for Higher Education to 2030 identified changes required in Irish higher education in response to developments in the wider social and economic environment. The proposed changes aimed to (i) create a more flexible system, with a wider choice and more modes of learning to cater for the needs of an increasingly diverse student population; (ii) improve the quality of the student experience, the quality of teaching and learning and the appropriateness of learning outcomes; and (iii) integrate higher education more

effectively into the social, economic and enterprise environment, converting its activities into societal benefits, including high value jobs (European Commission, 2022).

As well as coping with significant social and economic change, official estimates pointed to demographic pressures facing the Irish HE system. Full-time enrolments amounted to 200,000 in 2022 and over 246,000 when part-time study was included – see https://hea.ie/statistics/data-for-download-and-visualisations/key-facts-figures/. The Department of Further and Higher Education (DoFHE) projected that demand would rise annually until 2030, driven by increased population, more students transitioning to third level and increasing numbers of international students (DoFHE, 2020).

At the same time as it faced increasing demands, the education system was seen as more and more critical to Ireland's future economic success and social cohesion. This focus was sharpened in recent years as other countries' economies reorientated to become more knowledge-based, positioning higher education as a key building block in national competitiveness strategies throughout the developed world (DoFHE, 2020).

Working towards achieving the Irish national 2030 objectives presents challenges to individual HEIs as they compete for resources in a sometimes very constrained budgetary environment. This is especially so as the government has decided that its funding model will see a reduction in student fee contributions, increasing the need for HEIs to find additional revenue streams (DoFHE, 2022). Whatever strategies they adopt to meet these challenges, all HEIs have similar ambitions and may find themselves competing against each other. The level of competition will arguably increase with the attainment of university status by a number of institutes of technology in recent years, for example the Technological University of Dublin (TUD) and the Munster Technological University (MTU), among others.

Competition extends to the international arena also, reflecting rising globalisation in other areas. Historically, the emergence of the so-called Asian tiger economies, cheaper international air travel, the advent of the internet and the emergence of mobile devices as well as a burgeoning market for professional services were all part of the backdrop to growing international competition. Within HE itself, constrained public funding, more executive-style management in universities and the increasing importance of science and technology were key factors driving change (Coates, 2021). Fuelled by the influence of performance metrics such as international ranking systems, research funding began to gravitate to projects likely to produce tangible scientific and bibliometric benefits. These, in turn could be used to entice more international

students, bringing with them the funding to attract the right academics, whose work would enhance the institution's reputation, thereby creating a virtuous cycle. It was understandable, therefore, in the context of what Ball termed the 'neoliberal education reform' (2016, p. 1047) happening in Ireland and elsewhere, that institutional leadership would look to maximise publications, citations, student numbers and the amount of research activity. Reflecting this growing influence, the incidence of ranking methodologies has increased, with systems such as [Academic Ranking of World Universities (ARWU)](#), [Times Higher Education World University Rankings](#), [QS World University Rankings](#) and [Webometrics Ranking of World Universities](#) measuring universities on aspects such as numbers of international students and international faculty, web presence, academic reputation, innovation and level of citation. Periodic publication of ranking lists often features in mainstream media and generates debate on public funding and the quality of the higher education system, especially when local universities slip down the rankings. The competition continues to intensify and the task of retaining a ranking place, let alone improving it, becomes more challenging as emerging economies start to appear in the lists once dominated by western institutions (Baty, 2022). While the growth of a business culture and more hierarchical management structures in HEIs encouraged competition for funding, students and academic staff, this was more evident in the research area than in teaching. As argued, teaching is an institutional activity that is difficult to reflect in international metrics, whereas research outputs are easier to quantify and more attractive to commercial funders (Musselin, 2018).

1.6.2 HEIs' Response to Forces at Work

Competitive forces act on HEIs to adapt courses and instruction to meet the demands of an increasingly diverse student body. This includes traditional students, those from a disadvantaged background and working adults looking to upskill or reskill, while the competitive landscape includes a growing number of private providers, much of whose portfolio is offered online. Noting the decreasing funding available from governments, the OECD maintains that it is more important than ever for HEIs to ensure that their teaching and learning is of the highest quality, producing outcomes required not just by students but by society in general (OECD, 2023, p. 20).

Globally, the educational response to the demand to equip students with future skills has been mixed, according to a systematic literature review by González-Pérez and Ramírez-Montoya (2022). As reported, this showed that while research includes case studies and teaching and learning strategies to develop 21st century skills, there is a lack of studies aimed at strengthening infrastructure and the use of ICT, as well as of frameworks aimed at teachers and

managers and encouragement of educational innovation in schools. This suggests that a more coordinated response would be beneficial, covering the teaching and management aspects, as well as the necessary focus on learning.

In 2020, an independent evaluation was conducted of Ireland's Education Strategy 2016 – 2020 entitled Irish Educated Globally Connected. The stated purpose of that strategy was to support the development of global citizens through Ireland's high-quality international education system, attracting worldwide talent to Irish HEIs, developing the skills and experience Irish students needed to compete internationally, engage in world-class research and participate in international collaborations (Indecon, 2020). This evaluation recommended key strategies that resonate in the national context also. These included the adoption of an online or blended model in which Irish based HEIs could co-deliver courses with counterparts elsewhere. As argued, this strategy would help sustainability by reducing student travel while also giving Irish students access to international faculty expertise. It would also require investment in technologies such as online education tools, learning management systems and adaptive learning technology, coupled with continuing professional development for faculty in the online arena, all of which would contribute to implementing new ways of global learning.

The DCU Futures initiative - https://www.dcu.ie/ovpaa/dcu-futures - is an example of how one Irish HEI has interpreted and responded to these changing circumstances by introducing a new range of programmes and innovative pedagogies. While focused on undergraduate education, DCU Futures aims to enable students meet the challenges of the 21st century and to thrive in a volatile, uncertain and complex world. The initiative is structured around three pillars – what students learn, how they learn, and embedding key transversal skills.

The first pillar aims to ensure that, by design, programme content features themes such as sustainability, innovation, disruptive technologies, digital business and business and data analytics. Developed in consultation with enterprise partners and with reference to national strategies including Future Jobs Ireland 2019 and the National Skills Strategy 2025, new programmes are delivered using the second pillar's pedagogical approach that include challenge-based learning, online content and online learning, virtual laboratories, immersive learning experiences and engagement with industry, including co-creation of content. With people more likely than before to change jobs or even careers, the third pillar links the first two by ensuring that the transversal skills vital to student and graduate success are deeply embedded across programmes. These transversal skills include literacy in sustainability, digital and data, critical thinking, communication, collaboration and project management, among others. The

significance of initiatives such as DCU Futures, with its budget of €20 million, is that they recognise the extent of the challenge of empowering students to be future-capable in a world increasingly unscripted and characterised by volatility and ambiguity.

1.6.3 Teacher and Student View

The Irish National Digital Experience Survey (INDEx) was conducted by the National Forum for the Enhancement of Teaching and Learning in Higher Education (NFETL) in late 2019 to explore the digital experiences of students and staff in Irish higher education. Data was collected from 25,484 students and 4,445 staff at 32 HEIs. While the importance of digital skills for higher education students may be generally acknowledged, less than half of all students participating in the INDEx survey believed that their course prepared them well for the demands of the digital workplace. The survey took place pre-pandemic, since when the importance of students' digital competence has increased (NFETL, 2022, p. 12).

Prior to the Covid-19 pandemic, teaching staff wanted their institutions to provide more time dedicated to developing digital teaching and learning, and half of them felt that they were not getting the required time or support to develop the digital part of their role (NFETL, 2022, p. 11). Before March 2020, online teaching was considered relevant only to those who taught or learned online, which excluded over 70% of staff. The situation has changed dramatically since then, with everyone in education now experiencing online learning to some degree. This makes it is essential to harness the experiences, attitudes and expectations of online learners to inform future decision-making (NFETL, 2022, p. 12).

1.6.4 Conclusion

The environmental forces and competitive pressures acting on HEIs, together with the example of DCU's response to them, strongly suggest that online learning will play a key role in many areas of education in the years ahead – from national and international course presentation to virtual laboratories and collaborative technologies facilitating international research and innovation projects. This points to the need to fully understand and meet the requirements of the online student: what skills they need to regulate their online study effectively; what has to be done to put the necessary infrastructure and supports in place and what must be planned to ensure that these are continuously updated in line with changing requirements.

Writing in a Quality Assurance context, but without support from a convincing evidence base, the OECD (2023, p. 21) claims that research is lacking on the risks and benefits of online learning and that no conclusive evidence is available - so far - on the quality of online and hybrid

(combination of online and on-campus) instruction. However, it also suggests that Covid-19 has cemented the place of online learning in higher education, so HEIs need to be advised, assessed and helped to enhance the quality of their digital provision (2023, p. 21).

In conceptualising and conducting the research described in this thesis, a key driver was the opportunity offered by one HEI in Ireland to explore in detail both its well-established online programmes and its untapped source of workplace expertise in the form of its professional postgraduate students. The overarching ambition in pursuing this research was not just to inform the local programmes reviewed but to contribute to greater knowledge and understanding amongst the research community and thereby help HEIs to respond effectively to the unremitting rise of online learning.

1.7   Summary

Online delivery is set for strong growth in the wake of Covid-19 and will be essential to meet the increasing demand for higher education. Online learners need to have a high level of competence in self-regulation to compensate for the lack of a supportive physical learning environment. While SRL is accepted as a key skill that students must practice, the focus on online learning has not included a similar concentration on how SRL should be recognised and catered for in online course design and delivery. This is so despite the recognised need for students to be taught how to practice SRL effectively, first making them aware of SRL and its implications, then capitalising on this awareness by teaching them appropriate strategies to put their SRL knowledge into practice. Also, at the time of writing, the national regulatory regime for higher education is not adequately filling this gap as there are no finalised specific quality assurance guidelines for exclusively online courses in Ireland, although QQI has committed to complement its blended learning guidelines by producing guidelines specific to online delivery.

To this researcher, the looming explosive growth in online learning, with its high dependence on SRL, coupled with the absence of specific quality guidelines for online programmes, suggested that it would be instructive to explore the experiences of a group that were already studying and teaching online. This would have the potential to guide course providers on how to deliver fully online courses so that learners and other stakeholders could derive maximum benefit from them. The thesis details how the shared experiences of tutors and students were explored in the context of a series of online programmes. Importantly, these programmes were delivered online by design and were not moved online as an emergency response to Covid-19, so the research dealt with a stable, pre-existing online environment and not a sudden and unplanned migration to online.

Based on the considerations set out in this chapter, which highlighted the importance of online learning and its inherent but arguably under-emphasised demand for high levels of student self-regulation, together with the opportunity of studying these issues in a real-life setting as an insider researcher, the overall aim of this research was to explore the experiences of a cohort of postgraduate students in an online setting where self-regulated learning was an important consideration. Following on from this introduction, the remaining chapters of the thesis are organised as follows:

Chapter 2 contains a review of relevant literature.

Chapter 3 sets out and justifies the research methodology used for this research project.

Chapter 4 presents the findings from the research.

Chapter 5 sets out the conclusions of the research, makes recommendations for the attention of interested parties and suggests areas for follow-on research. It also sets out the contribution made by the research and identifies its limitations.

2 Literature Review

2.1 Introduction

A literature review sets out the context for and provides the base on which a research project is built (Saunders and Lewis, 2018, p. 34). It is 'a written document that presents a logically argued case founded on a comprehensive understanding of the current state of knowledge about a topic of study' (Machi and McEvoy, 2012, p. 4).

Given the vast quantity of academic literature available, a search strategy must be devised to identify the most relevant sources. For this literature review, a number of search strategies from previous studies were examined and advice was taken from one of DCU's librarians. Based on this information, the approach shown in Figure 2-1 below was adopted:
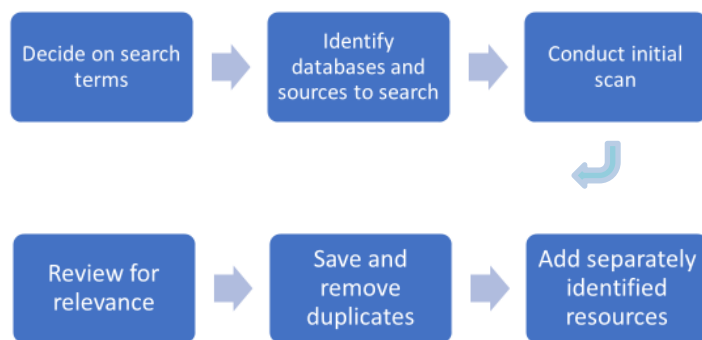
Figure 2-1 Search Strategy

The concepts suggested by an initial consideration of the research context were the following:

- Online learning
- Self-regulated learning
- Learning theories
- Constructivism
- Instructional design
- Student voice
- Higher education

Using the DCU library website, a series of searches was conducted. An initial scan indicated that some terms were not used universally and variations were possible, so an attempt was needed to cover the various possible formulations. For example, the terms online learning or e-learning or distance learning can all be used in different settings to identify the same basic concept. Similarly, higher education, Masters or postgraduate can be used interchangeably, as can self-

regulated learning and self-directed learning. In the actual searches conducted, Boolean operators were used to capture all potential variations in key concepts.

Initially, the following search terms were used:

"student voice" AND (e-learning OR elearning OR "distance learning" OR "online learning" OR "online education") AND (postgraduate OR masters OR "higher education").

For full text, peer reviewed articles published in the last five years, the total number of entries returned was 362.

Further targeted journal searching for "student voice" indicated that the term "student perception" was a potential synonym, so an additional search was done, yielding a further 89 articles.

Through the DCU library, further searches were conducted using the EBSCO database. EBSCO is a well-established database with extensive keyword and indexation usage. As part of this, the following sources were searched: Education Research Complete; British Education Index; ERIC and Academic Search Complete.

These searches were conducted using the following combinations of search terms and yielded the number of results shown in Table 2-1 below.

Table 2-1 Search Terms Used in Literature Review

Search Terms	Number of results
(Self-regulated learning OR self-directed learning) AND learning theories AND instructional design	15
(Self-regulated learning OR self-directed learning) AND learning theories	313
(Online learning OR e-learning OR distance learning) AND student voice	635
(Online learning OR e-learning OR distance learning) AND student voice AND higher education	160
(Self-regulated learning OR self-directed learning) AND (online learning OR e-learning OR distance learning) AND student engagement AND higher education	91
(Self-regulated learning OR self-directed learning) AND (constructivism OR constructivist)	158

All articles and other sources were scanned for relevance by reading the titles and abstracts. Those deemed irrelevant were discarded and remaining sources were loaded into Zotero and checked for duplicates. Finally, some additions were made from previously identified resources. From this, a total of 268 resources were saved. Other resources were added organically according as the initial sources were read fully and analysed. These included sources related to faculty voice, which emerged as a topic of interest according as searches on student voice were conducted (Healey, Flint and Harrington, 2014; Cook-Sather, 2018c). These sources, and others, referenced the importance of faculty voice and its right to be heard alongside that of the student. In addition, the link between assessment, learning and teaching implies the desirability of including faculty voice in any review of the learning experience (Biggs, 2003).

2.2 Structure of Literature Review

The literature review is structured thematically as this is considered to be a more logical and effective method of analysis than alternatives such as chronological or methodological presentation (Aguinis, Ramani and Alabduljader, 2020).

The themes that emerged from the overarching research questions, framed in a postgraduate setting wherever possible, were as follows. Firstly, Online Learning / Distance Learning is considered, followed by Self-Regulated Learning and then a combination of these lenses in the form of Online Self-Regulated Learning. Learning Theories, including Constructivism, are then examined as they represent a bridge between Online Self-Regulated Learning and the implications for Instructional Design, which is the next theme to be discussed. Finally, Student Voice and Faculty Voice are considered as the vehicles by which the data that inform this research were obtained. These are not self-contained themes and overlaps occur between them naturally as they are analysed.

2.3 Online Learning / Distance Learning

While the traditional concept of distance education has evolved in line with technological developments to incorporate online learning (Goralski and Falk, 2017), it has now arguably become subsumed by the notion of online learning, which is learning that replaces face-to-face lectures with instruction mediated by web-based technologies. This is due to the extent of online usage in various aspects of life, especially after the Covid-19 restrictions in 2020, including, for example, continuing professional development, which was the focus of research involving 19 postgraduate students in the medical field in Ireland (Forde and Gallagher, 2020). It is worth remembering that in non-Western settings, exemplified in a study conducted among 125 postgraduates in Ghana, the concept of distance education still reflects traditional teaching

methods deployed in a setting geographically remote from the educational institution (Andoh, Appiah and Agyei, 2020). However, given the proliferation of online delivery, the terms distance learning and online learning are taken to mean the same thing for current purposes.

In this research, the centrality of the online setting is important. Does teaching online differ from face-to-face teaching, such that different approaches need to be taken to facilitate students learning online? What does it mean for students to learn in an online environment? How important is it for that learning experience to be consistent and, if online teaching is different, what training is needed to enable teachers to meet the needs of online learners? Each of these issues is considered in the following paragraphs.

2.3.1   Online Teaching Practices

The online teacher is 'someone who interacts directly with learners to support their learning process when they are separated from the tutor in time and place for some or all these direct interactions' (Denis *et al.*, 2004, p. 3). To what extent do good face-to-face teaching practices apply to the online environment or does the online world have its own set of good practices to reflect this separation in time and place? For online students, a meta-analysis of the literature suggested that a high teaching and social online presence, coupled with fast response to queries, are highly valued attributes for an online teacher (Ní Shé *et al.*, 2019, p. 30). In 2008, Kuh published a set of high impact teaching practices (HIPs), based on data collected from a series of National Survey of Student Engagement in the USA and extensive research on teaching practices (Kuh, 2008). These practices were:

First-Year Seminars and Experiences; Common Intellectual Experiences; Learning Communities; Writing-Intensive Courses; Collaborative Assignments and Projects; Undergraduate Research; Diversity/Global Learning; Service learning / Community-based learning; Internships; Capstone Courses and Projects.

An eleventh high-impact practice, ePortfolios, was added in 2016 (Watson *et al.*, 2016). Subsequent research on the original HIPs was largely based on traditional educational settings (Sweat *et al.*, 2013; Tukibayeva and Gonyea, 2014), but their effect in the online world was analysed by Linder and Hayes, prompted by what the authors perceived to be significant trends occurring in higher education (2018). Among these were an increasing demand for high-quality third level degrees; a more diverse demographic among students; an increase in online/distance education and a higher level of expectation from online learners (2018, pp. 2–3).

Some of these HIPs have more resonance for undergraduate students but there are relevant implications for adult online learners:

The Common Intellectual Experiences HIP incorporates critical thinking, formulated as the ability to ask and answer "big questions", which may not be a natural skill for adult learners;

The use of collaborative assessments and projects is one that has particular difficulties for online learners, whose motivation is often rooted in the flexibility they offer to pursue studies without a rigid timetable and classes, while instructors are often reticent about such projects also.

Although not a HIP in itself, the importance of library services in providing a foundation for achieving the HIPs was stressed. Many adult learners may have no experience of using online library services, without which they will struggle to do their required academic research work (2018, pp. 6–8). Again, there are implications here for the design of online programmes for adult learners, who may need support in using library services, especially regarding the range of online and in-person services, as they prepare to undertake their individual courses.

Churches (2011, pp. 34–35) set out the following assumptions and core elements that underpin effective digital learning, focusing not on technology but on what the technology enables teachers to do. The assumptions were:

- A relevant and contextual curriculum.

- Assessment that is transparent but challenging (as a result of being situated in a relevant and contextual curriculum, it is, *ipso facto*, relevant and contextual).

- A concentration on higher order thinking skills (critical analysis and evaluation - creativity is a key aspect of digital learning).

- Giving students ownership of their learning and assessment and valuing the voice of the student.

These assumptions resonate with aspects of SRL in the postgraduate context, including the use of higher order thinking skills; student self-regulation - corresponding with ownership of learning, and relevance of curriculum context, which is necessary to support the motivational, emotional and behavioural commitments expected of the self-regulating learner. Such commitments will not survive in the absence of a relevant curriculum. Also, the focus on technology as an enabler is important, given the danger of technology being used for its own sake rather than as a medium that creates the right online student experience.

Churches' four core elements of Digital Learning were: (i) Effective pedagogy - the flipped classroom, to which would be added being challenging, risk taking and inquiring, with enabling and empowering technology; (ii) Feedback and reflection - these are core elements of all learning, including digital learning, and may be enhanced by the use of e-portfolios and blogs where the student, peers and tutor can discuss, analyse and reflect on the learning process; (iii) Collaboration – working with peers reflects the reality of the modern world, in which technology has removed borders of time and distance. Collaboration is a key aspect of life and students need to experience it, including its challenges; (iv) Creativity – a key focus within higher order thinking. Digital media offer an extensive toolkit that students can use to be creative, to experiment with novel approaches and to be supported to take some risks in the process.

These aspects need to be treated holistically and not as separate elements. However, despite Churches' claim to concentrate on what technology enables teachers to do, rather than on the technology itself, the references to risk-taking suggest at least some focus on testing the boundaries of technology's contribution to teaching, rather than starting with the teaching needs and looking for supportive technological solutions.

2.3.2   Online Learning Experience

Creating the right environment for online students, so that they are supported and go on to complete their studies, is an important objective for higher educational institutions. Dropping out is costly both for the student and the institution, according to a study of data on dropout rates in Galician universities in Spain (Arce, Crespo and Míguez-Álvarez, 2015). However, in their scoping review on research on dropout in online higher education from 2014 – 2018, Xavier and Meneses (2020) claimed that the topic is not well researched, with a lack of agreement on core definitions and factors affecting student retention. They found that most research supported the contention that the online setting, especially fully online, has higher dropout rates than face-to-face; that most interventions focused on instructional/course design and student support; and that the most effective interventions take place in the postgraduate setting (2020, pp. 31–33).

Higher dropout rates suggest weaknesses in the online learning experience requiring some form of intervention. Establishing the views of online learners on their experiences helps to inform any such intervention and this was the focus of research by O'Shea, Stone and Delahunty (2015), conducted using a mixed methods approach involving over 50 open education undergraduate and postgraduate students in Australia. Compared with full-time students, online learners may be of an older age profile, have gaps in their formal education and have more competing life demands (2015, p. 42). One finding of this research was that the social engagement aspect was

not as valued by online students, given their demands outside education. This may mean that being a student does not dominate their sense of identity, which can affect their capability and willingness to take part in group work (2015, p. 54). Also, such students typically have a rich set of life and professional experiences that should be harnessed in terms of course design. Overall, what emerged from this research as being significant to the engagement of online learners were:

- Courses specifically designed for the online environment

- Parity of respect with face-to-face learners being reflected in communications and treatment

- Responsiveness of tutors online, especially in moderated forums

- Help with the online technological infrastructure (2015, p. 55)

O'Shea, Stone and Delahunty concluded that online teachers must be aware that engagement for online learners presents its own set of challenges that may demand new ways of establishing links between students, course material, the institution and its teaching staff (2015, p. 55).

In an earlier small scale study of 10 Canadian online postgraduates, Stodel, Thompson and McDonald (2006) found that online learners missed the energy and spontaneity of face-to-face sessions and sometimes found the flow of discussion stilted and drawn out in the online setting. Getting to know other students was also found to be more challenging when students only met each other online (2006, pp. 7–9).

A similar small scale but in-depth study with 9 online students in Oregon, USA, found that, compared with traditional students, online learners may also encounter different challenges in working online. These include issues with technology and limited access to on-campus facilities and supports, including teaching and technical staff (Buck, 2016, p. 138). As many are adults, they face the additional issue of balancing studying with the demands of family and career.

With higher dropout rates than in face-to-face courses, research has looked at identifying predictors of success in order to improve retention and graduation rates, including a study involving 15 experts on student retention in online courses (Gaytan, 2013). In a similar vein, Holder (2007) surveyed 259 undergraduate and postgraduate mixed discipline online students in a mid-western US college on what made them persist with their studies. Their findings suggested some overlap in the issues faced by online and traditional students but these can be exacerbated for online students, who rely on certain factors to pursue their studies to successful completion.

While there was no consensus on what these factors are, or that one or more of them are key, they generally include independent learning style, motivation, time management skills, study skills, environmental factors and IT literacy. There are echoes here of the SRL environment in factors of motivation, study and time management skills and learning approaches.

Similar to attempts to bridge the learning journey for under-represented communities in higher education, such as the Māori people in New Zealand (Curtis *et al.*, 2017), or simply to cater for a heterogenous postgraduate student population in a leading UK university (Murphy and Tilley, 2019), it has been suggested that, by way of alleviation, the provision of a pre-induction socialisation MOOC could help to manage the expectations of online or flexible learners and enable them to better prepare for the challenges they face in studying online. Analysis of forum postings by 55 students in such a MOOC suggested that it was effective in setting students' expectations so that they could manage their work-life-study demands more effectively and lower the dropout rate on online courses (Brunton *et al.*, 2018, p. 356). According to research carried out with 19 undergraduates and 9 postgraduates in Texas, USA, this type of approach may be useful in attuning to the technology support needs of non-traditional students, whose requirements differ from those of traditional students (Cherrstrom *et al.*, 2019). Even for students who are heavy users of social media, there is no presumption of a technical capability that goes beyond everyday use of applications. Research among 221 teacher education students in Ireland found that their capabilities were much lower in skills such as creating a table of contents in Word or using bult-in functions in Excel, as well as in the attributes of cyber ethics (McGarr and McDonagh, 2021, p. 120). According to Rodgers (2015, p. 3), reflecting on a conversation with a colleague teaching on a doctoral level online programme in the USA, the digital skills of mature, mid-career students cannot be taken for granted even at this level of education and should be socialised to the group requirements in advance of formal teaching.

All of this suggests that online learners, especially those who have been away from formal learning for some time, need support in self-management and technology skills, as well as guidance in terms of what to expect when they start their course, even if they have existing technological skills. Such skills may not be generalisable and the specific skills they require must be identified and taught before formal classes begin.

As for the self-management aspect, it was suggested more than three decades ago that self-regulated learning was one of three foundational elements of effective online learning (Kinzie, 1990). Dabbagh and Kitsantas argued that online learners must exercise 'a high degree of self-regulatory competence to accomplish their learning goals, whereas in traditional face-to-face

classroom settings, the instructor exercises significant control … and is able to monitor student attention and progress closely' (2004, p. 40)**.** Their research agreed with Kinzie's contention that effective use of SRL was necessary in online learning due to the high level of student autonomy caused by the lack of a physical teaching presence. Support for this argument also came from Cazan (2014, p. 90), in a study of 80 online undergraduates in Romania, who argued that the online learning environment demands self-regulation, and from Artino and Stephens (2009, p. 146), in research involving almost 200 undergraduate and postgraduate online students in a north-eastern US university, who claimed that researchers have come to appreciate that successful online learners must be motivated self-regulators. Similarly, Broadbent and Poon (2015) had enough relevant source material to conduct a systematic literature review on the link between SRL strategies and academic achievement in the online environment. From all of this, it can be taken that SRL is an important component of the online student's skill set and so it is considered both in its own right and in the online context as part of this literature review.

Further issues to consider are that online students may have a more positive pre-course attitude than traditional students in some disciplines, as suggested by research involving 451 undergraduates in Arizona, USA (Perera *et al.*, 2017) and that there may be differences in how students perceive the quality of their online courses, depending on their age and employment status. Higher expectations of quality may come from older students and from those in employment according to research among more than 3,100 online students at 31 colleges and universities across the USA (Barczyk *et al.*, 2017, p. 182).

Given that prior expectations influence the outcome of any service experience, establishing expectations is important when planning how to meet them. Buzwell, Farrugia and Williams (2016) examined the views of 525 on-campus and online psychology students in Australia on the important characteristics of face-to-face and online learning. The top three aspects of online study were flexibility-related: flexibility to study from home; flexibility to balance other commitments (work/family life) with study; and flexibility to study at any time of the day. Students overall saw the most desirable characteristic of a lecturer as having a formal teaching qualification in addition to one in their own discipline. The least important characteristics were that the lecturer be an active researcher and work professionally in the area in which they teach. The researchers suggest that HEIs should consider the use of teaching-only staff, with appropriate pedagogic and discipline expertise (2016, p. 47). In relation to that suggestion, however, it must be acknowledged that students proposing that active research is not an

important characteristic in a teacher may simply reflect their lack of appreciation of the teaching benefits that accrue from research work.

2.3.3   Consistency in Online Learning Experience

The need for consistency in the student experience across teaching, learning and assessment is clear and all the more so in online education, where assignments are often marked by tutors other than those who have set them. In this situation, according to a study of tutors' views on assessment guides and marking guidelines in the Open University, feedback is critical in supporting students, in motivating them and providing signposts for their future development (Hills *et al.*, 2018). Students' preference for consistency in feedback, to help them develop as independent learners, is well established through research with undergraduate and postgraduate students in diverse settings such as small scale research with 20 participants in Edinburgh, Scotland and a study involving over 500 students at a major Australian university (Brown, 2007; Ferguson, 2011). Although over thirty years have passed since Sadler's (1989) seminal paper on formative assessment, which highlighted the critical role of the interaction between learner and teacher on assessment in helping students' academic improvement, the issue of the quality of marking guidelines for online tutors to help them give students effective feedback remains under-researched (Hills *et al.*, 2018, p. 242). This may contribute to the lack of consistency in situations where multiple tutors mark and provide feedback on assignments.

2.3.4   Faculty Training

Given the widespread adoption of online technologies in higher education, faculty must be trained in the pedagogy of teaching in this environment (Stavredes, 2011). The roles that faculty play in the online teaching environment encompass facilitator, course designer, content manager, subject matter expert and mentor, with common tasks falling into two categories – teaching and course designing, according to the views of 8 award-winning online faculty members from across the USA (Martin *et al.*, 2019, pp. 190–194).

Although online learners accept much of the responsibility for their own learning, this must have a complementary input from a tutor or teacher. This integrated teaching and learning effort in the online environment was analysed by Ní Shé *et al.,* (2019) who adopted the definition of online teaching and learning proposed by Goodyear *et al*., (2001):

> teaching and learning that takes place over a computer network of some kind
> ... and in which interaction between people is an important form of support
> for the learning process. ... It includes both synchronous and asynchronous
> forms of interaction as well as interaction through text, video, audio, and in
> shared virtual worlds (2001, p. 68).

How should the teaching approach be adapted to suit online learners? Ní Shé *et al.,* (2019), building on prior research in this area, including theoretical analysis, a critical literature review and a survey of 166 full-time and part-time teachers at a Spanish university (Alvarez, Guasch and Espasa, 2009; Baran, Correia and Thompson, 2011; Muñoz Carril, González Sanmamed and Hernández Sellés, 2013), accepted that traditional teaching and online teaching are different, and sought to identify the roles that online teachers should perform. They identified roles encompassing managerial, pedagogical, social, technical, assessing, facilitating and providing expert content (2019, p. 62). In any given situation, all these roles may not be required of an online tutor but managing and facilitating students as they pursue their learning, as well as providing a social and teaching presence, represent core requirements for an online tutor.

The teaching approach should be tailored to the type of student involved. According to survey-based research with over 2,000 current and prospective open learning students in the Netherlands, at both undergraduate and postgraduate levels, student preferences may vary on several dimensions. These include the type of course they are pursuing, whether they are undergraduate or postgraduate students, how flexible the time commitment is, how much group work is involved, the practical versus theoretical orientation of the course and the extent to which it demands critical thinking skills (Koper, 2015). So, course providers need to communicate clearly to prospective students the nature of the course and work expected of them, or courses may need to be designed in a very flexible way to cater for the diverse requirements of a heterogenous student population.

According to research conducted with over 370 online medical science teachers, students must be made aware of the time commitment needed to become conversant with the online technology that facilitates their courses, but faculty development is also needed to ensure that online learning is integrated through the use of appropriate pedagogical methods (Kowalczyk, 2014). There needs to be a recognition that teachers' or tutors' online presence is required to ensure that course content is properly disseminated and that prompt feedback is provided to students in online forums and elsewhere. Furthermore, according to one educator's reflection on practice, detailed guidance to students regarding their assignments and general course processes must also be given in a timely fashion (Sharoff, 2019, p. 2). Teacher training is necessary to ensure that the right type of feedback is provided to students and that the course is structurally attuned to facilitate the practice of self-regulated learning by students. If this does not happen, research by Andrade (2014) involving online students and teachers from over 20

nations studying academic English, suggests there is a danger that student performance of activities will be superficial, sequenced inappropriately or not carried out at all.

What is suggested by all of the foregoing is that there is a considerable overlap in teachers' roles and responsibilities, regardless of whether the courses are delivered face-to-face or online. However, online students are not an homogenous group and course providers must be cognisant of this in student communications and course design. The lack of a physical centre of involvement and the socialisation that comes with it places an onus on the teaching or tutoring staff, who have the most direct interactions with students. This onus is to ensure that the technological environment is conducive to learning and that students feel part of a shared educational experience by having their expectations set in advance, their technological needs supported and their course-related interactions managed in a timely and structured fashion.

2.3.5 Discussion

In the context of this research, where the tutors are typically part-time staff with full-time roles outside the HEI, the suggestion in the literature that high teaching and social online presence, coupled with fast response times to queries, are important attributes for an online teacher is of particular relevance. Also, the case for a social online presence needs to be overlaid with the findings of O'Shea, Stone and Delahunty (2015) that the social engagement aspect was not as valued by online students, given their other time demands. If the student identity is not predominant in students such as adult learners in established careers, the importance of the social engagement aspect may need to be reconsidered in context.

The high value placed on flexibility is also noteworthy and has implications for the extent to which collaborative projects or exercises can be built into courses as such tasks inevitably limit the flexibility enjoyed by an individual student. While collaboration is a key aspect of the modern world and, accordingly, it is widely suggested that students need to experience it, there is an argument that this takes a one-size-fits-all approach to a student population that may go from a first year undergraduate with very little experience of collaborative work, to a mid-career professional with deep experience and expertise in the area. The design of course activities, especially assessment tasks, needs to be tailored to the characteristics of the student population, especially where they are mostly adult postgraduates.

Despite the well-established importance of the learner-teacher interaction on assessment to students' academic achievement (Sadler, 1989), the suggestion that the quality of marking guidelines for online tutors to support effective feedback remains an under-researched area

(Hills *et al.*, 2018, p. 242) suggested an area worth exploring, especially as consistency of experience is something valued by learners (Cochran *et al.*, 2016). Furthermore, consistency is needed within an overall experience that incorporates instruction methods, design of learning activities and devising of assessments to meet learning goals (Blumberg, 2009, p. 93). Accordingly, there was an opportunity to explore this wider consistency in the context of the overall aim of this research and, thereby, to add to knowledge in the area. This opportunity gave rise to a potential research question, as discussed further in the final section of this chapter.

2.4   Self-Regulated Learning

Self-Regulated Learning (SRL) is a concept that incorporates the cognitive, motivational and emotional aspects of learning. It is over thirty years since the concept was first discussed (Zimmerman, 1986) and several models of SRL have been developed in the intervening years (Van Laer and Elen, 2017, p. 1397). A key event in research on self-regulation was a 1986 symposium at the American Educational Research Association AGM, from which a special issue of *Contemporary Educational Psychology* was published. This produced an early definition of SRL as the degree to which students are metacognitively, motivationally, and behaviourally active participants in their own learning process, which placed an emphasis on the purposeful or proactive use of resources and processes by students aimed at improving their academic achievement (Zimmerman, 1986).

In a review of empirical studies into SRL interventions in post-secondary education, Rowe and Rafferty (2013) identified the components of SRL. SRL's *cognitive* component encompasses the learning strategies students use to complete a set task and includes activities supporting students' active interfacing with academic content. SRL's *metacognitive* component comprises students' self-awareness of how they monitor their cognitive processes and understanding and metacognitive strategies relate to the skills students use to regulate their cognitive processes. Almost all SRL models presume that *motivation* - the will to learn - is a key element in achieving academic success (2013, p. 591).

Despite the evident self-reliance aspect, SRL does not mean that learners should be left entirely to their own devices in regulating their learning activities and environment. Tutors and fellow students have an important role to play, according to a study conducted with 37 academics in the University of Durham on how written feedback contributes to students' SRL (Yildirim, 2020), even if the claim that all learning is co-regulated (Allal, 2019) is considered excessive. In

contemporary research, SRL is held to be an important student attribute throughout higher education, be that in a MOOC setting (Zhu, Mustapha and Gong, 2020), a higher educational online learning environment in Malaysia (Anthonysamy, Koo and Hew, 2020), or in a more traditional learning environment, such as a study of over 4,000 undergraduates in Argentina (Zalazar-Jaime and Medrano, 2020). Students face many decisions about their learning in a self-regulated context, up to determining if they have achieved an understanding of course material (Azevedo, 2005) and the quality of learning may be reduced if students are not able to self-regulate critical aspects of their learning (Jacobson, 2008).

The discussion below looks at terminology (as different terms have been applied to the general concept of SRL), at the elements of SRL and at the relationship between SRL and academic achievement before the related topic of digital literacy is discussed.

2.4.1 Self-Regulated Learning, Self-Directed Learning and Related Terms

First, to avoid confusion, the question of terminology needs to be addressed. Saks and Leijen (2014) claimed that the concepts of self-regulated and self-directed learning had not been clearly defined and distinguished from each other in academic literature (2014, p. 191). Looking at definitions in prior academic studies, they proposed that self-regulated learning is a narrower concept than self-directed learning (2014, p. 192). The self-directed learner can decide what to learn and how to learn it, while the self-regulated learner has a narrower scope for decision making. A self-directed learner diagnoses learning needs, sets learning goals, decides how to achieve the target learning and monitors progress on the way to achieving these goals. For the self-regulated learner, task performance and learning activities are the focus, while identifying learning needs and prescribing learning tasks are in the domain of a teacher or tutor. Accordingly, self-regulated learning can take place within a context of self-directed learning, but not the other way around. This position is supported by the characterisation of an effective self-directed learner as being a self-regulated learner by definition, but a self-regulated learner may not be a self-directed learner as elements such as learning goals are set externally, by someone in a teaching capacity (Gandomkar and Sandars, 2018, p. 862).

Most online learners, especially at postgraduate level, are adults whose needs must be understood before they can be met. Andragogy, the study of adult learning, a concept introduced by Malcolm Knowles in 1973, is learner-focused and has several underlying assumptions to be considered in any formal learning environment, according to Cercone, who reviewed aspects of adult learning, especially in the online environment (2008). Knowles argued that as a person matures, their self-concept moves from that of a dependent personality toward

one of a self-directing human being. Further, an adult accumulates a growing reservoir of experience, which is a rich resource for learning. In addition, the readiness of an adult to learn is closely related to the developmental tasks of their social role and there is a change in time perspective as people mature— from future to immediate application of knowledge. Thus, an adult is more problem centred than subject centred in learning (Knowles, 1980). In later publications, Knowles referred to two additional assumptions. Firstly, the most potent motivations are internal rather than external and, secondly, adults need to know why they need to learn something (Merriam, Caffarella and Baumgartner, 2006, p. 84). While Knowles was distinguishing between andragogy and pedagogy in highlighting the nature of adult learners, it should be noted that, according to current theory and practice advice, aspects of both are increasingly seen as relevant to all learners (Adebisi and Oyeleke, 2018; Santini-Hernández, 2022).

A variant or extension of the self-regulated learning / self-directed learning domain comes in the form of heutagogy (Agonács and Matos, 2019, p. 224). The theory of self-determined learning or heutagogy was devised by Hase and Kenyon (2013), who characterised it as an extension to andragogy, in which the student manages and controls not merely how to learn but what to learn. Whereas from the andragogical perspective a student displays self-direction or self-regulation by deciding how they should learn what their teacher has prescribed for them, in heutagogy the student also decides what to learn in the first place as part of a flexible curriculum.

In the context of this research, the term self-regulated learner seems most appropriate to online postgraduate students, as aspects of learning, such as setting learning needs and tasks, are typically managed by the course designers and teachers rather than the students themselves.

2.4.2   Elements of SRL

To understand what SRL means in practice, it is necessary to separate its various elements so that the implications of each can be identified and translated into actionable inputs to course content and delivery. Early attitudes to learning treated the learner as passive, focusing instead on the strategies a teacher might adopt to adjust instruction according to the mental ability, sociocultural background or educational achievements of the student (Zimmerman and Schunk, 2001). The student responded to this adjustment on the part of the teacher but did not instigate any strategies of their own. By contrast, the SRL approach characterised the student as an active participant in learning, initiating motivational strategies, helping to construct their own learning

environment and having a major input into establishing the nature and extent of instructional support they would require (2001, p. 5).

To give a practical definition of SRL, Zimmerman and Schunk raised five core areas of inquiry in the various theories of Self-Regulated Learning (2001, p. 7):

1. What *motivates* students to self-regulate their learning?

2. What process or procedure causes students to become self-reactive or *self-aware?*

3. What *key processes* or responses do self-regulated students use to achieve their academic goals?

4. What part does the *social and physical environment* play in students' self-regulated learning?

5. How does a student *acquire the capacity* to self-regulate their learning?

These elements appeared to varying degrees in the spectrum of SRL theories as shown in Table 2-2 below (Zimmerman and Schunk, 2001, p. 8); these SRL theories are outlined briefly in Appendix A.

Table 2-2 Comparison of Theoretical Views on Common Issues in SRL

Theories	Common Issues in SRL				
	Motivation	Self-awareness	Key Processes	Social and Physical Environment	Acquiring Capacity
Operant	Stimuli	Not recognised save for self-reactivity	Self-monitoring Self-instruction Self-evaluation	Modelling and reinforcement	Shaping behaviour
Phenomenological	Self-actualisation	Role of self-concept	Self-worth and self-identity	Subjective perceptions	Development of the self-system
Information Processing	Not emphasised	Cognitive self-monitoring	Storage and transformation of information	Not emphasised	Increases in capacity of system
Social Cognitive	Self-efficacy, outcome expectation and goal setting	Self-observation and recording	Self-observation; self-judgment and self-reaction	Modelling and enactive mastery experience	Social learning at successive levels
Volitional	Precondition based on expectancy / values	Action-controlled	Control cognition, motivation and emotions	Strategies to control distracting environment	Acquired ability to use control strategies
Vygotskian	Not emphasised	Consciousness of learning in the ZPD	Ego-centric and inner speech	Adult dialogue mediating children's speech	Children acquire inner use of speech in serial development
Constructivist	Resolution of cognitive conflict or curiosity drive	Metacognitive monitoring	Constructing schemas, strategies and personal theories	Social conflict or discovery of learning	Development constrains children's acquisition of self-regulatory processes

In order to self-regulate, students must be aware of their own thought processes and be motivated to take an active role in their own learning. This capability can be acquired through the practice of self-regulating strategies, actively engaging with their learning environment through metacognitive, behavioural and emotional elements. Examples of self-regulated learning strategies include activity planning, critical thinking, peer learning, self-monitoring, self-efficacy, effort regulation, and goal orientation. These strategies can be grouped into four domains – cognitive engagement, metacognitive knowledge, resource management and motivational beliefs, the components of which are shown in Table 2-3 below (Anthonysamy, Koo and Hew, 2020, p. 2397).

Table 2-3 SRL Strategy Domains

Cognitive Engagement	Rehearsal
	Elaboration
	Organisation
	Critical Thinking
Metacognitive Knowledge	Planning
	Monitoring
	Regulating
Resource Knowledge	Time and Study Environment
	Peer Learning
	Help-seeking
	Effort Regulation
Motivational Beliefs	Technological Self-efficacy
	Task Value Beliefs
	Goal Orientation

Cognitive engagement concerns the degree of mental effort needed and the student's willingness to acquire, hold and recall knowledge as well as to engage with a given learning task.

Metacognitive knowledge indicates deep thinking in which a student is consciously aware of their own cognitive processes. Students who are conscious of their metacognitive knowledge will benefit more from their knowledge and skills in their learning activities. As an example, checking and editing an assignment or other academic deliverable before final submission indicates use of metacognitive thinking.

Resource knowledge involves making optimal use of available resources. This extends to time management, peer learning, help-seeking, and environmental configuring to support the learning process.

Motivational beliefs comprise the stimuli that prompt students to embark upon a course of learning or to pursue a specific goal. For example, becoming proficient in relevant software or pursuing tasks independently indicate motivation to succeed academically. The adoption of SRL strategies help students manage their overall learning environment while increasing their self-sufficiency (Anthonysamy, Koo and Hew, 2020, pp. 2397–2398).

Panadero (2017) reviewed the literature on the SRL domain and chose six models as representative of the state-of-the-art in SRL research. This was based on the application of criteria such as the total number of citations or the annual number of citations in the case of more recent (after 2010) models. Panadero also consulted with established scholars in the field

before making his final selection (2017, p. 2). The chosen models were those proposed by Zimmerman (2000), Boekaerts (2011), Winne (2011), Pintrich (2000), Efklides (2011), and Hadwin, Jarvela and Miller (2011).

All the models share certain key characteristics, including the notion of cyclical phases, albeit Efklides does not address this phase notion explicitly (2017, p. 18). In the first phase, the preparatory or forethought phase, students analyse the task in the form of goal setting and planning, and they exhibit self-motivational beliefs such as goal-orientation, task interest and self-efficacy. Next is a performance or execution phase in which the learning task is addressed. Here, the student exercises self-control or management by dealing with the specifics of the task itself, time management, help-seeking, if required, and accepting the consequences of their own performance. In this phase also the student engages in self-observation, with meta-cognitive monitoring and taking note of steps taken, outcomes and feelings. Finally, there is a self-reflection phase, in which the student considers how they performed the task and what lessons can be learned from the experience. The cycle is completed by the knowledge and experience gained from this task being fed forward into the forethought phase of the next task.

The models agree on the importance of a level of automaticity, though they place differing emphases on where this is manifested. In the context of metacognition, it may be in the lessening of cognitive load through the automation of processes, but it can also refer to the automation of motivational or emotional processes that happen without the student's awareness. In either case, there is agreement that elements of SRL can become implicit and that students can start acting in a certain way without conscious effort, though it requires practice to come about. It also needs to be remembered that automaticity in this context can also have negative outcomes, especially some emotional responses (2017, p. 21).

Sun, Xie and Anderman (2018, pp. 42–43), in a study involving 151 mathematics students in a large midwestern US university, examined the extent to which students' self-regulated learning can be impacted by three key constructs: prior domain knowledge, which enables learners to situate new information on a stronger foundation of existing knowledge and create new models accordingly; self-efficacy, whereby students with greater self-belief are more likely to employ cognitive strategies and reflection during learning; and the use of learning strategies, in which students use cognitive, metacognitive and resource management strategies to control and regulate their learning. They used the four-stage model (task definition, goal setting and planning, enactment, and adaption) proposed by Winne and Hadwin (2008) on the basis that this model specifically addressed SRL in technology-enhanced contexts that aligned well with

flipped classes, which was a key element in their study. Their conclusion was that students' SRL can be significantly impacted by these three constructs - prior domain knowledge, self-efficacy, and the use of learning strategies (Sun, Xie and Anderman, 2018, p. 50) - which has practical implications for how SRL can be implemented.

While student behaviour is intrinsic to SRL, there is a very important teaching aspect and Lawson *et al.*, (2019, p. 231) suggest that SRL practice may not be common among teachers, by discussing the beliefs set out in Table 2-4 below.

Table 2-4 Teacher Beliefs on SRL

Belief	Summary
1. Knowledge of learning and SRL is acquired implicitly and so does not need to be explicit.	Teachers might not understand the importance of making implicit knowledge about learning explicit.
2. Knowledge about learning and SRL is different in character to knowledge about curriculum content.	Teachers might believe that SRL is not a content domain about which they need to construct complex, deep, multi-layered knowledge for generative learning.
3. Knowledge about learning and SRL is not used all that often.	Teachers might not understand the moment-by-moment interaction of task knowledge and SRL knowledge that takes place during learning.
4. Knowledge for teaching about learning and SRL needs to be practical, not theoretical.	Teachers might believe that the most important knowledge about SRL is derived from teaching practice, so that they undervalue the "principled" component of principled practical knowledge.
5. As a teacher I am not sure I can teach about SRL.	Teachers might believe that they do not know enough about SRL or might not feel confident that they knew how to promote SRL in their teaching.
6. Leave the self-regulation to the students.	Some teachers might see that responsibility for SRL lies primarily with the student, not with the teacher.
7. Self-regulation is only for some students.	Some teachers might think that the promotion of SRL is of relevance only to specific groups within the student population and may limit the power of learning in other students.
8. Self-regulated learning is likely to be unteachable.	Some researchers and teachers might think that self-regulated learning is unteachable, so that it cannot, or need not, be the subject of explicit teaching.

From the foregoing, it is clear that self-regulation involves learners in activities that take place in a cycle of preparation, execution, reflection and feeding forward to the next learning task. Within this activity cycle, learners display motivation, metacognition of what they are engaged in, management of resources and cognitive engagement with tasks and material to achieve their goals. Teaching strategies and course design ought to reflect the self-regulating nature of learning, with teachers being aware of what self-regulation means for students and reflecting this in how they design and deliver classes and exercises. There is little controversy among researchers on what constitutes SRL. All are agreed on the cyclical nature of the SRL process, which is primarily seen as a three-stage process, with some proposing a further subdivision into four stages. The roles of motivation and metacognition are emphasised to a greater or lesser extent, depending on the original theoretical lens through which SRL is being examined, but this reflects differences at a more basic philosophical level rather than in respect of SRL itself.

2.4.3 SRL and Academic Achievement

SRL strategies are important not just to improve the learning process and environment, but for their role in helping students directly with academic achievement (Broadbent and Poon, 2015; Ergen and Kanadli, 2017). This is particularly so at postgraduate level, where higher order thinking is required and the mere acquiring and retelling of knowledge is insufficient. In a study involving over 50 undergraduate and postgraduate students in a large university in the south-eastern USA, SRL was found to be a key distinguishing feature between successful and unsuccessful students whenever the learning tasks focused on understanding and not merely on knowledge acquisition (Greene *et al.*, 2018, p. 151). However, there are nuances in the research on the relationship between SRL and academic achievement. Ergen and Kanadli's (2017) examination of research conducted in Turkey between 2004 and 2014 found that SRL strategies had a large effect size on academic achievement regardless of course type, study design or school level. Broadbent and Poon (2015), whose meta-analysis also reviewed studies published between 2004 and 2014, concentrated on the higher education setting. They also reported a positive relationship between use of certain SRL strategies (time management, critical thinking, metacognition and effort regulation) and academic outcomes. Peer learning's effect was unclear as studies operationalised the concept in different ways, making meaningful comparison difficult.

While these meta-analyses were generally clear on the methodology adopted in terms of the inclusion and exclusion criteria applied in the search for sources, there were some cases where this was not so, e.g. Zhu, Mustapha and Gong (2020). This review of research on MOOCs and SRL

contained some interesting observations from various studies but the basis for choosing these studies, or excluding others, was not fully explained. A common feature of many research projects (Johnson, Gueutal and Falbe, 2009; Cho and Shen, 2013) was a form of ranking of the effect of various SRL strategies on academic achievement though the opportunity exists to take this a step further by looking at how students use these strategies in combination and how related factors such as their motivation to succeed or their overall self-efficacy play a part in their success.

Learning analytics, which is considered separately in the online SRL context later, uses observable measures of online activity in the form of data traces to quantify aspects of student behaviour. It has been developing as a topic of research, whether broadly based on international experience in Europe (Ebner, 2019) or in more focused settings, such as an in-depth examination of over 2,000 psychology students' course experiences in a single US college (Tellakat, Boyd and Pennebaker, 2019). In a study of 145 engineering undergraduates in Australia, it was claimed that, when used in combination with self-reported data on self-regulation, learning analytics can provide a better understanding of why some students achieve better academic results than others (Pardo, Han and Ellis, 2017). Accepting the potential for self-reporting to misrepresent the true situation - although there is evidence to the contrary, suggesting that, in general, self-reporting gives a relatively accurate measure of SRL (Rovers *et al.*, 2019, p. 16) – the addition of empirical data may help to better inform the process of gaining a more comprehensive understanding of successful higher education student learning, according to research conducted in the USA and Australia (Zhang, 2016; Pardo, Han and Ellis, 2017). On the other hand, it has been claimed that the use of analytics has the potential to disempower students by profiling them as data objects and giving them no control over what use is made of their data when it is analysed and what categorisation is applied as a result. This creates an asymmetrical power relationship between student and institution and ascribes a passive role to students as the subjects of information flows rather than active creators and participants in the process (Broughan and Prinsloo, 2020, p. 621). The Open University was among the first to consider the ethical implications of using student data. It established as guiding principles that students 'should not be wholly defined by their visible data or our interpretation of that data' but that they 'should be engaged as active agents in the implementation of learning analytics (e.g. informed consent, personalised learning paths, interventions)' (Open University, 2014, p. 6). Accordingly, while the use of learning analytics has the potential to provide insight on successful self-regulating strategies used by students, it is controversial as far as unregulated use of data is concerned and it needs to be deployed with caution and informed student consent.

2.4.4   SRL and Digital Literacy

The use of SRL strategies also helps students develop the important supporting competence of digital literacy. Sharp, in a collaborative blog-related study in the USA, saw digital literacy as the fourth and final stage of the wider concept of digital inclusion, after digital access, digital taste and digital readiness, defining it as 'the systematic application of and proficiency with digital tools' (2017, p. 191). Digital literacy is a wider concept than attaining the ability to use a defined set of technology or software, extending to a mindset capable of adapting to an ever-changing technological landscape and being able to access, interpret and communicate information digitally. This competence is required not only in education but in the labour market generally (Anthonysamy, Koo and Hew, 2020, p. 2399). Digital literacy, both of students and staff, is one of several factors that, in combination, determine whether the use of digital technologies acts to support or impede learner success (Brunton and Brown, 2019, p. 3). Self-regulated learning strategies such as planning, monitoring, effort regulation and critical thinking are vital in fostering digital literacy (Greene *et al.*, 2018). Evidence that digital literacy has now become an organic factor affecting all aspects of life, including education, is provided by the OECD's decision not to devote a chapter to technological matters in their Trends Shaping Education reports, on the basis that technology 'has now become so intertwined with modern life that it appears in all chapters' (OECD, 2019, p. 9).

Self-regulation can help students take on more responsibility for their own learning, laying the foundation for, and contributing to, their further success. This wider role of SRL has been recognised in helping students manage not just their immediate learning but in providing them with a set of learning skills to deploy throughout their life. Formal education should not only give students basic IT skills to meet modern technological demands, but also help to develop students' learning abilities for what has become a lifelong learning process. For example, research conducted among vocational students in Taiwan suggested that teachers should use SRL techniques to imbue positive learning behaviours in students as well as enhancing their IT skills (Tsai, Shen and Tsai, 2011, p. 268).

SRL suggests that learners themselves are the key agents in pursuing academic achievement. Coordinating and managing their cognitive, motivational and behavioural resources and transforming them into an actionable plan is what determines the success of the process – that is, the resources must be adapted to and deployed in the context of the specific learning situation. Motivation has a key role in learning and self-regulating students have the motivational drive and personal commitment that sustains them in their efforts and imbues

their pursuit of learning with the personal commitment needed to overcome hurdles and to succeed (Zimmerman, 2000; Valle *et al.*, 2011). Human factors such as cognitive ability, self-efficacy, achievement levels, prior knowledge and gender have been found to positively impact the effectiveness of strategies to support SRL, according to a systematic review of studies on approaches to supporting SRL in multiple types of learning environments (Wong *et al.*, 2019, pp. 366–368).

As to the future, Winne (2017) conducted an historical review and forward projection of the topic that saw SRL research as prominent in a wide range of educational topics, with its significance increasing in line with the trend toward lifelong learning and self-directed research that survey vast quantities of information on the internet, where students control what they learn and how they learn it. As research into SRL continues, it strives to provide as complete an answer as possible to what Zimmerman referred to as 'the ultimate question that launched research on SRL: how do students become masters of their own learning processes?' (2008, p. 181).

Online learning is a domain that particularly requires the use of SRL strategies, so the next topic to be considered in this literature review is that of online self-regulated learning.

2.5   Online Self-Regulated Learning

As discussed earlier, self-regulated learners typically deploy strategies such as planning their learning, setting goals, monitoring progress and evaluating and reflecting on their academic performance. They generate 'thoughts, feelings, and actions that are planned and cyclically adapted to the attainment of personal goals' (Zimmerman, 2000, p. 14). Therefore, they can monitor the effectiveness of their strategies and adjust where necessary in pursuit of their ultimate academic goals. Effective use of SRL has been linked to the achievement of higher academic results, so it is a worthwhile skill for students to develop, whether they are engaged in higher education or an earlier stage of learning (Dignath and Büttner, 2008; Broadbent and Poon, 2015).

There is strong evidence to suggest that SRL skills are particularly important in the online learning context. After an introduction that sets out the background to the topic, this review looks more closely at the need to cultivate SRL skills in online students. Moving from establishing the need to how it can be met, a number of strategies for developing these skills are discussed. Because of the importance of catering for the needs of students who wish to work at their own pace and in their individual way, taking advantage of the flexibility offered by online learning,

strategies suited specifically to such students are examined next. As learning analytics have developed in recent times to measure SRL practice in online settings, this subject is discussed to examine its contribution and what issues it presents. The specific case of blended learning is looked at, to see how it differs from fully online presentation before a discussion on a number of limitations encountered in the literature reviewed.

2.5.1   Introduction

As online learning gathers momentum in higher education, especially, as noted earlier, in the wake of Covid-19 (Carter Jr *et al.*, 2020), the context of online learning has become broader so a narrower view is required in this research to focus on the case of adult learners. In that regard, considerable attention has been paid to the growth in MOOCs (Lee, Watson and Watson, 2019). Elements of MOOC research are relevant for this thesis, so MOOC-related studies are referenced in the paragraphs below. However, the related concept of connectivism, which concerns the knowledge that emerges from interactions within a networked group (Downes, 2019) is not germane to this research and so will not be examined.

Self-regulation is especially important for online learners and brings them practical benefits in learning capability and academic outcomes. Research conducted with 118 students in a US HEI found that being skilled in self-regulation can help learners to construct knowledge in an e-learning environment (Koohang *et al.*, 2014; Koohang and Paliszkiewicz, 2015). Cazan (2014, p. 94) found that SRL was positively related to academic success in an online setting involving 80 Romanian undergraduates in psychology and education. Kilis and Yildirim (2018, p. 61), in a research study involving over 1,500 participants in an online ICT course based on the ECDL model, concluded that SRL promises better results in the control of learning, time and process in the online setting. Wandler and Imbriale (2017, pp. 12–13), having examined the position of online undergraduates generally, concluded that instructors should recognise the SRL challenges that students face and deploy appropriate strategies to help them achieve successful academic outcomes. Online learners must be autonomous and independent in their learning to a considerable degree because of the self-management demands of the online environment, given that dropout rates are said to be higher than in traditional settings (Broadbent and Poon, 2015). However, the high self-management tariff that online learning places on adults can give rise to problems in two ways. Firstly, data collected from over 300 online students in the USA and an analysis of dropout rates in open and distance learning in India, supported by follow-up interviews with students in both cases, suggest that adults returning to education find difficulty achieving a balance between their new educational demands and their existing commitments,

creating conflicts on how they allocate their time (Dumais *et al.*, 2013; Yasmin, 2013). Secondly, survey data collected from 10 respondents out of 28 students who dropped out of an online postgraduate course in Illinois, suggested that the nature of the students' working time profile, especially if it has unpredictable scheduling or rota patterns, can disturb their routine and adversely affect their ability to achieve academic goals (Willging and Johnson, 2009).

While the two factors just mentioned could be classified as external, there are also aspects of the immediate course environment that can affect online adult learners, such as low interactivity with tutors and fellow learners. Problems with tutors can arise from limited interaction on the part of tutors themselves, as found in a research project combining interview, focus group and observational methods with working adult students in Korea (Joo, 2014); their slowness in responding to students, according to small scale but similar research with 8 adult online learners in Malaysia (Dzakiria, 2012); or even their failure to respond at all (Dumais *et al.*, 2013). Communications among learners can also be an issue, sometimes driven by similar time management challenges as in the case of tutor communications, as suggested by the findings from mid-course interviews with 43 adults studying European languages in the Open University (Furnborough, 2012). Online students may be disinclined to establish social communications, which can be due to ethnic and cultural diversity among students, according to a small-scale study with 12 postgraduate students enrolled in an online course in a Canadian university, whose backgrounds varied in terms of gender, age, profession, language, place of residence and general life experience (Zhang and Krug, 2012). In both cases, be it with tutors or fellow learners, the lack of sufficient communication may tend to add to any sense of isolation that online learners feel.

Online learning, especially if hastily implemented, as in the case of Covid-19, can be problematic for younger learners trying to cope with the absence of familiar supports (Carter Jr *et al.*, 2020). For adult learners, though, the absence of a need for attendance at set times for lectures or tutorials affords the flexibility needed to pursue their studies at their own pace and as their other commitments permit. However, the flip side of the flexibility afforded by having no scheduled time on-campus is that online learners have higher demands on their ability to manage their own learning, to motivate themselves and monitor their academic progress (Pérez-Álvarez, Maldonado-Mahauad and Pérez-Sanagustín, 2018, pp. 16–17). With no time spent on campus and no opportunities for informal exchanges with lecturers and fellow students, online learners are much more dependent on their own powers of motivation, organisation and monitoring. Despite the importance of these self-management skills, research has shown that

many online learners struggle with self-regulation and are comparatively less successful with SRL than their traditional counterparts (Ejubovic and Puska, 2019, p. 347). However, the studies that Ejubovic and Puska cited in support place a question mark over the general nature of their claim. One was based in a country, Thailand, that had limited internet access at the relevant time, resulting in lower online skill sets among students, who could therefore have found the online environment challenging (Samruayruen *et al.*, 2013). Two were based on second level students in Taiwan, so were not directly applicable to higher education (Lee, Shen and Tsai, 2008; Tsai, 2010) and a fourth was a chapter on designing technology-rich environments written more than ten years previously (Lajoie and Azevedo, 2006), with the level of technical knowledge and internet familiarity among populations at large having grown considerably since then. Nevertheless, based on the views of a panel of 15 experts convened to identify factors affecting student retention in online courses, the greater sense of isolation online learners may experience contributes to lower course completion rates, compared with their traditional equivalents (Gaytan, 2013). On the positive side, meta-analyses of the literature and research by Cho, Kim and Choi with 180 US-based online undergraduates found that the ability to self-regulate their learning can benefit third level students in a variety of settings and on a number of measures, including academic achievement and self-efficacy (Richardson, Abraham and Bond, 2012; Broadbent and Poon, 2015; Cho, Kim and Choi, 2017). Together, these positive and negative forces combine to make a strong case for helping online learners develop the self-regulating skills they will need to succeed in their studies.

2.5.2   Cultivating Students' SRL Skills

The case for fostering SRL skills in online students is based on a number of premises. Firstly, students' use of SRL is associated with academic success (Cazan, 2014). Secondly, students may not be innately capable of practicing SRL well without external support (Pérez-Álvarez, Maldonado-Mahauad and Pérez-Sanagustín, 2018). In addition, the online environment typically provides fewer supports, such as set times for direct teacher interaction and opportunities for informal networking, meaning that online students must be more self-reliant than their campus-based equivalents. Furthermore, the issue goes beyond simply ensuring that students are aware of SRL. In the context of a need for specific SRL training, Foerst *et al*., (2017) found that students struggled to put their SRL awareness into practice. This research was conducted with a mixed discipline group of 408 undergraduates and postgraduates in a European university. The findings were that 'striking discrepancies' existed between students' level of SRL knowledge and their ability to put that knowledge into action (2017, p. 11). This difficulty that students have in

converting SRL knowledge into useful practice reinforces the argument that they need training to make this conversion.

To practice SRL effectively, even with training, students must be able to accurately evaluate the quality of their own work. Otherwise, attempts at self-regulating will not be rooted in an ability to make a realistic assessment of progress towards achievement of personal academic goals. Panadero *et al*., (2019) discussed the concept of evaluative judgment, the capacity to judge one's own work and that of others, a skill that students need to develop in order to benefit more fully from SRL. Helping students to develop the skills needed to judge their own work will also help them to develop the metacognitive skills to direct their learning in novel situations.

Finally, Araka *et al*., (2021) studied students' perceptions of the usefulness of LMS features in promoting online SRL. This was an interesting approach as it combined the use of specific LMS tools with the practice of SRL techniques by undergraduates and postgraduates in a purposive sample of nearly 500 students from five Kenyan universities, of whom 80% were from a single university. The survey-based research's main finding that chats, forums, quizzes, and messages were most used by learners, while wikis, blogs and workshops were the least used, reflected previous research as far as blogs and wikis are concerned (Back *et al.*, 2016; Yilmaz, Karaoglan Yilmaz and Kilic Cakmak, 2017). However, there were interesting contentions in this work about some universities having developed guidelines around online instruction, including required quantities of postings, assignments and instructional hours (Araka *et al.*, 2021, p. 46), but no evidence was cited to support this claim.

Given that online students already experience time-management challenges and can be strategic in how they interact with course content, tutors and peers, any move to include SRL training alongside existing course tasks ought to take account of the additional workload demands on students and others. Even if familiar online tools such as podcasts, blogs, wikis and social media were to be used to promote aspects of SRL, it would still require time and effort by tutors to produce content and similarly for students to engage with them. Equally, embedded technologies such as intelligent tutoring systems are yet to develop into broad, adaptable and cost-effective solutions, so their implementation would have considerable resource and time implications also (Broadbent *et al.*, 2020). Therefore, from a practical viewpoint, any proposed strategies for cultivating SRL in students would need to take account of the implementation, execution and maintenance workloads for all parties involved.

2.5.3 Strategies for Developing Students' SRL Capabilities

The desirability of helping students develop SRL capabilities leads to consideration of how HEIs can devise thoughtful, practical interventions to achieve this objective. Targeted interventions may be designed to inform students about the importance of SRL and teach them specific SRL strategies, or prompt them to monitor their learning and reflect on their progress. Online learners, depending on their prior experience of online learning, may struggle without such support (Broadbent and Poon, 2015) but, properly deployed, research into how technology can support students suggests that the online setting has the potential to harness appropriate technology, enhancing students' ability to self-regulate their learning and achieve success (Poitras and Lajoie, 2017).

Broadbent *et al.,* (2020) reviewed the tools and techniques available to enhance online SRL practice, founded on the idea that the online learning environment has the potential to help students by providing direct SRL training using digital technologies (Azevedo, Taub and Mudrick, 2018). They identified two broad categories. Firstly, technologies that directly assist in developing students' SRL capability by training separate from (prior to or parallel with) the domain-specific course content being studied, e.g., economics. Providing direct instruction in SRL prior to the commencement of the students' course, such as that carried out with 244 mixed-discipline German university students (Dörrenbächer and Perels, 2016) is an example of the first category identified by Broadbent *et al.*, (2020). Secondly, technologies that aim to promote SRL within the learning environment for the course subject-matter, which could be done in modular fashion or by providing prompts or structured support according as the student works through the course content, e.g., when learning challenging content such as the human circulatory system (Azevedo *et al.*, 2022).

Training in SRL can also be supported by the use of student learning diaries. This can provide insight into students' behaviour, including variation in daily use and any increases in SRL after training sessions (Panadero, Klug and Järvelä, 2016). Use of diaries is not yet extensive but Bellhäuser *et al*., (2016), in a randomised control study of 166 German technical university students, found that direct SRL training was more effective than diary use alone, suggesting that while diaries have the potential to promote SRL to some extent, the effect won't be appreciable if not coupled with specific training on SRL. Although it was more positive on the effectiveness of learning diaries, this research supported Dörrenbächer and Perels (2016) in suggesting that use of diaries alone is of limited value.

As mentioned earlier, one type of online education that has attracted considerable academic attention is that of MOOCs, where there is a high demand for self-regulation by learners, given the absence of direct lectures and the need for students to motivate themselves to engage with the course (Pérez-Álvarez, Maldonado-Mahauad and Pérez-Sanagustín, 2018; Jansen *et al.*, 2020). In Jansen's study, just under 2,400 MOOC students (over 1,400 active) in a Dutch university were split between a control and an intervention group. The latter were given specific instruction in SRL techniques by means of short videos built into the course material. These videos reflected Zimmerman's (2002, p. 67) three stage model of SRL, so students were reminded in the preparation (forethought), action (performance) and reflection (appraisal) stages. Rather than giving students a separate SRL sub-module to study in advance of their course, this was an example of the second approach identified by Broadbent *et al.*, (2020) in that the intervention was built into the normal flow of the course prior to a related quiz. Significant differences between the two student groups were found in a number of SRL areas: intervention compliers engaged in more metacognitive activities prior to learning (accessing course information and weekly course information), more help seeking behaviour (visiting the course forum), and displayed greater persistence (looked at more videos and completed more quizzes) than learners in the control group. The intervention group also completed significantly more of the graded items of the MOOC than learners in the control group. Responding to a call by Abrami *et al.*, (2011) to identify how SRL practice could improve instruction for online adult students, Bol and Garner (2011) examined the potential role of course content, specifically how students' interactions with electronically enhanced material could help them with this challenging task. The beneficial strategies reviewed included electronic portfolios, interactive help with hypothesis generation, use of forms and timed alerts to get students to summarise material, and more effective practice tests to build up a performance profile that would help with students' calibration skills.

The design load for these strategies, as well as the level of feedback and interaction with teachers to optimise their use, suggest a significantly increased workload for course designers and tutors. In that context, Cho and Shen (2013), in a study of 64 gerontology students, and Cho and Kim (2013), who used a sample of 407 US mixed discipline students, mainly postgraduates, both found that the tutors' role in promoting student involvement was key to developing SRL practices. Tutors' scaffolding activities included monitoring individual student and group activities and organising interaction of a course-related and social nature, emphasising the role that active tutor involvement plays in developing students' SRL practices.

2.5.4 Strategies with an Individual Student Focus

In practical terms, strategies from which a student working alone can benefit, such as interaction with course material, have more potential than strategies based on different types of social interactions. As discussed earlier, teacher-student interaction may be limited in practice, while many online students do not actively seek peer interaction, as it would detract from the flexibility that allows them to pursue their studies in the first place (Bol and Garner, 2011, p. 106). Support for this focus on individual learner-content interaction came from Kuo *et al.*, (2014), whose research was conducted with 220 undergraduate and postgraduate US students with a mix of ages up to 55. Student-lecturer interaction and student-content interaction were found to significantly predict student satisfaction but student-student peer interaction did not. Student-content interaction emerged as the most important predictor of student satisfaction in fully online learning, suggesting that advances in student-content interaction show the most promise for enhancing online student satisfaction. Kuo *et al.*, also suggested that instructors and instructional designers should ensure that online content is well organised and easily accessible. This included using interactive videos in course content as a way of increasing student interaction and satisfaction.

The notion of providing exemplars to students in the early stages of their studies, for example to help them understand what constitutes a good student assignment, was favoured by Panadero *et al.*, as a way of developing evaluative judgment in students: 'To accurately assess a task, it is crucial to understand what quality performance looks like … A standard provides the students with information about the level of excellence or quality of their performed work.' (2019, p. 537). It would seem, therefore, that while it is not training in either of the two senses identified by Broadbent *et al.*, (2020), the provision of exemplars is a strategy that could help students develop their evaluative judgment which, in turn, would support students' effective SRL practice.

Rosário *et al.*, (2015) in a study involving over 500 first year university students in Spain, Portugal, Chile and Mozambique, used an intervention technique based on letters from a fictional former student, outlining his SRL experience and strategies. After the programme, the intervention group was found to have increased usage of SRL, increased conceptual complexity in their written texts and improved self-efficacy. Notably, the researchers observed that their findings showed that SRL competence can be improved by appropriate training, even where the 'number of sessions are limited, as in this case' (Rosário *et al.*, 2015, p. 184). The intervention comprised six 90-minute sessions, involving the participating students and a tutor facilitator. In a different context - facilitation of online forums - and without mentioning specific time

commitments, Zhu *et al*., (2020, p. 1502), who researched the attitudes and experiences of 94 online students through survey and progress report, followed by post-course interviews with 8 participants, also indicated that tutors needed to spend significant time encouraging students' online participation through activities such as breaking down discussion topics into sub questions, probing postings and commenting on students' contributions.

Part of the impetus to provide SRL training to college students, as suggested by research with over 200 undergraduates in Kent State University, is that first year students over-estimate their domain knowledge, displaying a deficit in calibration that can negatively affect their test results (Dunlosky and Rawson, 2012). This resonates with the subsequent suggestions of Panadero *et al.,* (2019), mentioned above, about the need to develop students' evaluative judgments skills. Motivated by this perceived training need, a study of over 370 mixed discipline German college students was conducted to evaluate a content-independent SRL training appropriate to all fields of study, based on Zimmerman's three phase SRL cycle (Dörrenbächer and Perels, 2016). This research investigated the effect of a training programme, the use of learning diaries, and the combination of both approaches. Findings showed that the training approach positively influenced students' perception of their SRL, whereas the learning diary as a single intervention had no such effect. The combination of both methods was the most effective in fostering SRL, reflecting a similar finding by Bellhäuser *et al*., (2016), as discussed earlier. Referring back to the research conducted by Rosário *et al.,* the training interventions in this case comprised eight 90-minute sessions, compared with the six similar sessions in the Rosário *et al.,* (2015) research, suggesting that six to eight 90-minute sessions would be needed to present such SRL training, with, potentially, a multiple of that effort required to prepare and validate it.

Given that its use features strongly in research on online SRL (Wong *et al.*, 2019, p. 360), the use of prompts as a specific SRL training strategy is discussed next.

2.5.5 Use of Prompts in SRL Training

Prompts are devices to induce and stimulate cognitive, metacognitive, volitional and/or cooperative activities during learning (Bannert and Mengelkamp, 2013). When combined with a constructivist design and practical relevance, prompts can increase student performance and course satisfaction, according to a review of literature on success factors and student satisfaction with online learning (Kauffman, 2015). While prompts present no new information to students, they help to stimulate the recall of procedures and concepts and to trigger performance of particular actions by the student. From the research discussed below, it appears that students who are provided with prompts perform better than others, though context-

specific factors in the various research studies, including students' cognitive capability to respond to the prompts, make generalisation of findings challenging. Prompts can be aimed at different parts of the SRL cycle and it has been suggested that problem-solving prompts are a core help for students, with other prompts (e.g., reflective) being effective in combination with them. Evidence from two studies, one with 93 highly educated working adults, most of whom taught at HEIs, the other with 171 undergraduates in the USA, also supports the idea that prompts are more effective for students who already have higher levels of cognitive ability and self-efficacy (Sitzmann *et al.*, 2009). In addition, the effectiveness of prompts is strengthened when their use is combined with tutor feedback to promote student reflection on the state of their learning (Wong *et al.*, 2019, p. 363). This suggests that a more holistic approach to supporting SRL in students would yield better overall results than single prompt-based initiatives.

Daumiller and Dresel (2019) built on earlier work by Schmidt, Maier, and Nückles (2012), whose research focused on the experiences of 40 second level students in Germany, and Bannert and Mengelkamp (2013) in suggesting that metacognitive prompts are beneficial in supporting the use of SRL by students. Their research involved 271 German undergraduates in a study that combined metacognitive and motivational prompts, the latter being an aspect of SRL that, the authors claimed, had been previously under researched. The combination of metacognitive and motivational prompts produced optimum results, although students reported time management challenges in responding to the prompts while completing course tasks on time.

Moos and Bonde (2016) examined the effectiveness of embedding SRL prompts in a video designed for a flipped classroom. Their small sample included 32 undergraduates who were randomly assigned to either a control group that only viewed the video or an experimental group that viewed the video together with embedded SRL prompts. The results showed that monitoring of understanding was significantly related to pausing and restarting the video during learning activities. In addition, the experimental group engaged in more SRL processes (activating prior knowledge, monitoring understanding and controlling the video) while use of the embedded prompts correlated to significantly greater achievement of learning outcomes.

Although studies such as those above involved the use of randomly assigned control and experimental groups, Davis *et al.,* (2018) made their intervention available to all students by incorporating it into the course content, in this case a MOOC containing video lectures and quizzes, which over 5,000 students at a Dutch university at least partially completed. The

intervention prompted students to declare their motivation to follow the course and to state how many quizzes they would complete and how much time they would spend on course activities in the coming week. This declaration, as well as their progress towards achieving their self-determined goals was presented back to students as they worked through the course content. Findings indicated that complying students (those who submitted at least one weekly motivation declaration and one weekly plan) engaged in the course to a much greater extent (e.g., time committed, videos viewed, quizzes attempted) than non-compliers. As the intervention was open to all students, the overall level of compliance could be calculated. The rate of compliance, at 10%, was characterised as low by the researchers (2018, pp. 128–129) but the MOOC setting may have been a factor in this.

Looking at the rate of decline in effectiveness of prompts over short time periods, Breitwieser *et al.*, (2022) designed an intervention for students preparing for an examination over a forty-day period. Students (N = 223) received intervention prompts on half of the days, alternating between 2 and 3 consecutive days of prompting and non-prompting. In the examination, these students outperformed a control group that received no prompts (N = 116). However, the beneficial effect of prompting on learning success - answering a daily quota of online questions (2022, p. 5) - increased during consecutive days of prompting and declined in the absence of prompting. This suggests that the beneficial effects of self-regulation prompts will decay quite quickly and, therefore, they should be used regularly and repetitively to ensure continuing effectiveness over time.

Taking research into use of prompts in aggregate, it can be concluded that timely reminders to students about various aspects of SRL can be effective in encouraging them to behave in ways that will improve their academic performance. This seems quite intuitive, if not somewhat behaviourist in effect, because being constantly reminded to do something may promote a level of automaticity, eventually leading the student to practice SRL skills as part of their everyday learning. Likewise, the suggestion that prompts lose their effectiveness if not built into the fabric of the course presentation makes sense, given that SRL practices may be novel for some students, who will need support to embed them into a routine learning strategy.

2.5.6   Learning Analytics for Online SRL

As well as strategies for independent SRL training or embedding the training in course content, the increasing power of IT has presented online learning researchers with opportunities to analyse electronic data in order to identify patterns and extract useful information. This area of study - learning analytics - is concerned with collecting, measuring, analysing and reporting data

with the aim of improving students' learning experience and optimising their learning environment (Khalil and Ebner, 2015). A well-cited definition of learning analytics from 2011 described it as the 'measurement, collection, analysis, and reporting of data about learners and their contexts, for purposes of understanding and optimizing learning and the environments in which it occurs' (Siemens and Long, 2011, p. 34). One branch of learning analytics research concerns its potential to help with online SRL . Winne (2017, p. 246) suggested that learning analytics in online SRL has two aspects: firstly, a calculation based on traces of actions carried out during study episodes and, secondly, a recommendation on what aspects of learning should be changed, and how to make the change. On the face of it, learning analytics have the potential to make a significant contribution to the use of online SRL, including being a more reliable predictor of students' academic success than self-reported SRL, as suggested by research at a US university that compared log files and self-reports by 60 undergraduate online students, 90% of whom were female (Cho and Yoo, 2017). However, caution is needed in coming to any general conclusions. Viberg *et al*., (2020), in a critical review of 54 studies conducted between 2011 and 2019, found that learning analytics were not widely used and, where they were, it was mainly to measure SRL and not to support it. Based on this, learning analytics appears to offer a reporting and analytical capability on students' SRL behaviour without fostering or developing it. This suggests that other initiatives are required to do the development work, supported by the power of learning analytics to report on the effects.

2.5.7   Blended Learning

While discussing SRL in the online context, the related case of blended learning needs to be considered, to see if, and how, it differs from the fully online setting.

A variant of online learning, blended learning has become popular in recent years and may become more prevalent in the wake of Covid-19, according as universities incorporate online elements into traditional courses. Blended learning, also referred to as hybrid learning, has no formal definition (Van Laer and Elen, 2017, p. 1398) and is generally taken to mean a combination of face-to-face and online instruction (Hrastinski, 2019, p. 565). A number of studies have looked at whether a certain quantity of online instruction is needed to merit the label blended learning, with one quite well cited definition putting the required proportion of online in the 30%-79% range (Allen and Seaman, 2010, p. 5). However, the term has become so widely used that there is no numeric threshold that separates online from blended (2019, p. 567). Presenting a different viewpoint, but beyond the scope of this review, Cronje (2020) noted the lack of concentration on the learning element in the research on blended learning and

proposed that more focus should be concentrated on how constructivist and behaviourist approaches could be blended in instruction.

Broadbent and Fuller-Tyszkiewicz (2018), observing the growth in online learning and blended learning, looked at potential differences in how fully online and blended learners adopt SRL techniques. In a study involving 466 online and 140 blended learning undergraduates in an Australian university, the researchers identified five discrete categories of self-regulating learners – restrained regulators, minimal regulators, anxious capable collaborators, calm self-reliant capable regulators and super regulators. The findings suggested that online and blended learners differed only slightly in their use of SRL techniques, with the online cohort scoring higher. Although the online students were concentrated in the top two categories of calm, self-reliant capable regulators and super regulators, they were represented in all five categories, indicating a level of heterogeneity among online students. Students in those top two categories used fewer peer and help-seeking strategies than other students, suggesting that online students would be less likely than their blended-learning counterparts to use those strategies. The researchers, when discussing differences between the two top categories of SRL-practicing students, made an important observation that has implications for student engagement with online forums:

> Another factor to keep in mind is the use of interaction-based methods for learning. Both groups of high achieving learners had different interaction preferences. The super-regulators prefer some help from teachers and peers, while the calm self-reliant capable regulators preferred to have minimum interaction. *As a teacher, it is essential to recognise that lack of interaction does not mean lack of engagement or motivation to succeed*. Both super-regulator and calm self-reliant capable regulator groups, despite interaction differences, were academically equally successful. (2018, p. 1452, my emphasis).

Accordingly, attempts to get students to engage in online forums ought to be tempered with the knowledge that students' unwillingness or inability to do so should not be automatically interpreted as a lack of interest on the students' part.

A somewhat similar study had been undertaken previously by Barnard-Brak, Lan and Payton (2010), who also found that their cohort of almost 200 online students at a US university could be best classified into five categories and, like Broadbent and Fuller-Tyszkiewicz, found that the higher categories of SRL usage were associated with better academic achievement, with the top two categories being very similar to each other in both studies.

Broadbent (2017) compared the SRL experiences of 140 online and 466 blended learning students in an Australian university and the impact on academic performance. The highlight finding was that SRL predicted academic performance in an equivalent way for both groups. A subsidiary finding was that online students utilised SRL strategies more often than their blended learning colleagues, except for peer learning and help seeking. It was interesting that in the discussion on that finding, the author did not consider if intrinsic differences in how fully online learners operate, in terms of the extent of their self-reliance, might be a contributory factor. It was also apparent that the dataset used in this research was the same as that used in the Broadbent and Fuller-Tyszkiewicz (2018) research a year later, though no acknowledgment of this was made when the earlier research was cited in the 2018 article (2018, p. 1439).

In summary, the research on blended learning suggests that no major differences exist between online and blended learners insofar as the use of SRL is concerned, so it is not necessary to differentiate between them in that context.

2.5.8   Discussion

A considerable amount of research on online SRL comprises self-reporting by participants, the use of questionnaires (Kirmizi, 2013; Cho, Kim and Choi, 2017) and/or analysis of trace data from their interaction with a learning management system. This type of research has been used to establish correlations between reported levels of SRL and the incidence of different SRL-indicating online behaviour, such as multiple viewing of videos or the achievement of course-related goals. In much of this research, there was scope to further explore the correlations in order to better understand the reported relationships. For instance, Kizilcec *et al.,* (2017) combined participants' (nearly 5,000 students spread across six MOOCs) self-reported SRL and their trace data. The researchers correlated certain online activities, such as behaviour immediately after attendance at an online lecture, with self-reported aspects of SRL. This showed that the incidence of the online behaviour was greater for students who scored highly on their SRL practice than for those with lower levels of SRL. While this was a very interesting study in which these correlations were well reported, it raised questions as to why certain SRL aspects and online behaviour were linked. Some follow up discussion with participants might have shed light on this, albeit the MOOC setting may have been challenging in this regard. Insofar as the research generally is concerned, a more in-depth examination of the nature of the relationship between interventions and outcomes would have been instructive, such that the design of the interventions could be seen to link directly to the targeted SRL practices.

One study indicated that the researchers viewed distance education students as being inherently different in some way from other students. This was a meta-analysis by de Bruijn-Smolders *et al.*, (2016) examining the effect of SRL practice on achievement of learning outcomes. The articles reviewed by the authors were summarised under a number of headings, including the participating student type. Under this heading, students were categorised as "nursing students", "psychology students", "education students" etc. Also included was a category of "distance education students", which seemed to treat distance education students as a distinct type of student, regardless of their domain of study. The research analysis did not explore differences between distance education students and campus-based students, so it was interesting that the authors chose to create a single category for distance education students, especially so as detailed examination of tables in the article suggested that the distance education students were all psychology students, for whom a separate category already existed.

Other issues arising in the literature included a significant contextual limitation to the field of mathematics not being highlighted (Adam *et al.*, 2017); weak evidence on content or suitability of questionnaires (Gould, Papadopoulos and Kelly, 2014); question marks over the clarity of the split between control and intervention groups (Al-Hawamleh *et al.*, 2022); and, in the case of Vishwakarma and Tyagi (2022), some vagueness on the journals searched for relevant articles.

Notwithstanding the issues identified in the previous paragraphs, research has provided important insights into online SRL. The literature reveals that Zimmermann's cyclical model, or derivatives of it, is used very frequently as an SRL approach, while the technology in use is often based on an LMS platform. In methodological terms, quantitative methods predominated, with much less use of qualitative methods that could have provided additional insights to the findings in many cases.

Analysis of the literature's substantive content suggests that cultivating online SRL skills is worthwhile because students who practice SRL achieve better academic outcomes (Jansen *et al.*, 2020). It also suggests that no significant differences exist between online and blended learning students in the SRL context (Broadbent and Fuller-Tyszkiewicz, 2018). However, students are not naturally adept at practicing SRL, even where they are aware of it, so it is necessary to train students in SRL practice on a continuing basis. Of the options set out in the literature for helping online students develop their SRL skills, it appears that approaches such as learning analytics and intelligent tutoring systems are only feasible in well-resourced settings with high levels of IT capability and supporting personnel.

The core course content studied by learners has been characterised as 'the fundamental form of interaction on which all education is based' (Vrasidas, 2000, pp. 339–340). Furthermore, students who have higher levels of interaction with course content achieve better outcomes in online courses (Zimmerman, 2012). This has clear implications for the quality of student engagement with course content and for how that content is organised and presented. Students self-regulating their learning have been shown to benefit from well-positioned prompts in course content (Kauffman, 2015; Daumiller and Dresel, 2019) and the effect is strengthened when this is done systemically (Müller and Seufert, 2018).

Aligned with the overall aim of the current research to explore the experiences of online learners in a self-regulating context, the literature suggested that it would be worthwhile to establish the extent to which students were aware of the need to self-regulate their learning and to examine if, and how, they were facilitated in this by how their tutoring was organised and carried out and what remediating actions might be required in this area. This gave rise to two potential research questions, the first addressing how the instructional design adopted in the courses supported self-regulation by students and the second establishing the extent to which the students were aware of the onus on them to engage in self-regulation. These potential research questions are further addressed in the final section of this chapter.

Whatever the education context, including that of the self-regulated online learner, an understanding of the theoretical underpinning of student learning will inform the teaching effort, so this review next considers learning theories.

2.6   Learning Theories

Whether it takes place in a traditional or online setting, it is important to understand the principles of how learning occurs and how the external environment affects this. For this research, the influence and relevance of learning theories needs to be examined, to see what part they play in meeting the needs of postgraduate students. The major theories of learning to be considered here are behaviourism, cognitivism and constructivism (Baird *et al.*, 2017).

In the behaviourist approach, which, in epistemological terms is close to the empiricist end of an empiricist-rationalist epistemological continuum, where primacy is given to experience as the source of knowledge, the emphasis is on eliciting the correct stimulus response from the learner. In order to reliably achieve this response, the teaching concentrates initially on how to create

the link between stimulus and response, and subsequently on maintaining and strengthening that link.

The cognitivist approach is closer to the rationalist end of the epistemological continuum, in which knowledge is seen as deriving from reason, and places greater emphasis on what learners know, and how they come to know it, rather than on what they do. The learner is seen as playing an active role by creating mental models, building internal coding schemes and devising strategies to arrive at an outcome. The outcome is seen as resulting from the main focus of the cognitivist approach – the mental processing – whereas the behaviourist approach would see the outcome itself as the focus. While these are important differences, the behaviourist and cognitivist approaches also have much in common, the key factor being that they both focus on finding the optimum way of transferring knowledge from the outside environment to the learner.

The constructivist approach differs from the other approaches in that it doesn't view the teaching goal as how best to map the contents of an external environment onto the mind of the learner. Instead, it concentrates on how the learner uses their own experiences to create meaning. The existence of an independent, objective reality is not denied by constructivists, but they contend that our knowledge of the world derives from our experiences of it and how we interpret those experiences. Both the cognitivist and the constructivist approaches view learning as a form of mental activity, with the key differentiator being that constructivists suggest that people create meaning from their interaction with the external world and do not merely acquire meaning from it. In this way, both the learner and the environment are central elements in the constructivist view, with the interaction between them being the key to knowledge creation. .

No single theory of learning is sufficient to address the needs of the learner in today's environment, which requires internal alignment of vision, policy and practice in education as well as external relevance to the demands of a fast changing world (Butler *et al.*, 2018, p. 3). The Organisation for Economic Cooperation and Development's position paper, The Future of Education and Skills: Education 2030 (OECD, 2018), while focusing on pre-university schooling, also looked at how education is being affected by rapidly occurring changes in the world. These changes were categorised as environmental (the effect of climate change and the depletion of natural resources); economic (the impact of scientific knowledge and the dangers arising from the ways in which supply chains were financially interdependent and susceptible to cyber-crime); and social (migration, urbanisation, cultural diversity and inequality) (2018, p. 3). In a claim that has relevance to students at all levels of education, including postgraduates, the OECD

asserts that education has a key role in learner agency, especially co-agency, where learners develop through mutually supportive relationships with their peers, teachers and wider learning communities in which everyone is thought of as a learner, including teachers (2018, p. 4). In this context, learners need to develop meta-cognitive skills such as critical thinking and self-regulation (2018, p. 5).

To address the impact of the changes identified above, the OECD proposed some design principles in the areas of content and process (2018, p. 6). In relation to content, students should be motivated, and their prior knowledge, skills, attitudes and values should be recognised while topics should enable deep thinking and reflection. From a process aspect, teachers should be empowered to use their professional knowledge effectively; the learning experience should be linked to the real world and the links from topics to other curriculum topics and the real world should be highlighted (2018, pp. 6–7).

Ertmer and Newby (2013) analysed educational developments over a 20 year period to see what important changes had occurred in that time. They identified new developments as (i) changes in technology, especially the omnipresence of the internet (creating knowledge with others and the outside world; know-how being replaced with know-where); (ii) the emergence of the digital native student (using and testing new concepts and things to process their knowledge; working within a learning community; being used to linking from one thing to another and doing things in parallel); and (iii) the adoption of new teaching methods, primarily founded on constructivist principles (situated learning, authentic instruction, and computer-mediated collaborative learning). In relation to the emphasis on know-how having being replaced with know-where in the 20 years up to 2013, it is worth remembering that, over two centuries ago, Samuel Johnson noted that 'knowledge is of two kinds: we know a subject ourselves or we know where we can find information upon it' (Boswell, 1820, p. 418), so recognising the importance of know-where is not entirely novel.

As regards important change having occurred, the authors concluded that although tools, learners and teaching methods may have changed, people still learned through stimulus-response, through practice and feedback sessions and through collaboration and social interaction. Likewise, designers still needed to appreciate the strengths and weaknesses of learning theories in order to properly support students in a variety of learning contexts. However, they claimed that the type of learning experiences designers must create is new. Learning designs need to be contextualised, personal and collaborative and designers must

become respected partners in the instructional design work needed to address the requirements of learners today (2013, p. 69).

Given the emphasis at postgraduate level on critical thinking skills, and on factors such as authenticity and agency, highlighted by the OECD, the influence of learning theories is most relevant at the constructivist end of the behaviourist-cognitivist-constructivist continuum. In particular, constructivism, with its emphasis on contextual authenticity for knowledge creation, echoing the OECD focus on authenticity and links to the real world, seems to be a good theoretical fit for self-regulating postgraduate learners, though it cannot be assumed to be exclusively such.

To help elaborate this, and to examine the practical significance of learning theory in a learning and teaching context, the instructional approach implications of learning theories, especially constructivism, in a self-regulated setting are considered in the next section.

2.7   Instructional Approach Implications of SRL and Constructivism

The discussion below explores the literature on how instruction might be approached in a mainly constructivist SRL environment. First, aspects of SRL are considered in various learning theory contexts. Next, constructivism is examined in more detail because of its relevance to the postgraduate concentration on higher order skills. The instructional design implications of SRL are then discussed before the threads are drawn together in a discussion on instructional design for a constructivist approach.

As discussed, early approaches to learning saw the learner as passive and concentrated on the teacher's role in configuring instruction to suit the background, abilities and educational achievements of the student (Zimmerman and Schunk, 2001). Students responded to this instruction but did not originate any strategies of their own. By contrast, the SRL approach saw the student as an active participant in learning, instigating motivational strategies, helping to build their own learning environment and having a significant input into deciding how much and what type of instruction they required (2001, p. 5).

Although, as discussed in Section 2.4.2 and Table 2-2, all theories of SRL share the five common attributes identified by Zimmerman and Schunk (2001, p. 7), some of the theories have more relevance in the context of this research.

The constructivist (Piaget) and sociocultural (Vygotsky) approaches (Appendix A) are arguably most relevant in the open education context, where the learner relies greatly on their ability to

construct knowledge from the resources provided, while, to a varying degree, they may also intend to interact with fellow students. The constructivist approach posits the existence of an independent reality with which the learner interacts to build their knowledge. This separation of the knower and the known creates an ontological duality (Packer and Goicoechea, 2000) that is not present in the sociocultural approach, in which primacy is given to the social learning environment. Packer and Goicoechea suggest that the duality of constructivism only exists in certain situations, of which the traditional classroom is one (2000, p. 239). Although the open education "classroom" is not the same as the traditional variety, the attraction of online learning, according to a study of student preferences for delivery mode in two US postgraduate degree programmes, is that its flexibility facilitates learners in managing their study, work and personal commitments (Bonnici *et al.*, 2016, p. 1401). In this scenario, the relevance of a sociocultural approach, which minimises the role of a lone student, cannot be presumed.

Two earlier meta-analyses of the literature had also discussed this point, highlighting the potential confusion (Baviskar, Hartle and Whitney, 2009, p. 542) or even conflict (Marin, Benarroch and Jimenez Gomez, 2000, pp. 225–226) between constructivism as a theory of individual learning and social constructivism, which relates to cultures or groups and holds that knowledge is created through the discourse or interactions of group members rather than individuals. It should not be assumed that the mere fact of students working in groups means that the setting is constructivist. Constructivist theory does not say that learning occurs only in groups or even that learning takes place best in groups. As a result, group work may or may not be taking place in a constructivist setting and it may or may not be operating as a constructivist educational tool, depending on the context of the implementation.

Given its potential significance for postgraduates, the next section discusses the constructivist approach in more detail.

2.7.1 Constructivism

Jonassen's (1991) seminal article ascribes the origins of constructivism to Immanuel Kant, who, in his *Critique of Pure Reason,* claimed that we possess an *a priori* knowledge that precedes all reasoning. We map what we know onto *a posteriori* knowledge, which is what we perceive from our interactions with the external world. But what we know as individuals is what our minds produce.

Kant believed in the existence of a real, external, physical world (noumena), but one which became known only through our sensations (phenomena) - how that world appears to us.

Constructivism, based on Kantian beliefs, holds that reality is what the knower constructs through their mental activities. Human beings perceive and interpret reality and, through engaging in mental activities, construct their own reality. Accordingly, the existence of the individual is founded on his or her own constructions (Jonassen, 1991, p. 10).

Baviskar, Hartle and Whitney argued that there are four critical elements that must exist in a constructivist teaching environment, enabling a student to create new or incremental knowledge. These elements are: a) the elicitation of students' prior knowledge; b) creation of cognitive dissonance in a student's mind whereby the student recognises a gap between their current knowledge and the new knowledge; c) affording the opportunity for a student to apply the new knowledge and receive feedback; and d) providing space for reflection and discussion of what happened during the learning process (2009, pp. 543–544).

A constructivist approach has also been found to be supportive of the voice of the student in a meta-analysis over a 20 year period across primary, secondary and tertiary education (Groundwater-Smith and Mockler, 2016). In addition, participatory action research in a Canadian second level school found that, by its nature, constructivism encourages active student contribution to the overall learning endeavour (Lind, 2007).

In addition, while online students recognise the need to be more independent in their learning, even referring to it as 'self-teaching' in a study involving over 300 blended and online undergraduates and postgraduates at an Alaskan university (Gering *et al.*, 2018, p. 76), it cannot be assumed that students will automatically take to the constructivist approach and accept that the benefits outweigh the additional effort expected from them. Especially where the concept is novel to students, implementing a constructivist approach may be a challenging task, according to the reflections of one lecturer on his experience of introducing a new, constructivist-based course to South African postgraduates (Blignaut, 2014).

Jonassen (2006) claimed that constructivism is neither a theory of learning nor an instructional design model. Rather, it is epistemological in nature and has influenced how educators conceive of learning. Therefore, while it is not possible to empirically assess the effects of constructivism on learning, the impact of instructional methods such as anchored instruction, authentic learning and collaborative learning, which are derived from constructivist epistemology, have been empirically validated (2006, p. 43). By contrast, in behaviourism, which was based on the work of behavioural psychologist, B.F. Skinner, students were expected to respond to instructional stimuli such as feedback and reinforcement. In return, rewards such as grades

would be offered based on external standards and criteria. This approach to learning took no account of individual creation or reflection, both of which are central to the constructivist approach.

For education to work for all, a student-centred approach must be adopted (Cotterill, 2015) and this focus on student-centred learning may be the most important contribution of constructivism (Bada, 2015).

2.7.2 SRL Instructional Design Implications

Examples of instructional design techniques in an SRL context are provided below, followed by more general analysis of the instructional design implications of SRL.

2.7.2.1 Instructional Design Techniques

Rowe and Rafferty (2013, pp. 596–599), who reviewed empirical studies into SRL interventions in post-secondary education, offered the following examples of instructional design approaches, with tools and practical advice to use in promoting and supporting SRL:

- The way in which course materials and learning activities are designed is key in instigating SRL processes. Students should be given a detailed roadmap showing how course content can be accessed and what deliverables are expected from them, the associated deadlines and all relevant academic policies.

- A Learning Management System can be used to establish the level of students' prior knowledge. After a brief introduction to a module and its learning objectives, students can be asked to complete a short survey to measure their domain knowledge. This will also be useful for students planning their own learning and building the skills needed to tackle their assessment activities. As part of this process, students could also be asked to respond to questions about their study habits.

- Specific training can be given to students to foster the use of online SRL strategies.

- In terms of tools and techniques, online discussion boards, journals and Wikis can be used to support the SRL processes of planning, self-monitoring, and reflection.

In an example of one of these techniques – online discussion boards - a learner-centred methodology was employed by Smith (2019), in a very small scale study involving just 7 students, to encourage discussions and give students an opportunity to develop deeper understanding. The instructional technique employed "thought questions" that were used as an

initial prompt for weekly online discussion boards. Students were asked to justify their positions with appropriate evidence and references. Students were also presented with real-life scenarios demanding the application of course knowledge as part of their required weekly activity. Another small scale study involving 20 US postgraduate students randomly assigned to two groups, one of which was provided with metacognitive prompts, suggests that tutor prompting doesn't always result in a different response by students from those who worked in a prompt-free setting (Henrikson, 2019). The small sample sizes in both of these studies would suggest caution in generalising the findings to a larger population.

To promote student engagement, Daniel and Bird (2019) surveyed 75 undergraduate students in New Zealand on the timing of access to online lecture or tutorial notes. The students' responses indicated that accessing to online lecture content in advance made a significant difference to their learning. The students reported that they were better prepared for lectures as a result of reviewing the material in advance; that they took better notes during the lectures and they had better engagement with the course content and with the lecturer. The research also found that having prior access to the lecture materials did not affect the students' attendance at the lectures themselves. Though not stated explicitly, it appears that the students in Daniel and Bird's research were on-campus rather than online, so a direct analogy to the online postgraduate setting would not be supported.

2.7.2.2   Instructional Design Implications

The use of any single teaching method will not address all learning situations. Gagné (1985) identified five learning domains that would demand different teaching approaches: motor skills; verbal information; intellectual skills; cognitive strategies and attitude, with its implications for student motivation. Even within the cognitive domain, the teaching approach must also take cognisance of the relevant learning theory as the nature of the underlying learning theory has implications for the teaching approach. The major learning theories of behaviourism, cognitivism and constructivism each place demands on the teaching approach if it is to be effective. Khalil and Elkhider (2016, p. 148), examined the science of learning and instruction as a theory-based foundation and practical framework to support the design and presentation of instructional materials. They linked instructional techniques to the theories of human learning, effectively creating a bridge between learning theories and educational practice.

In establishing this bridge between theory and practice, five questions originally proposed by Schunk (1991) and subsequently validated in today's context (Schunk, 2019) are relevant:

1) How does learning occur?

2) Which factors influence learning?

3) What is the role of memory?

4) How does transfer occur?

5) What types of learning are best explained by the theory?

To these, two questions can be added to establish the bridge to instructional design:

6) What basic assumptions/principles of this theory are relevant to instructional design?

7) How should instruction be structured to facilitate learning?

The level of cognitive processing required and what the learner brings to the task are two important variables. The behaviourist theory is best suited to learning where low to medium cognitive processing is required and likewise for the level of a learner's prior task knowledge. A stimulus-response approach can be effective in transferring knowledge in those circumstances. According as the degree of task-related processing becomes more complex, and with it the level of learners' prior knowledge, it becomes more appropriate to use instructional design based on the learner's ability to actively process mental models to help their sense-making. Therefore, the cognitive theory provides a foundation for the middle range of task-related processing and prior knowledge. As requirements pass into the zone of critical thinking and problem solving, where higher levels of task-related processing are required and the learner comes equipped with greater prior knowledge, the constructivist theory applies, with instructional design aimed at giving the learner the skills to independently analyse any given scenario and to solve difficult problems.

Although there has been a significant move towards a constructivist approach among higher education practitioners, instructivist approaches are still used extensively both in face-to-face classroom settings and in the online learning environment (Parker, Maor and Herrington, 2013). For educators, the challenge is how best to link student needs, pedagogical considerations and technological capabilities to create student-focused environments with engaging, interactive content aimed at helping student to develop 21st century skills and promote self-directed learning. Use of authentic learning scenarios, rooted in real-life tasks, facilitated by new technologies was shown to be effective in small scale studies involving 21 postgraduate students in an online course in instructional design in the USA (Trespalacios, 2017) and a study among 13 postgraduate students of teacher education, also in the USA (Swaggerty and Broemmel, 2017). The value of these scenarios can be supplemented by access to the wide range of open educational resources on the internet and help to raise the standard of online learning.

However, it is a challenge to find suitable, engaging tasks from which meaning can be constructed. This is so for the face-to-face educator and *a fortiori* for a virtual teacher who may not have the support of IT developers designing on-screen simulations. It is not strictly necessary that authentic learning activities take place within the ambit of the online course and it can be designed to take place in the student's real-life situation. A US national study sought information from almost 40 HEIs on what training practices had been adopted for faculty development in online teaching during the period 2011-2012. Results indicated that authentic learning can take place online as long as educators design authentic, real-world learning exercises that can be used by students no matter where they are located (Meyer and Murrell, 2014).

Instructional design should be tailored to the most relevant theory in any given situation. The idea that no single approach – constructivist, cognitivist or behaviourist – can fully account for the range of instructional design requirements, was supported by Elander and Cronje, whose study among 214 instructional designers found that all courses examined in their research displayed elements of a constructivist and objectivist approach, even though they questioned the characterisation of behaviourism, cognitivism and constructivism as points along a continuum (2016, p. 401).

It is worth noting that beyond the academic sphere, knowledge of behaviourist, cognitivist and constructivist learning theories was found to be essential in designing the various levels of training needed by employees in the corporate sphere (Rücker, 2017)

Constructivism emphasises the learner's role in manipulating information, the importance of context and the need to foster generalisable and transferable knowledge and problem solving skills in learners. This raises the question - are teachers well placed to avail of these instructional techniques in order to provide the necessary supports for students and, if not, what help do they require? Faculty members who, as subject matter experts, routinely design instructional material, generally lack training in instructional design and do not have sufficient knowledge of the science of instruction. Instructional designers, on the other hand, are trained in the use of various instructional design models to help in the process of planning and developing instruction (Khalil and Elkhider, 2016, p. 147). The systematic processes that result from these models aim to facilitate learning and make instruction more efficient. Design models interpret general instructional principles to provide a framework for developing instructional material and facilitating successful learning outcomes.

Student scaffolding also has a role to play. Scaffolding was described by Wood, Bruner, and Ross (1976) as the learning support provided by a more knowledgeable other (MKO), either a teacher or peer, to the learner in a learning context that enables them to complete tasks that were beyond their initial capability. This notion of scaffolding was based on the zone of proximal development (ZPD) concept which Vygotsky (1978) defined as the gap between what a learner can accomplish themselves and what can be accomplished with the assistance of a more capable other. Scaffolding can be evidenced as a teacher's considered and appropriate intervention through verbal cues, the provision of appropriate materials, the opportunity to interact with peers or possibly an IT routine (Mamun, Lawrie and Wright, 2020, p. 2).

Mamun, Lawrie and Wright (2020, p. 1), researching in a science education setting among undergraduates in Australia, claim that the predict, observe and explain (POE) scaffolding strategy, originally promoted by White and Gunstone (1992), can be used in a constructivist environment as a powerful pedagogical strategy. This strategy has the capability to equip learners with the means to facilitate construction of their own knowledge by utilising an indirect instructional intervention.

While the POE strategy has been used successfully in traditional teaching settings, its deployment in an online environment poses significant challenges in overcoming the lack of an immediate teaching presence. The development of online modules could be used to help close this gap (Mamun, Lawrie and Wright, 2020, p. 3), providing a sequence of multimodal tasks bridged using strategically positioned questions, prompts or feedback that bolster student progression. In this way, an evaluate phase is introduced into the original POE strategy, resulting in a designation of *predict, observe, explain and evaluate* (POEE). As students work their way through the online modules' learning contents, they are provided with immediate synchronous feedback, enabling them to check their understanding of the concepts they were studying in a self-regulated online environment. This would at least partially compensate for the real-time feedback that students would receive in a traditional POE setting.

2.7.3 Discussion

What are the implications of constructivism for how teachers approach their instructional tasks? In his seminal article, Jonassen (1991, p. 12) suggested that the constructivists' view is that, rather than prescribing learning outcomes, instruction 'should focus on providing tools and environments for helping learners interpret the multiple perspectives of the world in creating their own world view.' This seems to place a question mark over the primacy of learning outcomes in a constructivist environment but supports the view that giving students the

generalisable skills to enable them to construct their own knowledge is important. So, how do tutors balance the need to concentrate on subject matter content while developing generalisable and transferable critical skills in students. However that balance is achieved, Bada (2015) demanded that teachers should review their practice to ensure that constructivist concepts are included and that teachers who employ a constructivist approach consistently get students to ask themselves how course activities are helping them gain in understanding. If constructivism is the appropriate guiding approach for postgraduate adult students, this suggests that tutors must positively and actively ensure that their teaching approach is in line with constructivist tenets and that students have to be actively encouraged to understand their role in the learning process.

The suggestion that students act as partners in research and as co-constructors of knowledge has received support (Groundwater-Smith and Mockler, 2016), even for adolescent students (Lind, 2007), so the argument seems all the stronger in the case of adults. However, Blignaut's (2014) warning that constructivist approaches to teaching and learning are challenging rather than easy to implement needs to be borne in mind. Of interest in the context of this research is that Blignaut claimed that a case study is an appropriate approach to use where the purpose is to learn more about the students in their specific context. Supporting this, Mamun, Lawrie and Wright's (2020) study was based on a relatively small sample size of 30 students. The strength of a small sample is that it enables researchers to collect in-depth data about the key concepts and to obtain detailed personal experiences of participants (Creswell and Plano Clark, 2011).

In a constrained teaching-time environment, it is necessary to consider the feasibility of meeting Baviskar, Hartle and Whitney's (2009) criteria for constructivist teaching: eliciting prior knowledge, creating cognitive dissonance, application of new knowledge with feedback, and reflection on learning. With very limited direct teaching time, how can a tutor elicit prior knowledge from a potentially large class of students? Is there a case for some sort of pre-course evaluation of students' level of knowledge that can then feed forward into the design of course material, or at least of tutorial design if the course material is not due for revision? Should the students be required to participate in a pre-course session that can be used to establish their knowledge of, say, key concepts in operations management or business generally? Based on the outcome, some students might be asked to view a pre-recorded video on basic concepts and answer questions at the end before proceeding to the main course. It may not be feasible to attempt this during limited tutorial time, especially if, as may be the case, a lot of tutorial time is

being taken up with discussion of assessment activities, which may turn the focus to how the course material is designed.

Rücker (2017) supports the basic notion that knowledge of learning theories, specifically behaviourism, cognitivism and constructivism, are necessary (and valuable) in the context of designing training that capitalises to the greatest extent possible on a student's capacity to learn. Accordingly, a constructivist approach to instruction is unlikely to come about unless teachers have knowledge of constructivist principles and put these into action through their teaching methods. At times, a more instructivist approach will be needed, for example where the use of unfamiliar software is required and Elander and Cronje (2016) even suggest that most courses show elements of both approaches in practice. The use of a case-based approach is supported by Trespalacios (2017), who characterised it as a constructivist instructional strategy that helps students develop by applying their growing knowledge to problems in authentic real-world situations. It is noteworthy, however, that the suggestion is made that small groups working together in class have the potential to enhance learning, something that would be particularly problematic in flexible online environments. More promising in terms of practicality is Parker, Maor and Herrington's (2013) suggestion that the use of real-life tasks, combined with the capabilities afforded by new technologies and the big reservoir of open educational resources on the Internet, has the potential to improve the quality of online learning.

Evaluating the sources cited in this section, it can be concluded that, while constructivism is the key learning theory for adult postgraduates, tutors have to understand the details of constructivist practices and make a conscious effort to implement them, while discriminating between subject matter content and generalised transferable skills. The problems posed by the relative paucity of teaching time are considerable, especially where individual tutors must elicit students' prior knowledge.

The importance of context has been stressed in aspects of SRL and more general learning theories, such as constructivism, discussed previously. One of the key contextual factors is the view of the most active participants, the students and tutors on the relevant courses. Conceptually, this combination of student and faculty voice has been identified as a key input in this research, so they are considered as the two final elements of this literature review.

2.8   Student Voice

The concept of student voice has two elements to it – the students' sense of agency in institutional decision-making and the institutions' willingness to take student voice into

consideration when making its decisions (Templeton, McCracken and Smith, 2019). The history of student voice goes back at least to the formation of literary societies in the 1700s. These societies arose from student dissatisfaction with aspects of their institutional treatment and a desire for greater empowerment on their behalf (Menon, 2005, p. 208). Today, the need to capture the voice of the student is well recognised in research (Seale, 2010; Freeman, 2016; Canning, 2017), including considerations of its value, how to capture it in the online environment, how to interpret it and what use to make of it. Each of these issues is discussed in the paragraphs below.

2.8.1   Value of Capturing Student Voice

In a special issue of the British Journal of Educational Technology, examining how digital technologies can facilitate listening to students and thereby improve education, student voice was viewed as a key element in the transformation of higher education (Manca *et al.*, 2017, p. 1075). This includes how higher education aligns with students' experience and expectations as learners, their future career aspirations and their role as economic and societal contributors – a role that adult learners may be playing already. At the same time, digital technologies have been disruptors in teaching and learning, creating new pedagogical practices, and ubiquitous internet connectivity has empowered students' consistent participation in digital activities. While these developments have resulted in a shift in the conceptualisation of students' role in higher education, there is no general consensus on how student engagement and participation should be implemented. However, the intersection of student voice and the wider participatory culture can be seen in three areas. Firstly, in listening to students' voice to improve teaching and learning practices in higher education. Secondly, in the notion that education promotes democracy and good citizenship, with colleges and universities characterised as laboratories of democracy and civic engagement. Thirdly, in promoting student involvement in participatory practices, such as students as co-researchers and students researching digital practices within their own learning (2017, pp. 1075–1076).

Capturing the voice of the student is not an end in itself or just a token of respect to the student role in education. Student perception is an important source of information in creating the right environment for student success. Studies conducted by the Bill and Melinda Gates Foundation (2012) and by Kane and Staiger (2012), funded by the Gates Foundation, suggest that student perceptions are better predictors of student success than standardised tests and that such perceptions may help course designers to improve teaching practices and achieve better academic outcomes.

Student voice is often captured through online surveys. Aside from the question of low response rates to such surveys, it is likely to be successful students that, in the main, complete them and the value of other students' views may remain unrealised. In this way, the voice of unsuccessful students is not heard, including important reasons why they did not complete their courses or achieve a minimum grade. Fetzner (2013) examined responses from unsuccessful students in a US college conducted in three separate instances between 2000 and 2010.. The responses for the three surveys were consistent and revealed that the primary reason why students had not been successful in their online course was because they 'got behind and it was too hard to catch up' (2013, p. 15).

The value of student voice has sometimes been interpreted in economic terms. Possibly influenced by universities' need to raise additional revenue in the face of decreasing government funding, some approaches to the student voice have been couched in business terms, characterising the student as a consumer of services, and looking at co-creation by students through the lens of marketing literature (Celuch and Robinson, 2016; Robinson and Celuch, 2016; Small, Dowell and Crawford, 2016; Dollinger, Lodge and Coates, 2018). Research among 33 Australian universities suggests that other influences on capturing student voice include government funding of colleges becoming performance-based, measured on "student experience" (Shah and Richardson, 2016, p. 362).

Listening to student voice has an inherent and fundamental pedagogical value for institutions also. Not only do students come to school to learn, but they have to be an integral part of the school's own learning. Schools 'cannot learn how to become better places for learning without asking the students' (Crane, 2001, p. 54).

2.8.2   Student Voice Online

In a face-to-face classroom setting, there is a ready-made forum for teachers to capture the voice of the student. As more teaching has moved online, not only for traditional distance learning, but in mainstream settings, the need to capture the voice of the student has increased, just as the opportunities to do so become more challenging. Research among 195 business undergraduates in California and 761 female students at a private university in Saudi Arabia found that the interaction of technology and teaching has heightened the need to establish the student view on whether this has enhanced their experience (McCabe and Meuter, 2011; Rashid and Asghar, 2016). Carver and Kosloski (2015), working with a sample of 584 second level students, looked at differences in student perceptions of online and face-to-face courses in a vocational training environment. While the online setting was favoured for active learning and

autonomy, the face-to-face setting was more conducive to interaction, collaboration and enjoyment. Given that a fully online setting must cater for all educational needs of the student, research among 952 Turkish student teachers suggested it is important that the online student feels a sense of belonging, as any sense of alienation will risk negative outcomes for both student and educational institution (Caglar, 2013).

Digital technologies have a role in enabling the voice of the student to be heard in higher education (Blau and Shamir-Inbal, 2018). The equalising effect of technology tends to diminish differences in status between tutor and student, promoting the power of student voice in the learning evaluation process and enabling students to act as co-designers of the course material and co-creators of their learning experience. The voice of the student can also be integrated into course presentation through the use of technology. Participatory action research involving students and teachers in a student-only Facebook community in Queensland, Australia, found that technology can be used to help them act as first-level support for fellow students, discussing student issues in a safe, bounded environment, while also escalating issues that require further support (Kek *et al.*, 2017). Technology is not a focus in itself, however. Students still see the tutors' pedagogical role as most important to their learning. While it may have been assumed that online learning environments would be taken up with technological issues, multi-faceted research in Spain involving a literature review, in-depth interviews with experts and a quantitative study with 925 mixed discipline adults found that students are actually more concerned about the pedagogical aspects (Gómez-Rey, Barbera and Fernández-Navarro, 2017, p. 242).

2.8.3   Interpreting

Being open to hearing the voice of the student is one thing, but the meaning of student feedback cannot be assumed to be self-evident and not open to interpretation. In a detailed examination of students' free-text feedback given as part of a bi-annual survey in Manchester Metropolitan University, Meadows *et al.*, (2016) discovered a disconnect between the student feedback and faculty's interpretation of it. This misinterpretation eventually prompted ameliorating actions that included making lectures more interactive, incorporating more audio-visual content and establishing expectations around communications. Part of that amelioration process involved staff training that uncovered a sense of fear in academic staff concerning some of the technologies and related approaches to learning and teaching (2016, p. 16).

As mentioned above, obtaining student feedback in the form of course evaluations or Student Evaluation of Teaching (SET) is widespread in higher education, though response rates tend to

be low. The issue of selection bias arising from such low response rates is of concern not just in judging the reliability of the evaluations themselves, but in qualifying the reliance placed on them by university management in their evaluation of lecturers, for example their suitability for promotion. This issue was examined by Goos and Salomans (2017) in a study based in a large European university. From the aspect of low response rates, their conclusions were that a very small grade incentive would have a significant positive effect, resulting in a higher response rate, while a random sampling approach, based on prior commitment by students to participate, would give a more representative answer than students opting in to a voluntary process (2017, p. 360). They concluded that the latter practice results in a slightly higher evaluation of teaching than the true student opinion, due to a positive selection bias (2017, p. 359).

There is potential for misunderstanding even where the educational institution feels that it is capturing the voice of the student in relation to the effectiveness of its teaching. Research with 205 doctoral students at a US-based research university found that long-established or formulaic means of obtaining student feedback may prove to be at odds with a more focused examination of student perceptions (Anderson *et al.*, 2012, p. 302). How often does student input feed forward to make a difference to pedagogical practices? A small scale study involving interviews with 5 students and a survey of 23 teachers conducted by Hamalainen, Kiili and Smith (2017, p. 1108) suggested that this happens only rarely, and the development of teaching and instructional practices rely on the teachers' efforts, without significant student input. In technology-enabled learning scenarios, where students may have at least as much technological knowledge as their teachers, this is a lost pedagogical opportunity, although to avail of it would require a more dialectical attitude to pedagogic leadership (2017, p. 1108).

Student voice, in the singular, can be a misleading term, as it suggests a single, homogenous student view, whereas there may be many views from different students on given aspects of their learning experience. What one student finds helpful, another may find a hindrance (Hämäläinen, Kiili and Smith, 2017, p. 1116). In addition, according to research using a purposive sample of 20 part-time Welsh teachers studying in the Open University, students now come from diverse backgrounds and their needs differ depending on their personal circumstances, including their being full-time or part-time learners (Butcher and Rose-Adams, 2015). Allowing for that difference in needs, findings from a professionally moderated focus group of 11 experienced online undergraduates suggested that students value consistency in course design, so that they don't have to cope with a variety of approaches and technologies (Cochran *et al.*, 2016).

Student voice is important in promoting student engagement in decision-making, in that it is difficult to conceive of students being meaningfully engaged with their institution if they feel their voice is not being heard. Case study research carried out in DCU, following the experience of 24 online students over the course of an academic year, suggested that engagement involves a wider set of influences than a student's own motivation to succeed and is affected by social-cultural, psycho-social and structural factors (Farrell and Brunton, 2020, p. 2). Reflecting this, engagement can be thought of as a multi-layered construct, with the student at its core, in a microsystem involving the institutions, its teachers, the student's peers and family. Surrounding this core is a mesosystem of the student's socio-economic status and geographical location that reflects the relationship between the microsystem and the broader exosystem. This exosystem comprises the wider community, social and career environment; and, finally, at the outermost layer is a macrosystem that includes more pervasive influences such as culture, politics, economics, power and policies (Bond and Bedenlier, 2019, pp. 2–5) – see Figure 2-2 below.
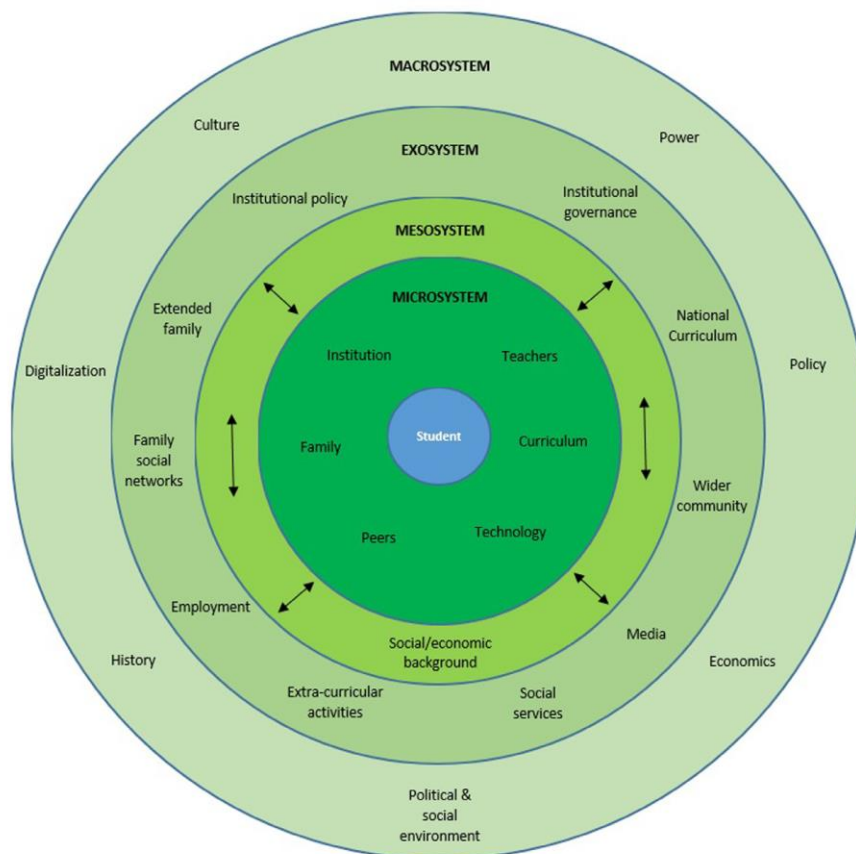
Figure 2-2 Student Engagement Model
Source Bond and Bedenlier (2019)

The Higher Education Authority in Ireland established ten principles (Appendix B) that should underpin the inner layers of this wider concept of student engagement (Higher Education

Authority, 2016, p. x). These principles included the concept of student as a partner in education rather than as a consumer of education; students as co-creators, taking responsibility for their own learning, but with the corresponding obligation on institutions to use innovative teaching and learning techniques that build on that active student involvement; and, reflecting the point above concerning students valuing consistency in approach, to ensure that student engagement practices and values are applied consistently across institutions and to establish processes to enable sharing of good practice.

In a similar vein, Havergal (2015) outlined programmes being run at universities in the US and at Southampton and Coventry in the UK that aimed to go beyond passive listening to the voice of the student. These programmes characterised students as partners and actively involved them in course design, which, it is claimed, results in better teaching, more effective learning and more workplace-ready graduates. Where that involvement extends to assessment, the opportunity to engage with expectations and marking criteria means that the students can achieve better outcomes in their examinations, though no evidence is presented to back up this claim (2015, p. 3). Another conjecture offered is that, with increasing student diversity, especially in online programmes, greater involvement of students in course design may result in a dilution of western-dominated thinking on curricula content (2015, p. 3). Cook-Sather also espoused this notion of a partnership between students and teachers and how it could promote not only inclusivity among equity-seeking student groups but better pedagogical standards (2018a, 2018b, 2019).

Still looking at the wider context of the voice of the student, and in the specific context of teaching mathematics online, Totoonchi (2016) reviewed the literature on the importance of understanding the student perception of the environment in which their learning takes place, which has social, psychological and pedagogical contexts. The suggestion was that if this perception is negative, there will be a similarly bad effect on the students' attitude to learning and, ultimately, poorer learning outcomes will ensue (2016, p. 9).

In the higher education sphere, research carried out by Watson, Bishop and Ferdinand-James (2017) involving 624 postgraduate students at a mid-western US university, emphasised the need to hear the voice of postgraduate online learners, noting the ever-growing online content in all higher education programmes (2017, p. 420). While primarily looking at the implications for instructional strategy of the feedback from online postgraduate students, they made a more general conclusion concerning the necessity to understand the learner perspective. This, they claim, was all the more important because students are not mere receivers of their instructors'

strategies, but are co-creators of learning (2017, pp. 426–427). Case study and focus group research in the UK, Ireland and the USA suggested that active involvement by students in curriculum design is a worthwhile objective (Bovill, 2014; Brooman, Darwent and Pimor, 2014) though the voice of the student may still be under-represented in this domain according to research conducted with four UK universities (Campbell *et al.*, 2007).

Where technology enables online delivery, there is a need to pay particular attention to students' views on how this technology helps them in their learning, especially as they will rely heavily on technology in their co-creation of learning. Co-creation, however, requires a time commitment on the part of all parties to generate the required confidence and understanding in the use of relevant pedagogical concepts, according to a small scale study in two Spanish universities (Gros and López, 2016, p. 39). Given the fast-moving nature of technology, establishing students' perspectives on what elements of the array of technological choices helps them most is a key activity in the student feedback process. Abdelmalak (2015) examined this in the context of the generation of technologies known collectively as Web 2.0, providing useful information to course designers on what types of tool and resource give - and do not give - students a sense of belonging to a learning community. Although this was a small study with 25 postgraduates in a south-western US university (2015, p. 5), it suggests that obtaining student feedback can be important when choosing tools for local use without major technology infrastructure implications.

Some research has taken this a step further by evaluating one aspect of the learning experience - teacher effectiveness – purely on the basis of student perception. For example, Marsh and Hattie, when juxtaposing the research productivity and teaching effectiveness of academics, used student perception, in the form of standard course evaluation forms, as their sole measure of teaching effectiveness (2002, p. 614). Their study, conducted using student evaluations of 182 academics in a large urban university in Australia, found no correlation between teaching effectiveness and research outcomes (2002, p. 617). This approach was followed in a two-year case study conducted by Antony *et al.* (2019, p. 205), involving over 100 international postgraduates that adapted the manufacturing technique of experimental design and applied it to the task of understanding and evaluating teaching effectiveness in UK higher education. The results indicated that students' perceptions of the factors influencing teacher effectiveness varied to a degree between their intuitive pre-course views and their post-course views.

A more integrated and holistic approach was taken by Mitra, who suggested that student voice can be heard at three levels - listening, collaboration and leadership (Mitra, 2007). While

working in a second level setting, Mitra analysed her prior involvement in three student voice initiatives to develop a three-tier classification. Listening is the most basic level, in which students are consulted through the use of surveys and interviews, the output from which is interpreted independently by the teachers or other institutional personnel. Collaboration is the intermediate level, in which students work with teachers in carrying out various tasks, the aim of which is to improve classroom or school-wide experiences, with shared decision-making but ultimate power resting with the teachers. Finally, the top level is leadership, in which students take the lead in effecting change and are responsible for making the necessary decisions (2007, pp. 727–728). Mitra characterised the leadership initiative as "rare" (2007, p. 728), which may be understandable in a second level setting, but a step change to the leadership has been advocated in the case of higher education students by research conducted with 54 postgraduate education students in Israel (Blau and Shamir-Inbal, 2018, p. 330). Most student voice research in higher education, however, has focused on the intermediate or collaborative level, in which students are considered as partners in addressing relevant challenges (Seale *et al.*, 2015; Blau and Shamir-Inbal, 2018).

Seale (2016, p. 230), giving a critical account of student voice projects in two unnamed universities, also suggested that a formal framework is needed to measure how the student is being heard, or "amplified", in higher education. Previously, Seale *et al* (2015) had looked at the gaps between aspiration and reality in student voice initiatives in UK higher education. In this earlier study, Seale and her colleagues concluded that several factors influenced the gaps that have emerged between the hoped-for and actual outcomes. These included the glossing over of power relations and resistance in both policy and research (2015, p. 550). Students may have a more acute awareness of the reality of their relationship with lecturers and may temper their actions accordingly. They may also feel inadequately skilled to act as equal partners with lecturers; and there is the pure practicality of finding time to engage in more student voice activity while pursuing a challenging degree course.

2.8.4 Discussion

Capturing the student voice is seen as an important objective in the literature but the motivations behind this are far from homogenous. On the one hand, it can be seen as the right thing to do (Menon, 2005; Caglar, 2013), and, on the other, it can be seen as necessary to properly measure student experience because their views are important in ways that can affect institutions or individuals within those institutions, for example, through rankings being linked to funding (Shah and Richardson, 2016). In the same vein, the influence of business thinking on

education can lead to students being conceptualised as consumers of education whose feedback is important as a type of customer evaluation (Robinson and Celuch, 2016; Dollinger, Lodge and Coates, 2018).

Seeing students as partners in education and acting as co-creators is a recurring theme and the general finding is that such a partnership approach has the potential to bring benefits for all actors in the educational process (Bovill, 2014; Brooman, Darwent and Pimor, 2014; Gros and López, 2016; Robinson and Celuch, 2016; Blau and Shamir-Inbal, 2018). Student voice in this situation can be framed in the conceptual approach that represents then-current thinking in education, such as characterising it as playing an important role in distributed leadership (Menon, 2005), although it is worth noting that while distributed leadership has retained its relevance and currency in educational policy and practice since its original promulgation as a theory (Spillane, Halverson and Diamond, 2001), the student role does not feature strongly in most of the research conducted since then (Harris and DeFlaminis, 2016).

The voice of the student can be used in a narrower way too, in assessing the value of particular initiatives, such as instructional strategies (Watson, Castano Bishop and Ferdinand-James, 2017), the use of technology in the classroom (McCabe and Meuter, 2011; Abdelmalak, 2015; Rashid and Asghar, 2016), to identify desired attributes and roles of teachers (Anderson *et al.*, 2012; Gómez-Rey, Barbera and Fernández-Navarro, 2017), or to help in measuring the relationship between research productivity and teaching effectiveness (Marsh and Hattie, 2002).

Even where the partnership approach is seen as worthy, the gap between aspiration and reality can be difficult to assess in terms of reach and fitness for purpose (Seale, 2016).

From the literature reviewed, it can be concluded that HEIs need to establish ways of capturing the voice of the student in order to inform their course design and delivery approaches. Whether this be at the listening, collaboration or leadership level, it is imperative that a representative sample of student views be heard in a formal way and a means established of validating that the voice of the student is being genuinely sought and heard. For adult learners, some of the power relations issues that might inhibit younger or less experienced students should not have the same significance and the resultant involvement by students should be on a more equal level, at least on some measures such as maturity and professional experience.

Butcher and Rose-Adams (2015) characterised the voice of part-time and distance learners as hard to reach. This voice does not figure prominently in the literature, where there can be assumptions that student populations are homogenous and traditional in composition and such

research as does exist can be small and qualitative in nature (Farrell and Brunton, 2020). Given the unique perspective that adult learners bring, informed as it is by career experience and personal maturity, it is all the more important that the voice of the student be heard in any review of educational programmes that involve such students.

In a research context, capturing the student voice must be done in a purposeful way to achieve a specific aim. The overall aim of this research was to explore the experiences of a cohort of online postgraduate students in a particular setting, so capturing the student voice in that setting would shed light on the quality of their learning experiences. Esfijani (2018, pp. 63–64) found that student satisfaction was a key building block of quality measurement, so some way of gauging student satisfaction would help in ensuring the quality of their learning experience. Accordingly, a potential research question arose to establish the level of satisfaction with their course learning experience of the online postgraduate students in this case study. This is further discussed in the final section of this chapter.

Having discussed student voice, the next, and final, topic to be considered in this literature review is the related one of faculty voice.

2.9   Faculty Voice

While the voice of the student has a key role to play in creating the learning environment, be that in a passive mode of being listened to, a more active form in which collaboration with teachers takes place, or even assuming a leadership role in the process, the teachers' voice must also be heard. This is especially so as students' and teachers' views on key areas such as assessment (Fletcher *et al.*, 2012; Dargusch *et al.*, 2017) and feedback (Evans, 2013) have been found in some cases to diverge. Fletcher *et al.'s* (2012) extensive study captured the views of 1,224 undergraduate students and 877 faculty across four third level institutions in New Zealand, noting that differences in student and teacher attitudes to assessment may be due in part to the high-stakes nature of assessment from the students' viewpoint. Dargusch *et al.*, (2017) examined the ways in which lecturers communicated their expectations on assessment to almost 500 undergraduates at an Australian university and how these students accessed, or failed to access, the assessment resources though the reasons for the failure to act by students was left for future research. Evans (2013) did not collect any primary data for her research but, rather, thematically analysed research on assessment feedback in higher education from 2000 to 2012. She concluded that although the facilitation of high quality assessment exchanges is a fundamental requirement of higher education, much more needs to be known about contributory factors on the student and teacher sides, including self-regulation and self-

judgment skills, before this high quality can be developed (2013, p. 106). However, while it seems clear that the faculty voice needs to be heard, Gozali *et al*. (2017), whose sample size of 16 interviewee teachers was small but spread across 14 countries and 4 continents, suggest that teachers are under-represented and their views marginalised in educational policy and decision-making. In the review that follows, the value of the faculty voice, faculty issues with the online environment and assessment will be discussed.

2.9.1   Value of Faculty Voice

Students cannot progress academically relying purely on their own efforts, even in online learning, where they rely considerably on their personal efficacy. A sense of shared meaning involving fellow students and their teachers can help online learning students to combat the potential isolation they feel. The existence of a high social presence can promote that sense of shared endeavour in a learning environment (Garrison, Anderson and Archer, 2010, p. 7). However, this social presence does not come about by chance - it must be facilitated by the teachers as much as the students, so gaining an understanding of teachers' views on their role should be of considerable value. Research with 75 Canadian postgraduate students across four courses suggests faculty has a key part to play in creating a highly interactive and structured course delivery that helps to foster that sense of commonality among distance learners (Garrison and Cleveland-Innes, 2005). But to take the task beyond the formal classroom, a small-scale study interviewing 6 full-time and 7 adjunct faculty on an online doctoral programme suggested that processes may need to be formalised in some way, with institutional support, as teachers' ability to commit the time to creating social connections may be limited and cannot be taken for granted (Berry, 2019, p. 189).

2.9.2   Issues with Online Delivery and Assessment

As online delivery becomes more widespread in higher education, it can be expected that an institutional view will be adopted on how it should be integrated into courses, so the faculty voice may be expressed through those responsible for e-learning in an institution. Almpanis (2016) in a mixed methods research, surveyed the heads of e-learning in UK universities to elicit their views on the implications of technology-enhanced learning for lecturers and for the institutional supports needed. Among the implications for lecturers were the need for knowledge of the constructivist learning theory and a move away from concentrating on content towards a wider ambit of student induction, collaboration and support (2016, p. 309). Echoing the earlier point about lecturers' potentially limited ability to commit the necessary time to fully engage with online teaching, Almpanis found that an institutional approach is required to put

the necessary support structures in place, including staff development plans, and incentives for staff to develop their skills in this area, including the necessary time allocation to do so (2016, p. 309). From the lecturers' perspective, a scarcity of time is the most common reason for a lack of appetite towards engaging with technology-enhanced learning (Almpanis, 2015, p. 388).

The beneficial effect of creating an appropriate environment for lecturers to engage with technology was explored by Sullivan, Neu and Yang (2019). Reflecting the oft-claimed isolating effect of online learning on students, they referred to a similar effect on lecturers, who may feel a sense of isolation from their colleagues if they teach online. In this study, the New York State based institution created an online space for lecturers where a range of new technologies could be tested and experienced in a safe, collaborative and supportive environment. The effect of "vicarious learning" (2019, p. 351) was one of the positives that emerged, whereby lecturers gained confidence from viewing their peers' use of technology. This online lecturer space was seen as a permanent and evolving facility supporting lecturers according as technology changes over time. It was also seen as a way for course presentation to retain its freshness and for lecturers to maintain pace with students' technological awareness (2019, p. 354). Golden's (2016) meta-analysis supported the idea that formation of a special interest group would benefit lecturers. A programme review with 47 online faculty members over a four-year period at Purdue University in the USA highlighted the particular challenges they faced in the areas of learning new technology, adapting teaching strategies to the needs of the online environment, attuning themselves to a learner-centred focus and creating the time needed for development of online courses (Hixon *et al.*, 2011, p. 2).

While the idea of an online group for lecturers to support their use of technology seems to be beneficial, Gurley (2018) examined differences between lecturers who had received certified training in online teaching and those who had received on-the-job training. Her research, based on a sample of 86 full-time, part-time and adjunct staff who had taught online or blended learning undergraduate and postgraduate courses at two US universities in the previous 5 years, showed a difference in how the certified lecturers facilitated students' online learning. This was more informed, timely and comprehensive than that of their colleagues, suggesting that formal training would add to the overall effectiveness of lecturers, even where some form of peer support is provided (2018, p. 215). Given that tutor support can be a critical factor at key stages of a student's educational journey (Baxter, 2012, p. 122), it is important that tutors are properly trained to provide this support. Sanga (2017, p. 20), whose study examined the procedure through which 100 online courses were developed in compliance with the requirements of a

bespoke rubric, found that the areas in which faculty required training included principles of instructional design, writing measurable objectives, active learning strategies, best practices in e-assessment, classroom management, developing rubrics, and technology integration in e-learning environments.

Bennett *et al.,* while conducting research with 33 Australian academics, observed that assessment-related studies to date have tended to focus on the learner perspective, often looking at specific initiatives with new technologies (2017, p. 673). A broader look at how technology is used in assessment on a routine basis is lacking, as is the voice of the teachers who design the assessments. Brady, Devitt and Kiersey (2019, pp. 3080–3081) highlighted the scarcity of studies addressing the lecturer perspective on the use of technology in assessment, by contrast to the prevailing literature that focused primarily on the student perspective. Following a systematic literature review of those studies that did capture the lecturer perspective, they concluded that there was a lack of specificity in key areas. These included a failure to quantify the time and cost of the various stages of technology implementation and the associated gains, if any, in resource usage. This is all the more surprising, considering that achieving efficiencies was often a higher priority than considerations of pedagogy or the wider learning environment. Although institutional support was generally felt to be key for proper use of technology in assessment, there was vagueness on what form this support should take (2019, p. 3094). Overall, Brady, Devitt and Kiersey called for greater academic research into the use of technology in assessment, particularly longitudinal research – 'sufficient studies of effective enduring integration of educational technologies by academics are not yet in evidence' (2019, p. 3093).

One of the ways in which responsibility for learning can be shared with learners is through the constructivist approach of co-creation (Cecchinato and Foschi, 2018). In a study of co-creation issues in Europe and North America, this was described as an approach that results in 'students becoming more active participants in the learning process, constructing understanding and resources with academic staff' (Bovill *et al.*, 2016, p. 197). One of many issues around co-creation from the teacher's perspective is how co-creation can be operationalised. This is especially so where the co-creation initiative is about assessment, traditionally seen as the sole responsibility of the faculty. Doyle, Buckley and Whelan (2019) examined one instance of this - co-creation of assessment multi-choice questions - eliciting the views of students and lecturers on their experience of a co-created assignment in an undergraduate tax module. The lecturer perspective did not delve into the philosophical aspects of co-creation and was limited to the

operationalising of the initiative, which, they reported, involved considerable administrative effort (2019, pp. 750–751). It might be observed that an incremental increase in module management workload may not be significant in isolation but a combination of initiatives, if not coordinated and considered in aggregate, may create too heavy an administrative burden for teachers.

Covid-19 has accelerated the adoption of online delivery in HEIs (Hargis, 2020). Anecdotally, the prevailing attitude at the outset of the pandemic was that, for lecturers, this arrangement would have to do for now, until things got back to normal and the better face-to-face setting could be restored. There may be good reasons for believing that the face-to-face environment offers many benefits, not least social integration and providing a tangible sense of belonging for new students, but the suggestion extends to the idea that the online learning experience is inferior. Sinclair and Macleod (2015) challenged the latter idea on a number of fronts. Firstly, they referred to 'existence bias' (2015, p. 82), the concept that anything extant will be seen as superior to something new and untried. Therefore, there is a natural bias towards the established and familiar face-to-face environment. Secondly, they suggested that the term online learning should be replaced with networked learning, citing with approval Joinson's (2002) contention that the primary function of the internet is to communicate, not to present content (2015, p. 77), though it could also be argued that it should not be an "either or" classification. Because there is so much information online, the tendency for inexperienced teachers is to think that moving a course online is synonymous with populating a virtual learning environment with content. This approach equates online with a form of information or content delivery and misses the opportunity to communicate with students in a meaningful way (2015, p. 95). In the wake of Covid-19 and the impetus it gave to online teaching, it has even been suggested that the notion of "virtual" learning, with its implications of non-materiality, is misleading, as all aspects of digital engagement are inevitably bound up with physical interactions with devices and a whole network of connected elements, which require to be built and managed actively in a very real, as opposed to virtual, way (Gourlay, 2021).

2.9.3   Discussion

Teachers see their role in cultivating a sense of shared purpose as limited to the classroom (Berry, 2019), in contrast to students who see it in wider terms, including social interactions, so where the classroom time is very limited, the role of the teacher may be similarly limited. One way of engaging teachers more could be to have programmes in which they share experiences with fellow tutors and build confidence in, for example, use of new technology in their teaching

(Sullivan, Neu and Yang, 2019). Mentoring programmes for online teachers, specifically in instructional design principles and technology (Hixon *et al.*, 2011) have also been found to be beneficial for teachers and institutions. Such initiatives are designed to create a sense of shared interest among tutors (Golden, 2016) but this has implications for the time that part-time tutors can dedicate to their role. Despite those time commitment challenges, however, it seems clear that training for tutors is desirable, or even necessary, as there is evidence to suggest that tutors who have been trained in teaching in a blended and online teaching environment perform better than their colleagues who received on-the-job training.

Hargis (2020) identified faculty self-efficacy and students' ability to self-regulate learning as important factors in online teaching and learning, so the SRL issue and the extent to which tutors are aware of the requirements on them to support self-regulating students need to be considered in any online programme where students are expected to be self-reliant.

In a seminal paper, Jonassen (1991) contrasted the philosophical underpinnings of objectivism with those of constructivism, with its imperative for learners to actively interpret and construct their own knowledge. This set in train a process whereby constructivism gradually became the primary philosophical foundation for instruction, especially where higher order thinking skills were demanded of learners. If teachers feel that they have the primary responsibility for learning to take place, whilst looking for ways to share that responsibility with learners, as suggested by Matthews and Yanchar (2018), albeit in a very small scale study involving 6 participants, it follows that they should be aware of constructivist principles and how to apply them in their teaching. Students ought to have their role enlarged and the partnership element emphasised, potentially becoming involved in co-constructing content (student-generated content), in carrying out teaching activities (reciprocal peer teaching) as well as in their assessment (peer assessment), although more general summative assessment is particularly challenging (Bovill, Bulley and Morss, 2011; Cecchinato and Foschi, 2018; Doyle, Buckley and Whelan, 2019). However, the starting point has to be with the teachers as it cannot be expected that students can play a useful role in a scenario where teachers themselves are not sufficiently trained to carry out their duties effectively.

The use of technology in assessment, while at face value being particularly suited to online courses, has been found to present many challenges for teachers. It requires clear institutional support and role clarity, as well as commitment of time and resources (Bennett *et al.*, 2017; Brady, Devitt and Kiersey, 2019), so the starting point for this is unlikely to reside with part-time

tutors who have limited linkages to their institutions and equally limited availability to take part in activities during normal office hours.

Overall, then, the message is that the faculty voice is important and probably under-represented to date. Tutors would benefit from participation in special interest groups, where they could share experiences and learn new skills in a supportive environment. However, for part-time staff who have limited time to commit to their role and a restricted network of institutional contacts, their suitability to become involved in new initiatives has to be questioned, ironically as they are the ones at the front line for online learning and would have much to contribute to the discussion on how best to manage online programmes.

In terms of a gap in the literature, there is little coverage of the views of part-time faculty, especially so where the teaching time is very limited, with competing pressures on how tutors should spend that time. These demands go beyond the teaching of subject matter content and extend to maintaining a social presence online and supporting students. In addition, the literature generally states explicitly or assumes that teachers are contracted or untenured academics, not full-time professionals for whom teaching is something they have to fit into an already busy working life.

Jolley, Cross and Bryant (2014, p. 225) examined the experiences of part-time staff in a US-based college and discovered that they felt an absence of engagement with their institution that extended to their training and development opportunities. Almost all of the staff participating in that research relied on teaching for their primary remuneration. This situation is found elsewhere in the literature on part-time staff, with a focus on the decline in tenured roles and a related increase in the numbers of non-tenured and contingent teaching staff (Ochoa, 2012, p. 137). As a further illustration, Delgaty (2013) studied the workload implications of online learning for teachers and, separately, offered practical suggestions to institutions and their teachers on achieving success (2015) but the assumption in both of her research studies was that the teachers had full-time roles. A gap exists in the literature concerning the views of part-time teaching staff whose academic work is incremental to their primary career and whose motivations and attitudes might differ from those who identify primarily as academics. The current research filled this gap in the literature by obtaining the views of such part-time staff and added to the corpus of knowledge by including their voice. While the overall aim of this research concentrated on the student experience, the literature prompted the inclusion of the faculty voice as an important complementary component, giving rise to a potential research

question to be included in this case study. As with the other potential research questions, this is discussed further in the final section of this chapter.

The final section of this chapter reviews key points from the detailed discussion of the individual elements above.

2.10 Discussion

This literature review examined relevant academic publications on key topics in this research– firstly, online learning and self-regulated learning, followed by a combination of the two, then learning theories, instructional design implications, student voice and faculty voice.

Online learners must exhibit a high degree of self-regulation, where successful learning is premised to varying but significant degrees on student motivation, self-efficacy, use of learning strategies and prior domain knowledge. However, without timely and direct teacher support, students may struggle to display self-efficacy and use learning strategies when faced with decisions about many aspects of their learning. Students therefore need to be supported in their learning up to and including determining whether or not they have achieved an understanding of the course material (Azevedo, 2005). In the online environment, there is the danger that limited teacher support will compromise students' ability to self-regulate critical aspects of their learning (Jacobson, 2008).

Online learners are often adults in mid-career with complex and demanding lives outside of their educational pursuits. They are motivated to succeed but are challenged by the time needed for course-related tasks. Therefore, the flexibility of online learning is often attractive to them as it allows them to do their studying at times that suit their personal patterns of work and study (Bonnici *et al.*, 2016). Even for students whose online experience was forced by the Covid-19 pandemic, flexibility was found to be a positive aspect of online delivery, one which the students felt should persist in the form of a hybrid method of delivery in the future (Hill and Fitzgerald, 2020, p. 6).

Students can improve their chances of academic success by practicing SRL. However, SRL is a skill that must be learned and reinforced throughout a student's course of study. Mere awareness of SRL does not translate into effective practice of SRL (Foerst *et al.*, 2017), so students need initial SRL training and timely reminders, self-assessment questions or prompts as they work through their course material. The typical amount of time that teachers spend providing such training and support is considerable, according to the literature (Rosário *et al.*, 2015; Zhu *et al.*, 2020).

Social learning is a valuable concept and group tasks are seen as an authentic representation of real-life. As experienced adults, however, working in groups is a skill and practice online learners may have already acquired and the need to negotiate collaboration protocols with other students in a group setting may detract from the core flexibility that attracted them to online study in the first place (O'Shea, Stone and Delahunty, 2015). Regardless of whether they work in groups or not, treating students as partners or equals in terms of the learning process is desirable. While typical full-time students may have a different perspective on the nature of their relationship with lecturers and feel inadequately skilled to act as equal partners with them (Seale *et al.*, 2015), adult students with rich professional experience and confidence may feel differently. However, there remains the practical difficulty of finding time to engage in more student voice activity while pursuing a challenging degree course.

At postgraduate level, learners must demonstrate the ability to think critically and solve complex problems. These critical thinking skills suggest that constructivism may be the most appropriate basis of instructional design for postgraduate students, who, as mature adults, bring a wealth of work-related experience with them.

The constructivist approach has particular relevance in the open education context, with the aim of equipping learners with the skills needed to become critical thinkers, capable of analysing complex sets of interrelated facts. The corresponding instructional design approach should concentrate less on the subject-matter content and more on the process by which knowledge of such subject matter can be constructed. The instruction provided must be rooted in authentic settings, afford the students an opportunity to actively use what they have learned and apply it to other contexts, thereby giving them generalisable and transferable knowledge and skills.

While online students are aware of the need for greater self-reliance in their learning, students are not a homogenous group with similar needs (Money and Dean, 2019). There is no guarantee that students will automatically recognise that the benefits of the constructivist approach outweigh the extra effort they will have to put in. Where the idea is new to students, implementing a constructivist approach may be challenging and problematic (Blignaut, 2014).

Evidence has been presented to show the value of hearing both the voice of the student and the faculty voice, especially as each may not fully understand and appreciate the concerns and issues experienced by the other (Meadows *et al.*, 2016). Surveys are a typical means of accessing the voice of the student but they have low response rates. To mitigate this, establishing a prior commitment from students and building the process into an established workflow, rather than

as a separate exercise, may be beneficial (Goos and Salomons, 2017). Some institutional leaders hold the view that, as a transient presence at college, students lack the necessary training and knowledge to properly and fully participate in decision making (Menon, 2005). Students will remain comparatively transient in institutions, almost by definition, but their views must be captured while they are present and then used to inform better decision-making for the benefit of the institution and its future students.

Even though students may be engaged in a course for a comparatively short period of time, they should have a consistent learning experience throughout their studies. It is incumbent on institutions to ensure that the necessary collaboration among tutors takes place so that the learning, assessment and feedback experience of students is not simply a function of the approach taken by the individual tutors they happen to encounter during their studies. Rather, there should be a process to ensure that, having due regard to academic independence and the different approaches demanded by various subjects, students enjoy a consistent experience that will bolster their ability to self-regulate. Such a process would help to ensure compliance with one of the ten principles for student engagement set out by the Higher Education Authority, namely the need for consistent application of values and practice and sharing of good practice in student engagement.

This literature review supports the central idea that it is worthwhile to capture the views of online, self-regulating learners, as well as those of their tutors, on how they evaluate the quality and consistency of their experience of teaching, learning and assessment on their postgraduate programmes. These views will help to identify issues of relevance to online postgraduate programmes and identify potential ways in which they can be enhanced.

2.10.1 Research Questions

Based on the overall aim of the research set out in Chapter One and the most pertinent issues raised in this literature review, five research questions were formulated, as follows.

- In the students' view, to what extent did the course content and delivery address their needs? (RQ1)
- In the tutors' view, to what extent did they meet student needs through course content and delivery? (RQ2)
- To what extent did the tutor's instructional approach reflect an understanding of the concept of self-regulated learning? (RQ3)

- To what extent did the students enjoy a consistent teaching, learning and assessment experience? (RQ4)
- To what extent were the students aware of the requirement to self-manage their learning? (RQ5)

These research questions were carefully derived from the literature, as set out above in Sections 2.3.5 (RQ4), 2.5.8 (RQ3 and RQ5), 2.8.4 (RQ1) and 2.9.3 (RQ2). The literature further supports the first research question by suggesting that there is value in capturing the student voice (Seale, 2010; Freeman, 2016; Canning, 2017) as students' increased involvement in higher education has seen them conceptualised as partners, producers or change agents (Seale, 2016, p. 212). The research also addressed a gap in the literature on online postgraduate students in Ireland, where the research to date has focused on the experiences of students in the medical professions. In a search of the DCU library using the keywords "online", "postgraduate" and "Ireland", over 70% of the 100 most relevant results related to medical, dental or psychiatric research. There is a paucity of research on the experiences of online postgraduate students outside the medical arena, which is important as there is evidence to suggest that, for example, SRL processes that mediate successful learning may differ across disciplines (Poitras and Lajoie, 2017, p. 165). Obtaining the views of postgraduates is also useful as such students may require help in adapting to the demands of a higher level of academic effort (Coneyworth *et al.*, 2020). The second research question reflects the importance of capturing the faculty voice as it represents teachers' knowledge on important issues that can have a wide impact on educational processes and outcomes (Gyurko, 2012, p. 4) and it ought to be heard by educational policymakers (Frost, 2008). There is also value in triangulating it with the views of students in order to have as comprehensive a picture as possible of the issues under investigation (Gozali *et al.*, 2017). This is especially so as the views of students and faculty have been found to differ in important areas such as feedback and assessment (Fletcher *et al.*, 2012; Evans, 2013; Dargusch *et al.*, 2017). Furthermore, in a meta-synthesis of the literature on quality in online education, it was found that the approach of the Open Learning Consortium had the highest average annual citation score of all approaches found in the review (Esfijani, 2018, p. 64). The OLC approach to quality measurement in online learning includes student and faculty satisfaction as pillars of quality (2018, p. 63), so the first and second research questions are directly supported by the literature in capturing the student and faculty voices on satisfaction with their learning and teaching experiences and they address gaps in the current literature. The third research question was based on the significant coverage in the literature of how the approach to instruction could help online students self-manage their learning (Richardson, Abraham and Bond, 2012; Broadbent

and Poon, 2015). Mere awareness of SRL does not translate to use of appropriate SRL strategies by students, who need help to identify and deploy useful SRL practices (Pérez-Álvarez, Maldonado-Mahauad and Pérez-Sanagustín, 2018). The fourth research question was founded on research highlighting the importance of a consistent learning experience for students (Brown, 2007; Ferguson, 2011; Hills *et al.*, 2018), by the recognition of consistency as a hallmark of quality (Slack and Brandon-Jones, 2019), and by QQI's identification of a consistent learning experience for students as an issue, not just for the HEI, but for other institutions reviewed under QQI's CINNTE programme – see Section 3.2.1 below. As the consistency of the student learning experience was therefore important as an indicator of quality, this research question would provide useful data on the nature of the issue in the specific case of a set of online postgraduate programmes in Ireland. Given the importance of self-regulation for online students, as established in the literature (Dabbagh and Kitsantas, 2004; Artino and Stephens, 2009; Broadbent and Poon, 2015), the fifth research question sought to establish the extent to which students were aware in advance of the demands placed on them in this regard, even if this awareness did not guarantee students' ability to put any SRL techniques into practice. Accordingly, this research question had the potential to provide empirical evidence on the extent to which students were aware of the self-regulating demands placed on them in a situation where the subject of SRL was not directly addressed in course delivery.

Based on the findings from this literature review and in order to properly capture the views of students and tutors to help in answering the research questions, an appropriate research design was devised. The resultant research methodology is set out and explained in the next chapter.

3 Research Methods

3.1 Introduction

This chapter describes and justifies the chosen research methodology. There are many methodological options available to a researcher and it is imperative that informed choices are made so that the overall research approach is logically integrated and coherent (Saunders and Lewis, 2018, p. 104). In that context, it will be shown that a pragmatic philosophical approach provided the base for a mixed methods fixed convergent parallel design in a case study on the HEI's online postgraduate programmes.

The chapter is structured as follows. The conceptual framework for the research is presented initially, establishing a structure for the next sections, which describe the detailed research methodology, from the underlying philosophical stance to the detailed data collection techniques, along with a justification of all the design choices made. The subsequent sections set out details of the questionnaire development, design and analysis, the design of the interview schedules and interview coding and analysis. Finally, ethical considerations are discussed.

In structuring the discussion, Saunders and Lewis's Research Onion (2018) is used as a general framework, while Johnson and Onwegbuzie's (2004) model is used for the detailed mixed methods design within that framework.

This chapter builds on the topics discussed in the previous chapters: Chapter One set out the background to this research project and Chapter Two presented a literature review in which prior relevant academic and other publications were examined in order to ground and inform the research.

The information presented in this chapter proceeds logically from the earlier chapters by setting out the methodology employed in the research, whose findings will be then discussed in Chapter 4.

3.2 Conceptual Framework

A conceptual framework comprises the elements that contribute to the underlying thinking, structure and implementation of a research project, together with the associations between these elements (Kivunja, 2018, p. 47).
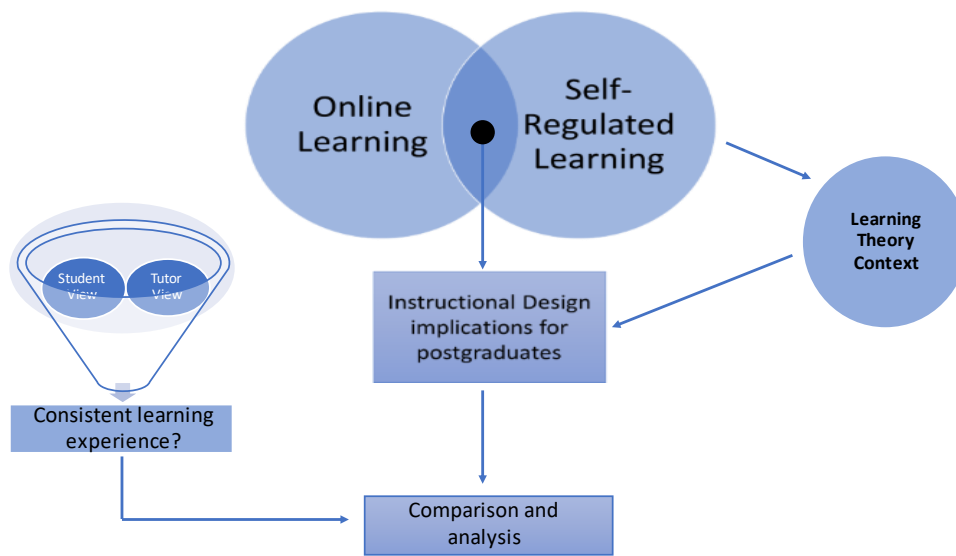
Figure 3-1 Conceptual Framework

The conceptual framework for this research is shown in Figure 3-1 above. The HEI's postgraduate students are *online* learners, a characteristic that accentuates their *self-regulating* nature, the primary feature of which, according to Zimmerman and Schunk, is the degree to which students are metacognitively, motivationally, and behaviourally active participants in their own learning process (Zimmerman and Schunk, 2001, p. 7). As mature professionals, for the most part, these students are expected to exhibit critical thinking skills and to bring considerable prior knowledge to bear on what and how they learn, while also being exposed to some novel concepts and techniques as part of their studies. Therefore, the *learning theory* context (Ertmer and Newby, 2013) is relevant in designing courses for such students.

The *student and tutor voices* were needed to provide the survey and interview data that helped to answer the research questions. This student and tutor input also provided insight into the *consistency of the learning experience* for students, which had emerged as a potential issue throughout the HEI.

Self-regulation is of relevance to all learners, especially online learners, and is now seen as important for the workplace as well as the world of education (Coggin, 2020). Another important consideration was how the needs of the learner, moderated by the context of an appropriate theory of learning, were voiced in the *instructional design* approach in the courses these learners pursued (Khalil and Elkhider, 2016). Constructivism seemed to be the most relevant

learning theory for adult, online postgraduate learners who bring a wealth of career experience to their learning and have a fertile context for critical thinking and knowledge transfer.

3.2.1 Overview of HEI Context and Methodology Used

The HEI is a well-established university with a long history in online education. It originally had a national remit in distance education and later created a dedicated unit within the university to cater for distance education students. All activities moved online in the early 2000s and a digital learning institute was created, with an international research remit, of which the online learning unit was a key constituent. As of 2022, the HEI's postgraduate programmes offered degree and certificate courses in Management of Operations; Management of Internet Enterprise Systems; Management of Information Systems Strategy; Management of Sustainable Development and Management of Clean Technology. The programmes are modular in nature, with the degree courses having three common modules and a separate management module, while the certificate courses have two modules in common with the degree courses and one unique module. The courses are delivered online, using the Moodle platform to host subject matter course material, student forums and facilities for posting summative assignments and receiving feedback on them. Synchronous tutorials are provided via the Zoom platform, which students are encouraged to attend in real time, with recordings available to them for subsequent viewing. In recent years, a significant proportion of the HEI's online students have pursued their studies under the government-funded programme, Springboard (https://springboardcourses.ie).

QQI sees one of its most important functions as ensuring that educational institutions have effective quality assurance (QA) procedures in place. To achieve this end, QQI conducts reviews of higher education institutions on a cyclical basis. QQI's current cycle of reviews is named the CINNTE cycle and is part of the broader quality framework for institutions comprising Quality Assurance Guidelines; each institution's Quality Assurance Procedures; Annual Institutional Quality Reports (AIQR); and Dialogue Meetings. The CINNTE review cycle is scheduled to run in the period 2017-2023, during which QQI will carry out independent reviews of all Universities, Institutes of Technology and the Royal College of Surgeons in Ireland (RCSI).

QQI published its CINNTE review of the HEI in 2019 and gave a generally positive assessment of the QA procedures in place including their compliance with the requirements of the European Standards and Guidelines (ESG) and their having regard to the QQI Core Quality Assurance Guidelines (QAG). QAG sets out eleven areas in which QA processes must be put in place, from governance, through teaching and learning to monitoring and self-evaluation, with the aim of ensuring that a learning environment reaches an acceptable threshold of quality (QQI, 2016, pp.

2–4). However, QQI found an issue with the consistency of the student experience in relation to teaching, learning and assessment, which is delegated to faculties and schools in the HEI. In QQI's estimation, the student experience varied according to individual programmes, modules or lecturers. QQI's view was that the HEI needed to be more proactive in ensuring that students enjoyed a consistent experience, to a defined threshold level, regardless of the programme of study on which they were engaged. Furthermore, QQI indicated that the question of quality assurance around the student experience was not a new issue and had been raised in the previous institutional review of the HEI, in 2010. Since then, the HEI had done some work in this area but not enough to ensure a consistent evaluation of teaching taking place across all schools and faculties. Part of the recommended actions to address this issue for the future included the creation of reliable management information from consistent data sets of student evaluations of teaching and learning down to the module level. In QQI's view, this was an important omission from the HEI's academic review procedures, including annual programme reviews (APR) and five-yearly periodic programme reviews (PPR). *[Note: citation for QQI review not included to preserve HEI anonymity]*.

Based on the conceptual framework, a mixed methods fixed convergent parallel design was devised, with specific elements as follows.

The 2019-2020 academic year cohort of the HEI's postgraduate students (N=113) were invited to complete an online survey of 15-20 minutes duration on their course experience, using a modified version of the Postgraduate Taught Experience Survey (PTES), see Appendix D, which is a survey instrument widely used in higher education in the UK. As part of the survey, students were invited to contact the researcher separately if they were willing to take part in follow-up semi-structured interviews. In parallel with the student survey, the current tutors (N=16) on the postgraduate courses were invited to take part in one-hour semi-structured interviews on their experience of delivering the courses, including creating course material, instructional approach, devising assignments, marking and providing feedback on assignments, delivering online tutorials, managing online forums and collaborating with fellow tutors.

Follow-up interviews were held with volunteering students in order to enrich and provide additional insights into the data collected through the survey. Finally, participating tutors were invited back to a discussion of the research findings and to consider if, arising from that, their approach ought to be changed in any way to better address student needs. The data from all research elements were then interpreted by the researcher in order to produce the overall findings and conclusions from the research project.

This mixed methods research approach is illustrated in Figure 3-2 below.
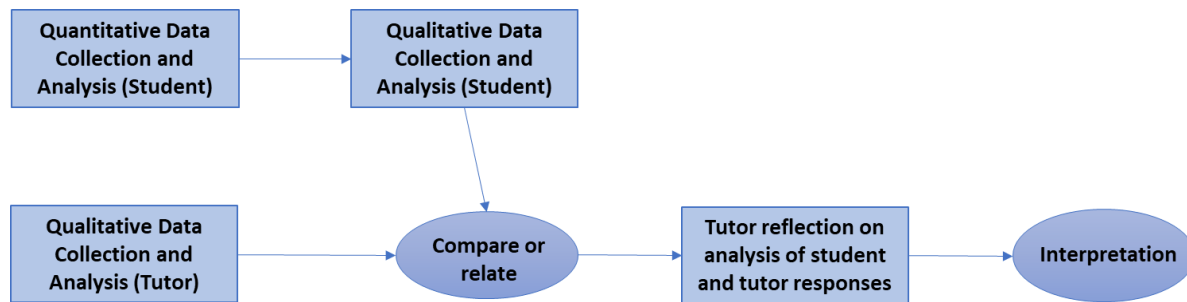
Figure 3-2 Mixed methods design

The initial student survey and tutor interviews took place in parallel, with the student interviews being held after the survey data had been analysed, in order to obtain additional insights into those data. Accordingly, the survey output served to inform the subject matter of the student interviews. The outcomes of the initial tutor interviews, together with the student survey and follow-up interviews were then considered and fed forward to a final review with the tutors. The outcome of this review, in combination with all the earlier research output, provided the data for an overall analysis by the researcher.

Building on the design in Figure 3-2 above, the next section discusses the specific research design choices made when planning this research.

3.3   Research Design

Saunders and Lewis's Research Onion, shown in Figure 3-3 below, provides a useful framework for visualising the choices available to a researcher at each decision point, or layer, of a research project (Saunders and Lewis, 2018). In this way, the Research Onion acts as a metaphor to represent the various stages or layers involved in the research process (2018, p. 105) and, accordingly, it guides the researcher in addressing all elements of a research design and provides a means of checking that coherent choices are being made at each point in the process. The outermost layer of the Research Onion relates to the philosophical stance that underpins all other methodological choices, with the adjacent layer complementing this with the various approaches to theory development. The next three layers are concerned with methodological choices, research strategies and the time horizon. Finally, the core of the Research Onion covers the techniques and procedures for data collection and analysis.

Using the Research Onion as a framework, the choices made at each layer are described and justified. More detailed information on some of the alternative choices available but not adopted is contained in Appendix C.
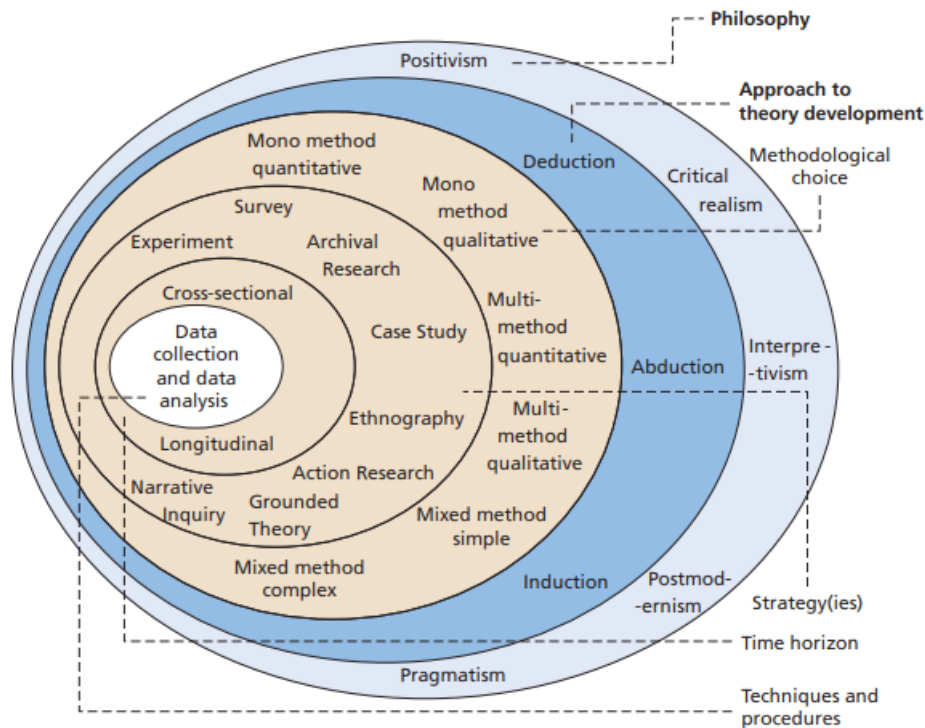
Figure 3-3 The Research Onion
Source: Saunders and Lewis (2018)

The first and overarching decision, in the outermost layer of the Research Onion, concerns the philosophical stance to be taken.

3.3.1 Research Philosophy

A pragmatic philosophical stance was adopted for this research. As the research aimed to examine the student and tutor experience of the relevant postgraduate programmes in an open way, a pragmatic stance was deemed appropriate in order to use those methods that were most likely to provide useful information and facilitate exploration of issues. The pragmatist's approach does not adhere to any predisposed position such as positivism, with its focus on measurable phenomena, or interpretivism with its concentration on the social context. Rather, it looks at the objectives of the research project and how best those objectives can be achieved. Accordingly, no pre-set positions were adopted on what type of data would be considered appropriate, or how that data should be collected. No ontological, epistemological or axiological

position was considered superior to any other in this context. Instead, the focus was on identifying methods that would work in combination to provide the data needed to answer the research questions. This concentration on what would work and be helpful to the research is the hallmark of the pragmatic approach and it was adopted for a variety of reasons.

By its nature, pragmatism promotes the use of multiple methods in research (Kaushik and Walsh, 2019, p. 256). Indeed, it is often associated with the use of mixed methods, giving freedom to use whatever methods and tools best help to answer the research questions, free of the ontological, epistemological or axiological constraints of quantitative or qualitative approaches (Johnson and Onwuegbuzie, 2004; Creswell and Plano Clark, 2011). Pragmatism derives from the Greek root of pragma, or action, and the pragmatist view is that human thought, belief and experience are intrinsically linked, so actions are important in that the results of actions taken are evaluated and used to anticipate or predict the outcome of similar actions that might be taken in the future. The world is not a static place and reality is not static either – it changes through our actions and it is through actions that we change aspects of our own existence. In this way, action mediates between individuals and the world and therefore has a key role in pragmatism (Kaushik and Walsh, 2019, p. 257). Pragmatists avoid metaphysical debates about reality and stress that knowledge is mediated through action and reaction. People's experience of reality is context-specific, which was also a factor in deciding to use a case-study approach in establishing the specific perspectives of students and tutors.

Pragmatism developed out of the resolution of the "paradigm wars" of the 1980s especially, in which positivist and interpretivist approaches vied with each other for pre-eminence as the model of choice for research (Guba and Lincoln, 1994, p. 116).

Morgan (2007) suggested that pragmatism bridges the divide between qualitative and quantitative approaches and that the distinction between inductive and deductive approaches – whether theory drives data or data drives theory – is illusory in practice and that, beyond the theory research laboratory, any real research project has to move between both to be effective. Similarly, the dichotomy between subjectivity and objectivity was seen as artificial, with a plausible resolution being that there is an objective reality in the world but we all interact with it in a subjective way. Also, the notions that inferences can be drawn from data that are so generalisable as to apply to all conceivable situations, or that research can result in findings that are so context-specific that they find no application in any other setting, were both rejected in favour of the notion of transferability, whereby findings from research in one setting can be examined empirically to see how they can justifiably inform research in a different setting. In this

way, pragmatism adopts a middle ground and focuses on using methods that facilitate researchers in answering their research questions.

Armitage (2007, p. 8) pointed out that the pragmatic paradigm does not imply any lack of rigour and critical thinking. On the contrary, a rigorous approach must be taken to selection of appropriate options at all stages of a research project. Despite the legitimacy of this caution, there is a simplicity and logical elegance in matching methods to the purpose and nature of the research questions. This is attractive to a researcher in that it grants freedom from the need to adhere to the demands of a pre-set philosophy, which may come at the expense of conducting the research in the most effective way.

For the reasons set out above, pragmatism was considered the most suitable paradigm on which to build the research design as it provided the freedom to choose the most appropriate methods in order to address a multi-faceted set of research questions.

Having examined the underlying philosophical stance, the next section explains the choices made in the second layer of research design, the approach to theory development.

3.3.2 Approach to Theory Development

The options available in relation to the approach to theory development are deduction, induction and abduction (Saunders and Lewis, 2018, pp. 112–115).

Given the pragmatic nature of this research, an abductive approach was adopted as it gave the freedom to use both of the other approaches. *Abduction* does not adopt the top-down approach of deduction or the bottom-up approach of induction, as described next, but straddles the space between the two, combining both in the course of a research project. *Deduction* involves testing a theoretical preposition, which means that the theoretical position is established first and then a strategy is devised to test it. Data are collected by means of a research strategy, e.g., a survey or an experiment, in order to answer the research questions or test the hypotheses. In this way, deduction is associated with explanatory research that tries to establish causal relationships between variables. *Induction* takes the opposite, or bottom up, approach to theory development. Data are collected and examined for patterns or phenomena of interest, from which conjectures or initial hypotheses can be formed and then investigated. Induction is usually associated with exploratory research that looks to establish novel insights into an area of interest.

Having settled on abduction as the approach to theory development, the next decision point in the design concerned the methodological choices available to the researcher.

3.3.3 Methodological Choice

A mixed methods approach was adopted in order to obtain a rich set of data to provide the best possible insights into the experience of students and tutors on the HEI programmes. This combination of quantitative and qualitative methods was used in a limited (simple) timeframe.

Research methodology literature in the educational field (Campbell and Levin, 2008; Creswell, 2012; Farrell, 2015; Daniel, 2016) underlines that qualitative and quantitative approaches serve unique and, frequently, complementary purposes. For example, Queiros (2017) conducted a narrative literature review of the advantages and disadvantages of qualitative and quantitative approaches. Certain advantages of the quantitative approach were highlighted, including scale and rigour (Yilmaz, 2013), objectivity (Queirós, Faria and Almeida, 2017), and cost effectiveness (Rahman, 2016). There are, however, less positive aspects of quantitative research in education, as discussed by Jones (2000). These include a relative absence of ethical considerations in standard texts on quantitative research, though any claim of a general ethical deficit in quantitative research would be contestable (Edwards, 2020); the lack of holistic interpretations being made due to the blinding power of statistical tests and the misinterpretation of the term "statistically significant" by a non-technical audience. Johnson and Onwuegbuzie (2004) noted the danger that concentrating on testing a particular hypothesis or theory could result in important phenomena being overlooked, giving rise to instances of confirmation bias (2004, p. 19). They also suggested that research findings may be framed too broadly to usefully apply to any given local context. Although coming from a different perspective, Castellan (2010) came to similar conclusions, highlighting two problems associated with quantitative methods: the difficulty of operationalising or quantifying abstract concepts and the problem of controlling those variables that could adversely affect the validity of the statistical tests being used (2010, p. 12).

As with quantitative methods, qualitative methods have advantages and disadvantages. Qualitative methods are useful when specific situations need to be examined in depth and meanings explored with participants. However, qualitative methods also have challenges, most of which are directly associated with the very strengths that allow qualitative research to examine specific situations in depth. Because qualitative methods often look in detail at a specific context, the results from the research can be difficult to generalise to other scenarios. Qualitative data do not facilitate the testing of hypotheses or the making of predictions backed

by numerate evidence. Therefore, the results of qualitative data may be very context specific and have limited wider value. Given the extent to which the researcher can become involved in the specific research situation in order to analyse it in depth, there is also the danger of researcher bias (Johnson and Onwuegbuzie, 2004; Queirós, Faria and Almeida, 2017). Salomon (1991) suggested that qualitative researchers appreciated the need for the kind of validation that the quantitative approach inherently provides, without which it would be difficult to establish a standard of quality for qualitative research (1991, p. 10).

All of this implied that a combination of the qualitative and quantitative approaches would be beneficial, and the desirability of availing of this complementarity by adopting a mixed methods approach has been researched widely (Robson, 2002; Ercikan and Wolff-Michael, 2006; Saunders and Bristow, 2015; Berkovich, 2018). Logically, one approach should not be advocated over others, while ignoring the research context (Johnson and Onwuegbuzie, 2004, p. 16). In this way, the door is opened to producing enhanced quality educational research (2004, p. 24). Indeed, Johnson and Onwuegbuzie made a strong case for the use of a mixed methods approach by claiming that this is precisely what researchers had been engaged in for some time, regardless of the arguments being made by proponents of quantitative and qualitative approaches, and that it was time for "methodologists to catch up with practicing researchers" (2004, p. 22).

There are several ways in which mixed methods can be utilised in practice. Johnson and Onwuegbuzie (2004) developed a taxonomy of mixed methods design (see Figure 3-4 below), in which either the quantitative or qualitative approach may be dominant (denoted by upper case in the figure) with the other subservient (lower case), or they may have equal status (both upper case). Likewise, they may be carried out at the same time (concurrent), or one after the other (sequential).

	Concurrent	Sequential
Equal Status	QUAL + QUAN	QUAL → QUAN QUAN → QUAL
Dominant Status	QUAL + quan QUAN + qual	QUAL → quan qual → QUAN QUAN → qual quan → QUAL

Figure 3-4 A Matrix of Mixed Methods Design
Source: Johnson and Onwuegbuzie (2004, p. 22)

Choosing a mixed methods research design such as one of the options above aims to provide a more complex understanding of a phenomenon, something that would not have been accessible by using one approach alone (Morse and Niehaus, 2009; Creswell and Plano Clark, 2011).

As shown in Figure 3-5 below, Creswell (2018) presents three basic mixed methods designs (convergent parallel design, explanatory sequential design, and exploratory sequential design) as the core designs that underlie many mixed methods studies. For this research, a convergent parallel design was used. In the convergent design, quantitative data and results yield general trends and relationships, while qualitative results provide in-depth personal perspectives of individuals. The combination of both produces not only more data, but also a more complete understanding than would have been possible by using either method alone. In electing to use a convergent design here, the approach allowed multiple perspectives to be advanced that, in turn, could be compared and/or mixed when mining the data.

Creswell (2018) also suggests that mixed methods designs may be fixed or emergent. In a fixed design, the use of quantitative and qualitative techniques is determined from the outset, while in emergent design, mixed methods are used because of issues that arise during the study. Creswell emphasises, however, that fixed and emergent designs are not separate categories but points on a continuum and suggests that many mixed methods designs exhibit the features of both approaches. While the planned design of this research was contingent on some students making themselves available for interview and would have required a design change if no such volunteers had emerged, the intended approach was nevertheless fixed in advance.

Notwithstanding the dependency on student volunteers, the design exhibited the characteristics of a fixed convergent approach, with the student survey, student interviews, tutor interviews and tutor review being planned in advance (Sage Publications, 2018, pp. 52–53).
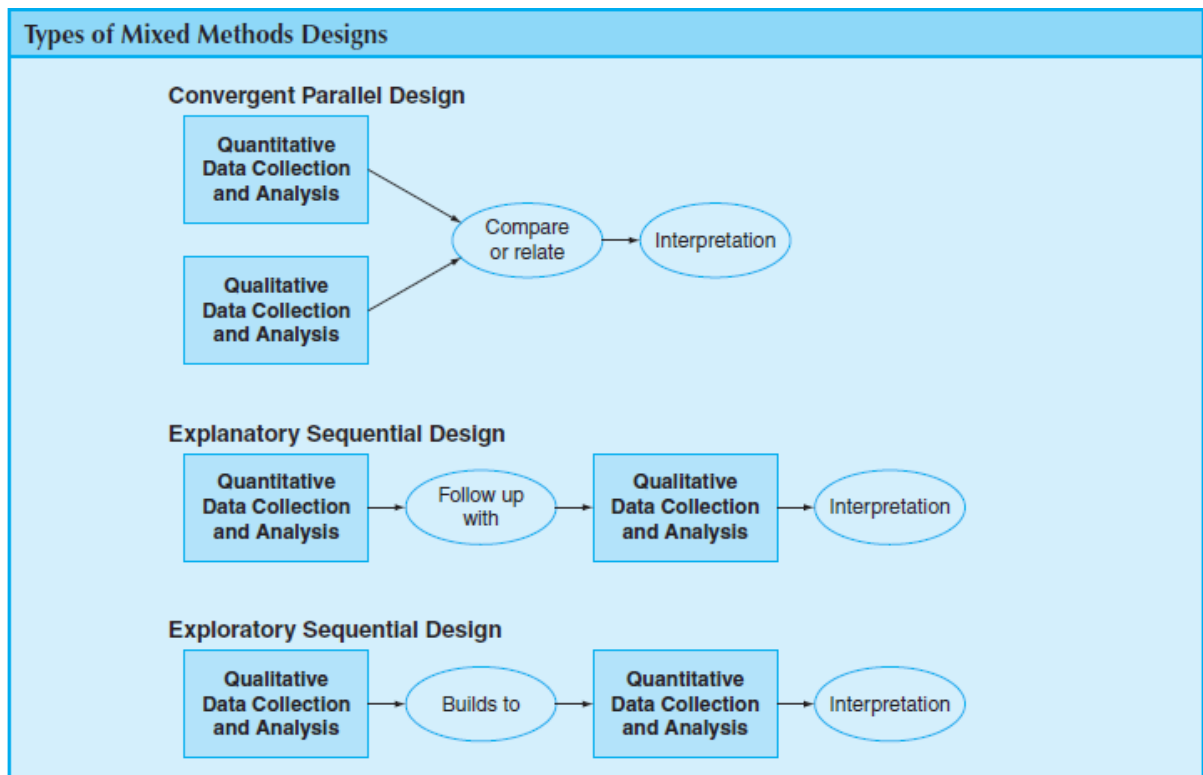
Figure 3-5 A Matrix of Mixed Methods Design
Source: Creswell (2012, p. 541)

In the initial stage of the research, primarily quantitative data, in the form of the student survey, and qualitative data, in the form of the tutor interviews, were collected in parallel. An aim of the research was to explore the separate student and tutor views of a shared experience through analysis of both quantitative and qualitative data (Robson, 2002, p. 59). The student data and the tutor data were valued equally in contributing to the research effort, so in terms of the matrix of options presented in Figure 3-4 above, this equated to a concurrent, equal status approach as depicted in Figure 3-6 below.

Concurrent

QUAL + QUAN
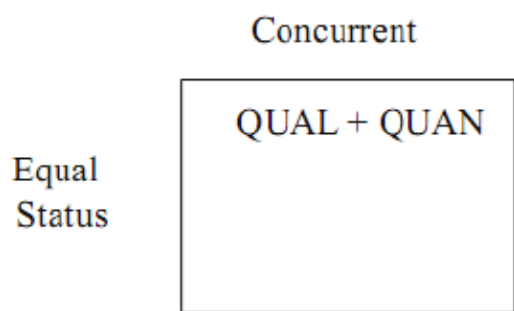
Equal
Status

Figure 3-6 Concurrent, equal status approach
Source: Johnson and Onwuegbuzie (2004, p. 22).

This approach was feasible as the students and tutors were providing their separate opinions on a shared experience on a postgraduate course. To delve more deeply into aspects of the student survey results, participants in the survey were invited to contact the researcher and indicate their willingness to take part in follow-up interviews. As a number of student participants made themselves available for this purpose, the next stage of the research consisted of follow-up interviews with students in order to enrich and provide additional insights into the survey data. Finally, after the student survey and interview data had been analysed and compared with the findings from the tutor interviews, the tutors were presented with this analysis and asked to reflect on these preliminary findings with the researcher, especially in any areas where differences of opinion had emerged. Part of the rationale for going back to the tutors for a second time was that the tutors are a more permanent constituent of the course delivery, compared with the more transient student cohorts, so the opportunity arose to share the student view with them, compare it with their current practice, and check if they saw potential for changes in their practice to better address the student needs.

For the reasons discussed in this section, a mixed methods approach was considered most suitable to the requirements of this research. The next section examines the design choices made in deciding on the specific research strategies that would be used as part of the mixed methods approach.

3.3.4   Research Strategies

At the research strategies layer, the options available for this research were experiment, survey, case study, archival research, ethnography, grounded theory, action research and narrative inquiry.

As the research examined a particular situation in the HEI, this provided a specific real world setting and context for the case study approach and, accordingly, this was the strategy adopted.

Although there are variations in definitions of the case study, there is general consensus that it is 'a versatile form of qualitative inquiry most suitable for a comprehensive, holistic, and in-depth investigation of a complex issue' (Harrison *et al.*, 2017, p. 12). Yin (2017) described the case study as a form of empirical enquiry into a phenomenon in its real world setting. Seeking alternative explanations of issues using a mix of qualitative and quantitative data helps to provide insight into issues in their specific context. This description fits well with the approach of the current research, which was to examine different student and tutor views on a shared educational experience and to explore particular topics in further detail using a combination of methods, all with a common locus in the postgraduate programmes of the HEI. Butler and Cartier (2017, p. 331) found that educators relate to case studies, with their multi-dimensional research-based descriptions that profile the learning and teaching process with all its contextual complexity. They suggested that case studies are worthwhile in gathering information that can be rigorously reviewed to 'advance understanding' and also enable the presentation of research findings without misrepresenting the complexity of those learning processes in their contextual setting. The use of the case study approach therefore allows multiple views on topics to be expressed and in this way potentially facilitates triangulation in developing a comprehensive understanding of issues. In turn, the adoption of the case study approach is facilitated by the use of a mixed methods methodology, which permits the collection of a variety of data for analysis as part of the case study.

Case study research is a broad category that can be conceptualised in various ways (Yazan, 2015, p. 134) supporting exploratory, explanatory, interpretive or descriptive aims (Harrison *et al.*, 2017, para. 18). It can also be used in narrative research, phenomenology, grounded theory and ethnographical studies, all rooted in the desire to understand the perspective of those engaged in the activities under review.

As an aim of this research was to explore the views and experiences of students on the relevant courses, the case study had an exploratory character. It aimed to go beyond simple description but without attempting to be explanatory in nature, for example by identifying causal relationships between any variables, or individual data items, collected in the research. In addition, cases are bounded and defined by time and activity (Creswell, 2014, p. 14) and the specific "case" in this case study was the 2019-2020 set of postgraduate courses delivered online by the HEI concerned and as described earlier in this chapter.

The two remaining layers of the Research Onion concern the timescale for conducting the research and the data collection methods to be used, which are considered in the next sections.

3.3.5 Time Horizon

The options available here were a longitudinal study and a cross sectional study. For practical reasons, a cross sectional time horizon was used as the research had to take place within the set timeframe of the thesis writing phase of the course. The overall timescale of the research activities encompassed the period June through October 2021, as shown in Figure 3-7 below.

Jun 2021	Jul 2021	Aug 2021	Sep 2021	Oct 2021
Pilot Survey 17th – 30th	Main Survey 2nd – 30th + Tutor Interviews 5th – 12th			
		Student Interviews 24th – 31st		
				Tutor Final Review 8th
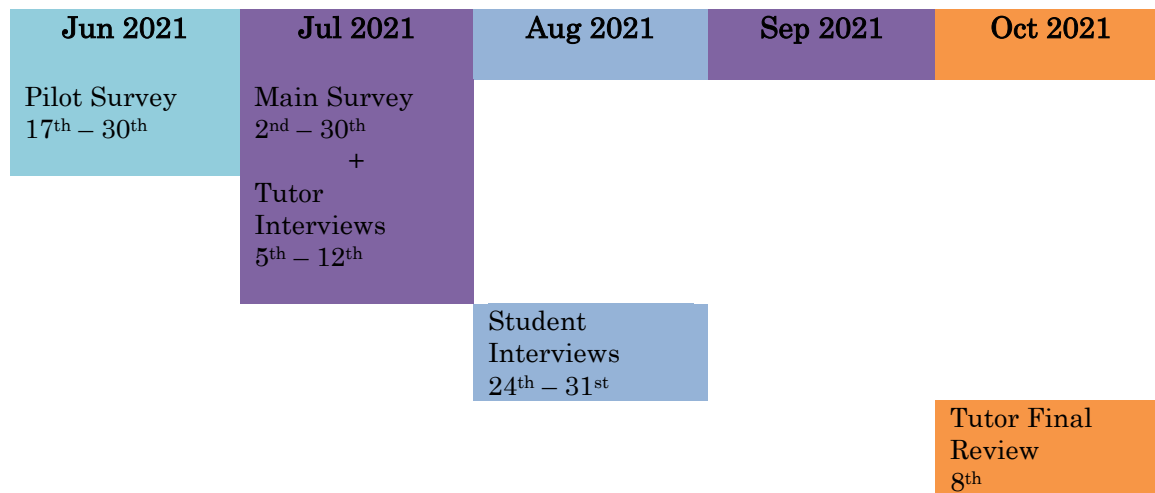
Figure 3-7 Research Timeline

The next section deals with the final methodological design choice – that of data collection techniques and procedures.

3.3.6 Data Collection

A total of 113 students were invited to participate in the student survey. They were all adults, of a range of ages and genders, who had completed their postgraduate courses in the HEI in the academic year 2019-2020. This was the most recent cohort of students who had completed their courses. A group of students who had finished their studies was chosen to avoid any potential ethical issues with research involving current students.

16 tutors were invited to participate and they were of a range of ages and a mix of genders. Tutors are mostly part-time staff members with other roles in private and public organisations and academia. A census of tutors on the relevant programmes was attempted by inviting them all to participate, so it follows that no specific age range, gender or other demographic group was selected or excluded.

To avoid GDPR issues, the Programme Chair for postgraduate programmes in the HEI acted as a gatekeeper in contacting students and tutors, advising them of the purpose of the research, what would be asked of them as participants and inviting them to take part in the research.

The research population can be conceived of as all past and current students and tutors on the HEI postgraduate programmes and on any similar programmes elsewhere. For this case study research, a purposive, pragmatic sampling strategy was used, using a sampling frame of the students who completed their postgraduate programmes in 2019-2020 and the tutors involved in the programmes at that time.

Pilot Study

Conducting a pilot is considered best practice and a standard phase of instrument design. As provision for a specific pilot survey had not been included in the original research ethics approval request, an amended request was submitted to, and approved by, the DCU Research Ethics Committee. A Qualtrics-based pilot study was carried out with the 2020-2021 cohort of HEI postgraduate students (N=197), facilitated by the postgraduate Programme Chair . Qualtrics is a widely used experience management software product, with implementations in over 100 countries. It is GDPR compliant, well-recognised for its functionality (Gartner Inc, 2021) and was chosen by DCU as its licensed survey software. The pilot survey (see Appendix E) sought input from participants on any survey questions they felt were ambiguous or problematic. 55 students responded to the pilot survey, giving a response rate of 28%. Having examined the responses and looked at the feedback from participating students, one statement from the section on Self-Regulated Learning was reworded to resolve ambiguity. The final statement in this section was deleted as it had been designed solely as a negatively worded version of an earlier statement. In part, this deletion was done to address potential researcher-bias and also because it was decided that presenting a single negatively worded statement in a set of otherwise positively worded statements would be potentially misleading to respondents (Chyung, Barkin and Shamsy, 2018).

While the tutor participants were known personally to the researcher and the purpose of the research was set out in the Plain Language Statement, it was decided that a more in-depth background to the proposed interviews could usefully be provided, so a briefing video was recorded on Zoom and circulated to the tutors in advance of the interviews. This gave tutors details of the topics to be explored at the interviews and the reasoning behind choosing those topics. The tutors were also provided with details of the student survey questionnaire so that they were aware of the information being collected from students.

Having set out the various methodological choices made in the research design, the focus now shifts to the data collection aspect with an explanation of how the questionnaire used in the student survey was designed.

3.4 Questionnaire Development, Design and Analysis

3.4.1 Introduction and Background

Although it is used extensively in academic literature and government publications, there is no clear definition of the term "student learning experience". A systematic literature review on the topic found that it encompassed a range of themes including students' perceptions of learning, curriculum development and resources, approaches to teaching, assessment and feedback, learning environments, induction/transitions and quality assurance and enhancement (Ertl *et al.*, 2008, p. 28).

In their review, Ertl *et al*. (2008) reported a preference for quantitative research using surveys to measure learning experience. Malhotra (2012) found that the advantages of survey-based research included ease of use, reliability and simplicity, against which must be weighed known disadvantages such as inability to probe, lack of personalisation, response rate and issues around interpretation and analysis (Sarantakos, 2013). Nevertheless, extensive research in the area has concluded that student feedback on teaching, if based on properly designed survey instruments and data collected in an appropriate manner, are stable and reliable; valid indicators of effective teaching; largely unaffected by variables that could introduce bias; and are seen to be helpful in improving teacher effectiveness, supporting students in making course choices and informing educational institutions' decision-making (Marsh *et al.*, 2009, pp. 445–446).

Kelley *et al.,* (2003) suggested that existing questionnaires should be reviewed when looking for an appropriate research instrument and Rowley claimed that using part or all of an existing questionnaire is acceptable and 'even advisable' in such circumstances (2014, p. 213).

Based on that suggestion by Kelley *et al.* (2003), several internationally-recognised postgraduate student questionnaires were identified. In the UK, the Postgraduate Research Experience Survey (PRES) is used by all HEIs to obtain feedback from postgraduate research students on their research learning experience and the quality of their courses. PRES was the basis for the Irish Survey of Student Engagement for Postgraduate research students (ISSE-PGR), which was piloted in 2018. This survey instrument has a strong focus on the research elements such as research supervision, skills, infrastructure and institutional culture (Higher Education Authority, 2018). The HEI's postgraduate programmes contain a very significant taught element, however, which is missing from the PRES instrument. The PGR survey shares many common questions with the UK PRES whilst also including items specific to the Irish national context, such as elements of the National Framework for Doctoral Education. The focus of the survey, however, is on student engagement with learning, rather than student satisfaction, whereas the current research

sought to establish students' views on how well their needs were being met, so the student satisfaction focus was missing in PRES and ISSE-PGR. For these reasons, the Postgraduate Taught Experience Survey (PTES) was examined for suitability in this research project and is discussed in more detail next.

3.4.2   Questionnaire Development and Design

The PTES survey is run by the UK Higher Education Academy to establish students' satisfaction with the *taught* aspect of their learning experience, while also incorporating a specific section on the students' research dissertation. PTES collects feedback from taught postgraduates about their experiences of their programmes and is designed to help inform discussions and decisions within institutions about enhancements to learning and teaching.

The survey includes questions on the full study cycle of taught postgraduates, from motivations and information used to support course choice, experiences while on the course, through to their skills development and preparation for a future career (Soilemetzidis, Bennett and Leman, 2014, p. 8). The survey is organised along thematic lines, using a mix of closed and open-ended questions. Likert scales are used to collect information on students' levels of satisfaction with each of the following elements of their course:

- **Quality of Teaching and Learning** - a scale comprising seven items, for example "Staff are good at explaining things".

- **Engagement** - a scale comprising five items, for example, "I am encouraged to ask questions or make contributions in taught sessions, face-to-face and/or online".

- **Assessment and Feedback** - a scale comprising four items, for example, "The criteria used for marking have been made clear in advance".

- **Dissertation and Major Project** - a scale comprising four items, for example, "I understand the required standards for the dissertation / major project".

- **Organisation and Management** - a scale comprising five items, for example, "The timetable fits well with my other commitments".

- **Resources and Services** - a scale comprising four items, for example, "The library resources and services are good enough for my needs (including physical and online)".

- **Skills Development** - a scale comprising six items, for example, "As a result of the course I am more confident about independent learning".

The survey also includes questions on information access, motivation and demographics and asks students to give an overall measure of course satisfaction (Park and Kulej, 2009). The questions contained in the PTES survey were reviewed and considered to be generally appropriate for the research questions in the current project, but overly detailed on capturing demographic data.

Given that HEIs provide a service, it is fair to expect that student experience would be a prime determinant of satisfaction with the quality of that service (Wilkins and Stephens Balakrishnan, 2013, p. 145). Looking at the quality of education in the UK context, Hill *et al.,* (2003) found that the most important factors were quality of lecturer/classroom delivery, quality of feedback given to students during lessons and on assignments and lecturer-student relationships in the classroom. A study in a wider European context, covering 11 countries, found that the highest influencing factors included contact with fellow students, course content, equipment and content of libraries, teaching quality and the supply of teaching/learning materials (García-Aracil, 2009). Social conditions, educational facilities and estimation of an institution's ability to provide a good intellectual environment were also found to be factors in student satisfaction (Wilkins and Stephens Balakrishnan, 2013). Other studies came to broadly similar conclusions, finding that student satisfaction in higher education is influenced by the quality of feedback, lecturer-student relationship, interaction with fellow students, course content, availability of appropriate learning materials and equipment, as well as library facilities (Kuh and Hu, 2001; Sojkin, Bartkowiak and Skuza, 2012). Teaching capability, flexibility in the curriculum, the institution's status and prestige, its independence and effectiveness, attention to student growth and development, the climate on campus and social conditions have all been highlighted as major factors in determining student satisfaction in higher education (Beerli Palacio, Díaz Meneses and Pérez Pérez, 2002; Douglas, Douglas and Barnes, 2006). From an independent perspective, notwithstanding the work that went into its design, it can be seen from the foregoing that the literature is supportive of the content of the PTES questionnaire as far as the factors of student satisfaction are concerned. The exception to this is the dissertation or major project, which is an important element of a postgraduate degree but one with a different character to taught modules. This may explain the relative lack of focus on it in the literature but the PTES designers justifiably felt it was appropriate that it be included in a survey of taught postgraduates.

To establish if there were other potential questionnaires that might be suitable, in addition to the PTES, the literature on questionnaires on Self-Regulated Learning was reviewed and a number of sources were identified:

Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich *et al.*, 1991).

Assessing Metacognitive Awareness (Schraw and Dennison, 1994).

Learning Strategies Questionnaire (Warr and Downing, 2000).

Online Self-Regulated Questionnaire (Barnard *et al.*, 2009).

Self-Regulated Online Learning Questionnaire Revised (SOL-Q-R) (Jansen *et al.*, 2018).

In addition, the Learning and Study Strategies Inventory (LASSI) is a very widely used learning inventory throughout the world (Downing and Shin, 2006).

In evaluating the suitability of these questionnaires, the following factors were considered:

The MSLQ and Metacognitive Awareness questionnaires were both developed in the early 1990s, before online learning became widely available.

The Learning Strategies Questionnaire was not designed for an online environment.

The Online Self-Regulated Questionnaire, by contrast, was developed for the online environment.

The SOL-Q and SOL-Q-R were designed to take account of the earlier efforts, listed above, and to develop a questionnaire applicable in the online environment with specific reference to MOOCs.

The LASSI measures students' perceptions of the strategies and methods they employ in their study and learning. Therefore, it is a measure of students' thinking about their thinking, or metacognition.

These questionnaires focused on aspects such as motivation, metacognition, time management, approach to assessment activities, goal setting, self-evaluation, persistence and help-seeking. However, they did not ask students to evaluate their course experience and how well the courses were facilitating them in their learning. In other words, there was a need to know more about how well students felt they were being facilitated in their learning in the HEI context. In that regard, the Postgraduate Taught Experience Survey (Soilemetzidis, Bennett and Leman, 2014), which specifically examines the experience of a taught Masters course, appeared more relevant to the needs of this research.

It was decided to concentrate on the substantive questions in the PTES survey (Appendix D), Q1 through Q21, and to omit the detailed demographic questions, Q24 through Q36, that were

more relevant in a large-scale, multi-institution survey. These were replaced with a smaller set of demographic questions relevant to this research. Q22 and Q23, relating to obtaining information prior to choosing a course, were also omitted as they weren't seen as directly relevant to this research. Keeping the number of questions to a minimum was also seen as a desirable objective, though this was not done at the expense of excluding relevant questions.

Accordingly, for the reasons set out above, it was decided to use the core PTES questions as the basis of the research questionnaire, with a reduced set of demographic questions covering gender, age, course taken and funding status, plus the addition of a block of questions specifically addressing self-regulated learning and consistency in the student experience. Taking into consideration the adult postgraduate setting and the importance of the constructivist approach, the following aspects of self-regulated learning were included in the questionnaire: self-motivation, time management, reflection and self-assessment, which are all recognised as essential components of SRL (Anthonysamy, Koo and Hew, 2020, p. 2397), prior awareness by students of the need for SRL and use of authentic examples in the course (Meyer and Murrell, 2014), transferability of knowledge to real-world settings and the recognition of self-regulation in how the programmes were presented (Zimmerman, 2002; Merriam, Caffarella and Baumgartner, 2006; Rowe and Rafferty, 2013; Broadbent and Poon, 2015; OECD, 2018; Pérez-Álvarez, Maldonado-Mahauad and Pérez-Sanagustín, 2018). Cotterill (2015) also provided support for the elements added to the base PTES student survey by highlighting SRL skills such as motivation, time management and planning, as well as intellectual skills such as critical thinking and resolving real life problems as essential learning domains in higher education. As one of the research questions was about the consistency of the student learning experience and given that the need for consistency has been highlighted as an important factor in student success (Brown, 2007; Ferguson, 2011; Hills *et al.*, 2018), three statements were included in the survey relating to how consistent students found their experience in relation to the teaching, assessment and feedback provided by the tutors. See Appendix F for a copy of the final survey instrument employed in this research.

When using an existing questionnaire, there is a need to consider the reliability and responsiveness to change of the instrument (Kelley *et al.*, 2003). Appropriate measures must be used in an instrument, with precision in analysis and generalisability of findings (Saunders, Lewis and Thornhill, 2019). The reliability aspect covers a survey's replication and consistency, so it is worth noting that, since its introduction in 2009, the PTES has been used extensively, with over 100 HEIs in the UK administering the survey annually to their students.

The PTES instrument is kept under continual review for currency, and the present version dates from a redesign in 2014 that followed extensive cognitive and quantitative testing of the survey items (Soilemetzidis, Bennett and Leman, 2014). The cognitive testing comprised a review of the then current survey items to test face validity and interpretation of experience-related questions, to propose and test alternative wording where appropriate and to contribute to a robust evidence base underpinning the PTES survey (Soilemetzidis, Bennett and Leman, 2014, pp. 10–12). The survey redevelopment was evidence-based, following wide consultation, analysis of past data, and research and testing with students themselves. This cognitive testing of survey questions was carried out to ensure that participants would interpret them consistently and as intended, and to inform interpretation of results. External consultancy resources were commissioned by the HEA to undertake cognitive testing of PTES questions in order to check face validity, interpretation and potential alternative wording. Face-to-face interviews, telephone interviews and focus groups were used in a four-stage iterative process involving 77 multi-discipline postgraduate students from 11 institutions across England, Scotland and Wales.

The new questionnaire was organised into thematic scales informed by quantitative analysis of previous PTES surveys. Factor analysis and internal consistency testing were carried out on the eight main scales using the 2014 data to check whether it was justifiable to summarise each questionnaire scale with a single score.

Taking the foregoing into consideration, the following conclusions can be drawn. The literature provided a sound base for using an existing questionnaire and having considered the various alternatives, the PTES questionnaire seemed most suitable to taught postgraduate students as it had been aimed specifically at this cohort. Furthermore, its content had been well established as suitable for determining student satisfaction and given its background and evidence-based verification, it would be far more credible than anything that the researcher could originate. The 2014 redesign of the PTES questionnaire was done on a qualitative and quantitative basis to improve the quality of the survey and, finally, the questions added by the researcher on SRL and consistency were justified by the literature in the context of research on adult online postgraduate students.

Although the reliability of PTES had been established through repeated use, it has been recommended that its reliability be verified in the context of a specific research project by calculating Cronbach's Alpha (Tavakol and Dennick, 2011, p. 53). This would confirm that, in a given context, the various elements under the individual headings, for example, "Quality of

Teaching and Learning" are internally consistent and represent a reliable scale to measure the relevant construct. Therefore, as discussed in the next section, a number of reliability tests were conducted, based on pilot and final survey instrument data, to underline the validity of any inferences made when subsequently interpreting the data.

3.4.3 Reliability Tests

Cronbach's Alpha was calculated to test the reliability or internal consistency of the scales used in the pilot and final surveys (Barnard *et al.*, 2009). It was adopted here because of its widespread use in research projects (Taber, 2018, p. 1288). In the test on pilot survey data, the single negatively worded statement was omitted because, as explained above, it had been designed solely as a cross-check against the responses to another statement. The results for the pilot and final survey tests and for the 2014 redesign of the PTES survey are shown in Table 3-1 below. It should be noted that the data set sizes for the pilot (55) and final (38) surveys were small, relative to the PTES data set size of approximately 68,000. The larger the sample size, the more power and precision it offers but the smaller sample size used in this research was more focused on, and specific to, the case study approach adopted.

Table 3-1 Cronbach's Alpha Coefficients for Pilot and Main Survey Questionnaires

Scale	PTES 2014 Data Alpha	Pilot Data Alpha	Final Data Alpha
Quality of Teaching and Learning	.891	.821	.790
Self-Regulated Learning	N/A	.889	.783
Engagement	.779	.758	.503
Assessment and Feedback	.834	.575	.718
Dissertation	.866	.961	.905
Organisation and Management	.834	.762	.806
Resources and Services	.833	.776	.804
Skills Development	.900	.859	.923

In two cases above, highlighted in red, the Alpha score was less than the recommended minimum value of 0.7 for scale reliability.

Engagement

The Alpha score of .503 in the final survey was less than the recommended threshold of .7 for reliability of a scale value. In the 2014 redesign of PTES, the Engagement scale was not considered to clearly form a single factor and it had the lowest Alpha score of all the scales,

though it was still above .7. Accordingly, it was suggested that the questions under the Engagement heading could be more usefully examined by drilling down into the individual items.

<u>Assessment and Feedback</u>

The Alpha score of .575 in the pilot survey was less than the recommended threshold of .7 for reliability of a scale value. Accordingly, the reliability of the Assessment and Feedback scale was not indicated, based on the data in the pilot survey. However, given that the PTES survey Alpha result was above the recommended threshold, based on a much larger data set, it was decided to leave the questions unchanged for the final survey.

In the final survey, the Alpha score of .718 exceeded the recommended threshold of .7 for reliability of a scale value. Accordingly, the reliability of the Assessment and Feedback scale was indicated, albeit by a small margin.

Details of the SPSS tests on the Self-Regulated Learning scales and commentary on the reliability test statistics for the remaining scales are included in Appendix G.

The distribution and response rate for the survey are considered next.

3.4.4   Distribution and Response Rate

The final student survey was conducted with the 2019-2020 cohort of the HEI's postgraduate students. Similar to the pilot survey, it was presented using Qualtrics and opened on July 2nd, 2021. Two reminders were issued subsequently and the survey was closed on July 30th. A total of 42 responses were received; 4 of these were incomplete, of which 3 only answered demographic questions and 1 answered the demographic questions and some, but not all, of the substantive questions. Qualtrics stores incomplete survey responses to allow respondents the opportunity to complete the survey, but it moves incomplete responses to "recorded" status after the designated period for completion has passed, even if no additional data has been inputted. For consistency, these 4 incomplete responses were deleted, leaving 38 valid and complete responses. This represents a response rate of 34% from the sampling frame of 113, which was considered acceptable for a survey of this type. For comparison purposes, response rates in two analogous surveys are shown in Table 3-2 below. These surveys are the PTES, on which the questionnaire in the student survey was based, and the Irish Survey of Student Engagement (ISSE), which is undertaken by first year and final year undergraduates and by taught postgraduate students.

Table 3-2 Survey Response Rates

Survey	Response Rate	Comments
PTES 2019	32%	PTES 2020 rate not used as it was significantly lower due to Covid-19
PTES 2018	29%	
ISSE 2020	31%	Highest response rate to date in ISSE
ISSE 2019	29%	

In ISSE 2020, the response rate for taught postgraduate programmes was 23% and the response rate for part-time or remote programmes was 16%. The ISSE 2019 equivalent response rates were 21% and 15% respectively.

Accordingly, the response rate of 34% for the student survey in this research project was at or above the benchmark response rates for similar, but larger scale surveys.

3.4.5 Analysis of Survey Data

Qualtrics' built-in facilities for analysing and presenting survey data were used to obtain and display the responses to each of the individual Likert scale questions in the survey, using a matrix style presentation. Qualtrics can also present data in chart format and this facility was used to show the results of the multiple choice questions relating to students' motivation to undertake their postgraduate courses and their motivation to study at the HEI specifically.

The survey data was also exported from Qualtrics to Excel and SPSS to facilitate analysis of the quantitative data. NVivo was used to supplement manual thematic analysis of the qualitative data but it did not add significant value and was not used in presenting the research findings.

Details of the topics discussed in the various interviews conducted in this research are outlined next.

3.5 Interview Coding, Participant Selection and Analysis

Participant recruitment for interviews was covered in the Overview and Research Design sections, above. In summary, the eight HEI postgraduate programme tutors who agreed to take part in the research were initially interviewed in one-hour semi-structured interviews. Four interviews were held in total: the first with four tutors, the second with two tutors and the final two with individual tutors. The student interviewees were taken from the six survey respondents who self-selected by volunteering for interview after they had completed the survey. Two interviews were held, one with three students and one with two, the exception being one student who, for logistical reasons, was unable to make himself available in a suitable timescale.

The eight original tutor interviewees were all invited to participate in a final group review of the findings presented by the researcher. In the event, six of the original eight tutors participated in the final review session, with one tutor opting out of further participation as he had left the HEI in the interim and another being unable to join the session while located abroad. All interviews were conducted via Zoom using the secure DCU licenced product and recommended protocols.

The tutor interviews were approached as follows, with the full interview schedule shown in Appendix H.

3.5.1 Tutor Interviews

In June 2021, through the HEI Postgraduate Programmes Chair, tutors were provided with a video recording, prepared by the researcher, outlining the background to the research and the issues to be covered with the tutors during the interviews. Interviews took place with eight tutors on four separate occasions between July 5th and July 12th, 2021.

The literature review supported the need to capture the faculty voice as this may diverge from the voice of the student in key areas such as assessment and feedback (Fletcher *et al.*, 2012; Evans, 2013; Dargusch *et al.*, 2017). It also suggested that the need to hear the faculty voice was amplified by the extent to which it has been under-represented in research (Gozali *et al.*, 2017). Furthermore, where the faculty members are part-time staff, they may not be as supported as they ought to be or have sufficient clarity on the specifics of their role (Dean, Harden-Thew and Thomas, 2017; Metz and Bezuidenhout, 2018).

The online educator has been defined as 'someone who interacts directly with learners to support their learning process when they are separated from the tutor in time and place for some or all these direct interactions' (Denis *et al.*, 2004, p. 3). This support incorporates the creation of learning materials, teaching students online, supporting them in their learning and assessing them formally (Ní Shé *et al.*, 2019, p. 19). Following a review of definitions and models of online teaching from the literature (Edwards, Perry and Janzen, 2011; Dunlap and Lowenthal, 2018; Metz and Bezuidenhout, 2018), Ní Shé *et al.* identified three key elements for effective online teaching. These were presence, facilitation and supporting students (2019, p. 41).

Presence incorporated communications, including listening to students; creating a friendly online environment; setting expectations and displaying good online behaviour.

Facilitation covered encouraging (facilitating and promoting) interactivity and cooperation, including resolving any conflicts that might emerge; helping students to become active and independent learners, and using appropriate instructional strategies.

Supporting meant providing feedback to students; monitoring their progress; managing time and the learning environment; being a source of subject matter knowledge and being responsive to students.

For this research, it was decided to base the tutor interviews on the range of course-related activities undertaken by tutors as these activities mapped directly to the categories of effective online teaching as identified by Ní Shé *et al.*:

> *Presence:* communicating with students through online forums, course activities and emails; having a friendly and welcoming online persona.

> *Facilitation:* nurturing independent learning through online teaching, monitoring and encouraging students in their use of online forums.

> *Supporting:* creating assignments, writing course content, presenting online tutorials, assessing student work and providing them with feedback.

So, exploring how well the tutors felt they performed these activities would help to establish how effective they considered themselves as online teachers and, therefore, how well they were addressing the needs of their students, which was the focus of the second research question set out in the previous chapter.

In addition, recognising that tutors collectively affect how students experience their learning, it was considered appropriate to explore the issues of collaboration among tutors and tutor training, and to incorporate any other topics that the tutors themselves wished to raise.

At the outset of the interviews, tutors were asked if they had any questions or clarification requests in relation to the research itself or anything that had been covered in the briefing video.

In some of the interviews, this request was taken up by the tutors, which provided a natural lead into the discussions, while in others the conversation opened with the first of the prepared list of topics to be covered, the aim of which was to cover the subject areas set out below, with the indented paragraphs setting out the rationale for including the related topic.

The suitability of the course material (the notes provided online to guide students) for online learners. Linked to this, what instructional design approach did the tutors use in their tutorials and other advice to students?

> The purpose of this line of enquiry was to establish points of connection between the self-management demands on students and the teaching or instructional approach of tutors. In the case of those tutors who authored course material, the intention was to explore what objectives they had as they approached writing the material.

The scope for students to self-assess their progress, beyond formal assignments, as they worked their way through the course material.

> The purpose of this topic was associated with self-regulation and specifically to the notion of self-assessment, which was a particular area of concern for the researcher.

The tutors' approach to what they covered during the limited number of online tutorials presented for students.

> The reasoning behind this was to see if the assignments featured strongly in online tutorials or if a wider subject matter approach was taken. This would also shed light on the commonality of approach taken by tutors and, thereby, the consistency or otherwise of the student experience in this area. This topic was related to the wider issue of the approach taken to student communications, which is covered next.

The level of interaction with students outside of the scheduled tutorials. What was seen as the purpose of the online discussion forums in Moodle; what use was made of them and how proactive was this on the tutors' behalf.

> As mentioned, this was part of a wider discussion on student communication and tutoring, designed to see if any teaching or prompting took place outside the formal tutorials and to establish the tutors' general attitude to the online forums and the potential expectation on tutors to provide timely responses to online queries or comments.

The tutors' attitude and approach to feedback on assignments, including the use of the standard rubric and the importance of presentational as well as substantive aspects of student assignments.

> The purpose of this topic was to explore the ways in which different tutors prepared and presented their feedback. This was intended to establish the degree of commonality of

approach and to identify if there were any major divergences that would affect the consistency of the student experience and potentially expose them to different marking approaches, notwithstanding the existence of a marking rubric. Directly linked to this was the question of the extent to which tutors consulted each other when engaged on a common task, as discussed next.

The tutors' views and practice on collaboration and consultation when marking a shared assignment and, on a wider scale, in comparing approaches to, and experience of, tutoring.

Linked to the general theme of consistency, the purpose of this enquiry was to see how and to what extent tutors consulted each other when marking a common assignment, to ensure that students as a group were being treated on a level footing. Beyond that specific topic, the purpose was to see if tutors shared practice experience and issues, be that identifying pitfalls to avoid or offering tips on good habits or resources.

On a general level, was there a feeling of brand identity in the HEI, in the sense of working to a common set of standards, whether in presentational or substantive matters.

The purpose of this topic was to establish if tutors felt that they were working to a standard that was emblematic of the HEI and that would be recognisable to anyone observing practice in any of its modules, regardless of what tutor was presenting it. As well as establishing the tutors' views on the extent to which this commonality existed, another purpose was to establish if the tutors felt that such a common approach or set of standards was desirable or not.

In closing, tutors were invited to raise any other topics they felt to be relevant but had not been covered in the preceding discussion.

The interviews were conducted by Zoom due to Covid-19 restrictions. They were recorded using the "record to the cloud" facility in Zoom and the option was set for an audio transcript to be produced.

The quality and integrity of the audio transcription feature in Zoom varied according to the strength of the participants' internet connections, or, in one case, their mobile phone signal; the quality of the microphone in use, be that integrated or as part of a headset; the presence of ambient noise and, most obviously, by the clarity of the interviewees' diction. After each interview, the transcript was checked by reading it while listening to a recording of the Zoom session. The transcript was corrected line by line wherever the software did not correctly pick up

what had been said. The transcript was not sanitised in any other way and the corrected transcription file was sent to participants along with a link to the cloud recording, which displayed the original, uncorrected transcript when viewed. Participants were asked to check the corrected transcription against the recording for their contributions and to identify any issues. They were also invited to correct anything that may have been properly transcribed but which they had not intended to say, and to add anything that may have occurred to them since the interview or on reading the transcript. One tutor availed of the latter option by adding some comments to her original contribution while confirming the integrity of the transcript.

3.5.2   Student Interviews

The purpose of conducting the student interviews was to explore areas of interest in the results of the student survey and also as a form of member-checking with the survey participants, to validate the researcher's interpretation of the survey data. In research methodology terms, this was contingent on students volunteering to take part in follow up interviews, which required a positive contact from interested students and not just a text entry response within the survey, so it could not be assumed in advance that such volunteers would emerge. A second unknown in advance was what specific issues would emerge from the student survey. In that context, only general approach principles could be decided beforehand, which included advising students of the topics to be covered in advance of the interviews and emphasising that they would not be asked to divulge how they had responded to any aspect of the survey.

3.5.3   Tutor Review

As with the student interviews, the tutor review could only be planned in general terms. Its intended purpose was to explore the findings of the student survey and the feedback that would be given in the follow-on student interviews, assuming such would take place. The intention was to gather the original tutor interviewees as a group to review what the students had fed back in the survey, as elaborated in the student interviews, and thereby to discuss areas of commonality between students and tutors and to explore any divergences that had been identified.

These divergences could be among students, among tutors and between tutors and students. At the start of the review session, a summary of the areas of divergence would be presented and used to guide the discussion, the overall aim being to see if the tutors' views were modified to any extent by what they had learned from the research findings.

3.5.4   Interview and Survey Free-Text Coding

Qualitative data can be analysed using a range of approaches (Creswell *et al.*, 2007; Creswell and Plano Clark, 2011), among which are the following commonly used techniques:

Content analysis, which is a quantitative-style approach that can be used within an overall qualitative or mixed methods design, based on calculating the frequency of words or phrases in the data.

Narrative analysis, which concentrates on the personal stories told by participants and how they make sense of the world.

Discourse analysis, which focuses on analysing language in its social and cultural context and is useful in shedding light on the power dynamics at play in a given situation.

Thematic analysis, which focuses on developing patterns of meaning in the data in order to understand participants' perspectives.

Grounded theory, which attempts to create new theory through a series of iterations of data collection and revision of theory.

Interpretive Phenomenological Analysis (IPA) which is designed to help the researcher understand the personal perspective of participants on a specific personal event (the phenomenon) in their lives.

Themes are seen as patterns of shared meaning to be developed from the data and not topic summaries to be organised around pre-set headings based, for example, on interview topics (Braun and Clarke, 2019, p. 592). As the purpose of the interviews and the free-text comments in the student survey was to understand the participants' perspectives, thematic analysis directly supported this purpose and so was considered the most appropriate technique to adopt. The various interview transcripts and survey free-text comments were analysed using Braun and Clark's (2012, 2019) six-phase reflexive thematic analysis approach.

Reflexive thematic analysis has been described as a theoretically flexible approach to qualitative data analysis that facilitates the identification and analysis of patterns or themes in a given data set (Byrne, 2022, p. 1392). The reflexive approach emphasises the active role played by researchers in knowledge production by interpreting patterns of meaning within the data. In this way, reflexive thematic analysis reflects the researcher's interpretation and analysis of the data (2022, p. 1393). Codes and themes do not 'emerge' from the data but must be interpreted and

constructed by the researcher. Construing or interpreting the importance of a theme is not a function of the number of codes or data items associated with it but rather a judgment that these convey something meaningful that helps to answer research questions (2022, p. 1403).

The six phases in reflexive thematic analysis are the following:

Phase One consists of reading the source data and making notes in a non-systematic fashion.

Phase Two involves looking for what is analytically interesting about the data, creating a list of codes and identifying the data relevant to each code. Codes can be semantic, close to the participant's meaning, or latent, going beyond the participant's meaning towards underlying reasons.

Initial themes are generated in Phase Three, clustering similar codes to form themes, promoting important codes to themes and looking for relationships between themes.

In Phase Four, identified themes are reviewed and developed, examining their quality, boundaries and supporting data.

Themes are refined, defined and named in Phase Five and, if appropriate a hierarchy of themes and sub-themes can be established.

Finally, in Phase Six, the themes are reported on.

Braun and Clarke favour giving one good, coherent, justification for the chosen approach rather than reviewing and rejecting a range of other options, leaving the chosen technique to be adopted almost by default (see, e.g., comments by Victoria Clarke in video recording at https://www.youtube.com/watch?v=tpWLsckpM78 at 0h 38m 00s). Although researchers often take this approach of evaluating all options, Braun and Clarke are against it because of the danger that one or more of the rejected approaches will be misrepresented in some way, which would weaken the rationale for choosing the preferred option. As a pragmatic philosophical stance was adopted for this research, the choice of thematic analysis was primarily based on the usefulness of the approach in allowing the themes and richness of the data to be explored. For this reason, and not because of any inherent issues with other options, thematic analysis was chosen as the most appropriate approach for this part of the research.

Considering the three different ways of conducting a thematic analysis identified by Braun and Clarke, reflexive thematic analysis was chosen over the coding reliability and codebook approaches as it better reflected the qualitative aspect of this part of the research and the

involvement of a single researcher (Braun *et al.*, 2018; Braun and Clarke, 2019, p. 593). Themes must be developed by active engagement with data rather than being derived from passive analysis of content. Accordingly, reflexive thematic analysis is not concerned with "accurate" and "reliable" coding, but active analysis of the data to create the underlying themes contained in what participants had to say. For these reasons, the reflexive thematic analysis approach was adopted.

3.6   Ethical Considerations

Dublin City University endeavours to ensure that all research carried out by DCU researchers is ethically sound and adheres to the highest standards of research integrity. All research projects must be conducted in accordance with the law, and also according to acceptable ethical standards. Maintaining well-established ethical standards is an important aspect of upholding the integrity of the research process. Ethically questionable research can reflect negatively on the reputation of both researchers and the University. Research may place burdens on participants or put them at increased risk of harm which could be avoided or reduced. Such burdens or harm can be physical, psychological, social or financial. See https://www.dcu.ie/researchsupport/research-ethics.

For the reasons outlined above, DCU imposes a rigorous process on proposed research projects to ensure that they meet ethical standards, including the requirements of data protection legislation. This research project was reviewed by the DCU Research Ethics Committee as part of a formal approval process and, following consideration and clarification, approval to proceed was issued. A copy of this formal approval is included at Appendix I.

Some specific ethical issues that were considered included the following:

- All participants were adults and were not vulnerable in any of the following ways – *by virtue of the group they belong to, people who have undergone traumatic or adverse emotional events, people with diminished cognitive ability, power relations between researchers and participants*.
- As all student participants had already completed their courses by the time they were asked to participate in the research, there was no power relationship between the student participants and the researcher.
- The tutor participants were peers of the researcher, so no direct power relationship existed. The survey and interviews did not ask about individual tutors, although it could not be guaranteed in advance that some responses would not refer explicitly to a particular tutor or do so implicitly by referring to a sub-module or particular tutor

practice. The intention was that if such a situation arose, the conversation would be redirected and, if necessary, the participant reminded not to specify individuals in their response. Given the role of the researcher in the HEI, this research could be described as insider research, which required an element of trust on behalf of the tutors and a degree of vulnerability on their part as they were being asked to be open and honest in front of a peer group. The degree of trust and confidence built up between the researcher and tutors over a period of years helped to alleviate any concerns in this area.

- The online survey was designed to be anonymous and only the overall aggregated data was used in the analysis phase. The location tracking capability made possible through the collection of IP addresses by the Qualtrics survey software was disabled. Participants in the survey were advised that, as the survey was anonymous, it would not be possible for them to withdraw once they had completed and submitted their survey response. In the case of interviews, to ensure confidentiality of participants' identities, the audio recording files were deleted as soon as they were verifiably transcribed and an opportunity had been given to interviewees to review transcripts and propose amendments. No names were used in the transcription, with names being replaced by labels identifiable only to the researcher.

- In both the Plain Language Statement and Informed Consent Forms, interview participants were advised that confidentiality of information provided could not always be guaranteed by researchers and could only be protected within the limitations of the law - i.e., it was possible for data to be subject to subpoena, freedom of information claim or mandated reporting by some professions. However, it was emphasised to the survey respondents that the survey was anonymous and no identifying data were collected.

- The electronic data relating to this research was stored on the researcher's DCU Google Drive, which is secure with respect to access and data protection.

3.7 Conclusion

This chapter detailed the research methodology adopted and the rationale underpinning the choices made at each stage of the research process. Founded on an underlying pragmatic philosophy, a case study strategy was employed to examine the student and tutor experience of the HEI's postgraduate programmes using a mixed methods fixed convergent parallel design.

4 Findings and Discussion

This research project set out to answer the following research questions:

- In the students' view, to what extent did the course content and delivery address their needs? (RQ1)
- In the tutors' view, to what extent did they meet student needs through course content and delivery? (RQ2)
- To what extent did the tutor's instructional approach reflect an understanding of the concept of self-regulated learning? (RQ3)
- To what extent did the students enjoy a consistent teaching, learning and assessment experience? (RQ4)
- To what extent were the students aware of the requirement to self-manage their learning (RQ5)

An online survey of the 2019-2020 cohort of the case study HEI's postgraduate students was conducted in parallel with interviews of their tutors. Follow-up interviews were conducted with volunteering students to elaborate on areas of interest arising from the student survey and, finally, a review was held with the tutor group to consider the findings of the research conducted to that point.

The student survey, supplemented by the student interviews, provided the primary data to answer RQ1. The tutor interviews and the tutor review provided the main data to answer RQ2. Questions in the student survey on the quality of teaching and learning and on self-regulating learning, plus the tutor interviews, provided most data to answer RQ3. Three specific questions in the student survey and discussions on these questions in the student interviews supplied the data to answer RQ4. Finally, questions in the student survey on self-regulated learning and the student interviews provided the major data to answer RQ5.

In this chapter, the research findings are presented, beginning with the student survey and continuing with the student interviews before the tutor interviews and, finally, the tutor review.

4.1 Student Survey

In this section, detailed findings from the student survey are presented. Initially, the respondents are profiled demographically, following which the issue of reliability is considered briefly. Next an overview of the survey results is presented, followed by the detailed results from each section of the survey.

4.1.1 Demographic Profile of Respondents

A total of 38 complete responses were received out of a sampling-frame total of 113, giving a response rate of 34%.

The demographic profile of the respondents is compared with that of the overall sampling frame in Table 4-1 below.

Table 4-1 Survey Respondents' Demographics

		Respondents %	S. Frame %
Age	18-24	0%	4%
	25-34	13%	29%
	35-44	61%	42%
	45-54	26%	23%
	55-64	0%	2%
	65 or over	0%	0%
Gender	Male	68%	67%
	Female	32%	33%
Course Attended	MSc Management of Operations	34%	31%
	MSc Management of Information Systems Strategy	18%	7%
	MSc Management of Internet Enterprise Systems	5%	3%
	MSc Management of Clean Technology	8%	3%
	MSc Management of Sustainable Development	11%	3%
	Graduate Certificate	24%	53%
Springboard Funded	Yes	68%	79%
	No	32%	21%

Looking at age distribution first, both the respondents and the sampling frame were heavily concentrated in the 25-34, 35-44 and 45-54 age groups, the respondents exclusively so. Based on a proportional response, less than half the expected number in the 25-34 age group responded, while the response in the 35-44 age group was almost 50% more than expected. The response in the 45-54 age group was more or less as expected.

The second demographic category is that of gender. While other response options were provided in the student survey, all participants responded with either M (male) or F (female). Comparing the profile of the respondents against that of the sampling frame, it can be seen that

the response almost exactly matched the sampling frame, which was split 67% male and 33% female.

Table 4-1 also provides information on the type of course attended by respondents. As a group, the MSc students were over-represented in the survey response, while the response from the Graduate Certificate students was proportionately just less than half of what might be expected. Of the 53 MSc students invited to participate, 29 responded, giving a response rate of 55%, while of the 60 Graduate Certificate students, 9 responded, giving a response rate of 15%. This imbalance may be because the MSc students, who have a longer period of study than their Graduate Certificate equivalents, felt a greater sense of commitment to their courses and therefore responded in comparatively larger numbers. While the possibility of non-response bias has to be considered (Roberts and Allen, 2015), the Graduate Certificate students were given the same opportunity, facility and encouragement to respond to the survey and there was nothing in the questionnaire that they might have considered a disincentive to complete it.

Regarding the respondents' source of finance, the final demographic category shows whether or not the student was funded under the Springboard programme (https://springboardcourses.ie/). Springboard is an Irish Government initiative offering free and subsidised courses at certificate, degree, and masters level in targeted areas such as ICT, engineering, green skills and manufacturing. Of the full sampling frame, 79% were Springboard funded, including all 60 Graduate Certificate students. Reflecting the proportionately lower response rate among Graduate Certificate students, the survey response contained 68% Springboard funded students. Conversely, the 21% of self-funded students in the sampling frame were over-represented at 32% of respondents.

Taking into consideration all the demographic data provided by respondents, as shown in Table 4-1, it is evident that the respondents' profile is indicative but not fully representative of the sampling frame.

4.1.2 Survey Questionnaire

As outlined in Chapter 3, the survey questionnaire was a modified version of the Postgraduate Taught Experience Survey (PTES). In use in the UK since 2009, it was redesigned in 2014 (Soilemetzidis, Bennett and Leman, 2014, p. 10) and its capacity to robustly capture the experience of a diverse student population has been demonstrated (Cooper Gibson Research, 2013).

The results from the student survey are presented in detail below, starting with an overview before considering each of the following sections in turn:

- Quality of Teaching and Learning
- Self-Regulated Learning / Consistency of Learning Experience
- Engagement
- Assessment and Feedback
- Dissertation
- Organisation and Management
- Resources and Services
- Skills Development
- Overall Course Satisfaction

Results are then presented for questions about the most enjoyable aspect of the students' experience, one thing they would like to see improved, what motivated them to undertake their course and why they chose to study in the HEI. Finally, the free-text entries in the survey are analysed qualitatively.

4.1.3   Overview of Survey Results

After requesting demographic details, the survey presented respondents with a set of statements in each of the areas listed above, to which they responded using a 5-point Likert scale, from "Strongly Disagree" to "Strongly Agree", plus a "Not Applicable" option. After each set of statements, there was a facility to enter a free text comment. All statements were positively worded. Therefore, in the case of the original scales in the PTES (e.g. Quality of Teaching and Learning), higher percentage levels of agreement can be understood to correspond with higher levels of respondent satisfaction with that particular aspect of their course experience. In the case of the statements on SRL, a high level of agreement indicates that respondents perceived the course to be supportive of SRL and for the statements on consistency of experience, a high level of agreement indicates that respondents felt their experience was consistent in those aspects of their course.

The general response from students across all areas of the survey was very positive. Table 4-2 below shows the average percentage of respondents who "agreed" (ticked the agree or strongly agree option), "disagreed" (ticked the disagree or strongly disagree option), were neutral or chose "not applicable" in response to the statements in each area of the survey. The rows are ranked highest to lowest by the mean percentage level of agreement.

90% of students agreed or strongly agreed with the following statement in the survey: "Overall, I am satisfied with the quality of the course". This provides very strong evidence that students were happy that their course met their expectations. Satisfaction was relatively high across the various individual areas, with mean percentage agreement exceeding 80% for six of the scales and 70% for the remaining two.

The statements on consistency of the student experience across teaching, marking and feedback scored significantly lower than the other areas, with almost half the respondents (46%) disagreeing or being neutral in response to the statements.

Table 4-2 Mean Percentage Agreement Across All Survey Scales

Scale	Mean Agree / Strongly Agree	Mean Disagree / Strongly Disagree	Mean Neutral or Not Applicable
Skills Development	89%	3%	8%
Self-Regulated Learning	87%	3%	10%
Quality of Teaching & Learning	86%	7%	7%
Dissertation	85%	3%	12%
Resources and Services	84%	4%	12%
Assessment and Feedback	82%	7%	11%
Organisation and Management	76%	11%	13%
Engagement*	75%	8%	17%
Consistency*	54%	24%	22%

Percentages are rounded appropriately to ensure a cumulative 100% in each row.

*Note: Internal consistency estimates for the Engagement scale was unsatisfactory and the statements on Consistency were not intended to form a scale, but average percentage agreement is included for comparison.

4.1.4   Detailed Survey Results

The results for the individual areas of the survey are set out in the following paragraphs. The free-text comments entered by participants throughout the survey are analysed collectively at the end of this section.

4.1.4.1   *Quality of teaching and learning*

This area of the survey asked students to assess the core question of the quality of the teaching they received and the learning they achieved during their course. The survey statements covered aspects of the approach taken by the teaching staff, the quality of support provided and

materials used and the learning outputs achieved. Table 4-3 below summarises the survey response in this area.

Table 4-3 Percentage Agreement on Quality of Teaching and Learning Items

Survey Statement	Agree / Strongly Agree	Disagree / Strongly Disagree	Neutral or Not Applicable
The course has enhanced my academic ability	**97%**	0%	3%
Staff are good at explaining things	**95%**	3%	3%
The course is intellectually stimulating	**95%**	0%	5%
Staff are enthusiastic about what they are teaching	**84%**	8%	8%
I am happy with the support for my learning I receive from the staff on my course	**84%**	8%	8%
The learning materials provided on my course are useful	**81%**	3%	16%
There is sufficient contact time (face to face and/or virtual or online) between staff and students to support effective learning	**66%**	26%	8%

There was a strong positive percentage response to most statements, particularly so considering that there are 'high expectations for online courses, especially from older students and from those who are employed', which would typify the HEI environment (Barczyk *et al.*, 2017, p. 182).

When asked to rate the sufficiency of contact time between staff and students to support effective learning, the level of agreement was considerably lower than that of the other statements, with 26% disagreeing that there is sufficient contact time and a further 8% being neutral. This indicates that more online or face-to-face activities would be welcomed by a significant minority – around one third – of students. That still leaves two thirds of students happy with the level of contact to support effective learning.

4.1.4.2   *Self-regulated learning*

The statements in this section of the survey were based on the key characteristics of SRL, derived from a review of the relevant literature, as set out in Chapters 2 and 3. Table 4-4 below summarises the survey responses on SRL.

Table 4-4 Percentage Agreement on Self-Regulated Learning Items

Survey Statement	Agree / Strongly Agree	Disagree / Strongly Disagree	Neutral or Not Applicable
I understood that my motivation to succeed would be an important factor in my progress	**97%**	3%	0%
The importance of practising good time management was emphasised from the outset of the course	**92%**	3%	5%
The overall presentation of the course recognised that I would be regulating my own learning	**90%**	5%	5%
It was made clear that I would have a major role in regulating my own learning activities within the course	**87%**	0%	13%
I was given sufficient opportunity to reflect on my learning throughout the course	**82%**	5%	13%
Authentic examples were used throughout the course	**82%**	3%	15%
Sufficient opportunity for self-assessment of learning was built into the course material	**82%**	3%	15%
I can see how the knowledge gained in the course can be applied in the real world	**82%**	3%	15%

There was a strong positive response, ranging from 97% to 82% agreement to the statements, suggesting that students perceived the courses to be supportive of SRL. As outlined previously, SRL encompasses elements intrinsic to the student, such as motivation, self-reliance and time management, as well as course-related aspects such as the use of authentic examples, real world relevance of the learning and provision of opportunities for self-assessment and reflection.

4.1.4.3 Consistency of learning experience

Concern about the consistency of the student learning experience partially motivated this research, so three consistency-related statements were included in the survey. Consistency of the tutor approach, while not being an integral component of Self-Regulated Learning, is a related concept in that consistency in student feedback is important in helping them develop as independent learners (Brown, 2007; Ferguson, 2011).

Table 4-5 below summarises the survey responses on consistency of experience.

Table 4-5 Percentage Agreement on Consistency of Student Experience Items

Survey Statement	Agree / Strongly Agree	Disagree / Strongly Disagree	Neutral or Not Applicable
Tutors are consistent in their approach to teaching	**61%**	18%	21%
Tutors are consistent in their approach to assignment marking	**53%**	26%	21%
Tutors are consistent in their approach to feedback	**50%**	26%	24%

The general level of positivity in the survey was not reflected in responses to the statements on consistency, especially in relation to feedback, where a quarter of the respondents disagreed and a further quarter were neutral. Students felt that the consistency in tutors' approaches to teaching and, to a greater degree, marking and feedback were among the less positive aspects of their course experience.

4.1.4.4   Engagement

This area of the survey presented students with statements on the level of engagement they felt with their course, including opportunities to interact with others involved in their course and the nature of the challenge that the course presented. Table 4-6 below summarises the survey responses on Engagement.

Table 4-6 Percentage Agreement on Engagement Items

Survey Statement	Agree / Strongly Agree	Disagree / Strongly Disagree	Neutral or Not Applicable
My course has challenged me to produce my best work	**87%**	0%	13%
I am encouraged to ask questions or make contributions in taught sessions (face to face and/or online)	**84%**	3%	13%
The workload on my course has been manageable	**76%**	13%	11%
I have appropriate opportunities to give feedback on my experience	**71%**	11%	18%
The course has created sufficient opportunities to discuss my work with other students (face to face and/or online)	**55%**	16%	29%

There was a varying degree of positivity on Engagement for which, as noted already, the statements presented did not constitute a single scale and are best examined in terms of the individual questions.

There was strong agreement that the courses were challenging and that students were encouraged to become involved in online taught sessions. Three quarters of students agreed that their workload was manageable and a slightly lower percentage agreed that they had opportunities to give feedback on their experience – possibly through the reflective pieces that feature in a number of course assignments, though the student interviewees valued this function more as means of self-assessment, as discussed later. The statement relating to the opportunity to discuss work with other students produced the weakest response, at 55% agreement. This reflected the response regarding the staff – student contact time statement in the Quality of Teaching and Learning area, where one third of students did not agree that the level of contact time was sufficient to support effective learning, indicating a general desire for more opportunities for discussion with staff and fellow students.

4.1.4.5   Assessment and feedback

Assessment and feedback are critical aspects of the student experience as they combine the measurement of students' academic achievement with the development of their academic skills. Table 4-7 below summarises the survey responses on Assessment and Feedback.

Table 4-7 Percentage Agreement on Assessment and Feedback Items

Survey Statement	Agree / Strongly Agree	Disagree / Strongly Disagree	Neutral or Not Applicable
The criteria used in assessment have been clear in advance	**89%**	3%	8%
Feedback on my work has been prompt	**84%**	11%	5%
Feedback on my work (written or oral) has been useful	**84%**	3%	13%
Marking and assessment has been fair	**68%**	13%	19%

There was a very positive response to the statements on assessment and feedback but this was markedly less so on the issue of fairness in marking and assessment, where almost one third of respondents were negative or neutral. This comparative negativity reflects the earlier responses on consistency in marking and feedback which were also less positive than most other survey responses.

The dissertation is undertaken by MSc students in their second year or, in some cases, in a third year after they have completed their taught modules. Table 4-8 below summarises the survey responses on students' dissertation experience.

Table 4-8 Percentage Agreement on Dissertation Items

Survey Statement	Agree / Strongly Agree	Disagree / Strongly Disagree	Neutral or Not Applicable
I understand the required standards for the dissertation	**94%**	0%	6%
My supervisor has the skills and subject knowledge to adequately support my dissertation	**86%**	0%	14%
My supervisor provides helpful feedback on my progress	**86%**	7%	7%
I am happy with the support I received for planning my dissertation (topic selection; project outline; literature search etc.)	**72%**	7%	21%

The number of respondents was 29, because the 9 Graduate Certificate student respondents do not complete a dissertation.

There was a generally positive response to the statements on the dissertation, with the support received for planning the dissertation being the weakest element, though still recording 72% agreement. This may reflect the more individual nature of the dissertation experience where students rely to a greater extent on their supervisor than on the core course team. Supervisors are appointed from a wider panel than the course tutors, so students may not have encountered their supervisor previously.

4.1.4.7   Organisation and management

This area of the survey addressed aspects of how well the courses were organised and managed. Table 4-9 below summarises the survey responses on Organisation and Management.

Table 4-9 Percentage Agreement on Organisation and Management Items

Survey Statement	Agree / Strongly Agree	Disagree / Strongly Disagree	Neutral or Not Applicable
The course is well organised and is running smoothly	**84%**	5%	11%
The timetable fits well with my other commitments	**82%**	8%	10%
Any changes in the course or teaching have been communicated effectively	**82%**	8%	10%
I was given appropriate guidance and support when I started the course	**82%**	10%	8%
I am encouraged to be involved in decisions about how my course is run	**53%**	21%	26%

The responses on Organisation and Management were strongly positive, with levels of agreement above 80%, with the exception of the statement on students feeling encouraged to be involved in course-related decision making, which was markedly less positive at 53% agreement. Students agreed that the courses were well organised, with good communications and a high level of initial support and guidance. Although feeling that the courses were well organised, students did not have a high sense of involvement in decision-making.

4.1.4.8 Resources and services

The next area of the survey concerned the resources and services made available to students. Table 4-10 below summarises the survey responses on Resources and Services.

Table 4-10 Percentage Agreement on Resources and Services Items

Survey Statement	Agree / Strongly Agree	Disagree / Strongly Disagree	Neutral or Not Applicable
I have been able to access general IT resources (including physical and online) when I needed them	**89%**	8%	3%
The library resources and services are good enough for my needs (physical and online)	**84%**	5%	11%
I have been able to access subject-specific resources (e.g. equipment, facilities, software) necessary for my studies	**82%**	3%	15%
I am aware of how to access the support services in HEI (e.g. health, finance, careers, accommodation)	**79%**	0%	21%

Responses were very positive, with levels of agreement above or very close to 80% for each of the statements. Some university services might not be as relevant to online postgraduate students as they would be to on-campus undergraduates, but the IT support and online library services would be very important to students who rely on virtual access to course material and services and for whom performant technology is a critical success factor.

4.1.4.9   Skills development

The next part of the survey presented statements about the skills students had developed as a result of their studies. Table 4-11 below summarises the survey responses on Skills Development.

Table 4-11 Percentage Agreement on Skills Development Items

Survey Statement	Agree / Strongly Agree	Disagree / Strongly Disagree	Neutral or Not Applicable
My research skills have developed during my course	**95%**	0%	5%
As a result of the course, I am more confident about independent learning	**92%**	0%	8%
My ability to communicate information effectively to diverse audiences has developed during my course	**92%**	0%	8%
My confidence to be independent or creative has developed during my course	**89%**	0%	11%
As a result of the course, I feel better prepared for my future career	**87%**	5%	8%
I have been encouraged to think about what skills I need to develop for my career	**78%**	11%	11%

The responses here were very positive, with three overall agreement scores in the 90%s, two in the high 80%s and the lowest – in relation to career development - coming in at 78% agreement. Students felt strongly positive about the research and independent learning skills they developed.

4.1.4.10   Overall satisfaction with course

The final statement in the survey concerned the overall level of satisfaction with the quality of the course. Table 4-12 below summarises the survey responses on Overall Satisfaction with the course.

Table 4-12 Percentage Agreement on Overall Satisfaction with Course

Survey Statement	Agree / Strongly Agree	Disagree / Strongly Disagree	Neutral
Overall, I am satisfied with the quality of the course	90%	5%	5%

A breakdown of overall satisfaction by individual course could be misleading as three of the courses had less than five students each, so the percentage agreement in these cases would be very sensitive to individual student responses.

There was a very positive overall assessment of course experience, with 90%, or 34 out of 38 respondents, agreeing or strongly agreeing with the survey statement. Of the remaining four respondents, 2 disagreed and 2 were neutral. The two students who disagreed with the statement were both MSc students. One of these was the most prolific user of free text responses in the survey, analysed later. The two neutral responses were both from Graduate Certificate students, one of whom used the free text comments in the survey to express unhappiness at the amount of online delivery.

As a capstone assessment of their experience, the result here represented a very positive assessment by the students of their educational journey with the HEI.

Given the very positive response on overall quality, it was unlikely that significant differences between demographic groups would emerge on that measure. Nonetheless, tests were carried out to check for differences in overall course satisfaction among the demographic categories of gender, Springboard-funded status and course attended. The results of the tests are summarised in the paragraphs below and the detailed SPSS output is shown in Appendix J.

In respect of gender, although other options were available, all survey respondents chose either Male or Female. Accordingly, a test for differences between two groups was appropriate for this demographic category. With the overall satisfaction variable being ordinal, a non-parametric test was required, in this case the Mann Whitney U test. No significant differences were found for the gender category as far as overall course satisfaction was concerned ($U = 205, p = .121$), retaining the null hypothesis of satisfaction with the quality of the course being the same across gender categories.

As the Springboard-funded category had only two possible values – Yes and No - a test for differences between two groups was appropriate in this case also, with the non-parametric

Mann Whitney U test being used again. No significant differences were found for the Springboard-funded category as far as overall course satisfaction was concerned *(U = 127, p = .376)*, retaining the null hypothesis of satisfaction with the quality of the course being the same across Springboard-funded categories.

Finally, as the course attended category had six values, it required the comparison of more than two groups, so the independent samples Kruskal-Wallis test was used. However, three of the courses had less than five students each among the respondents and their inclusion would therefore have breached an assumption for the Kruskal Wallis test of a minimum of five samples in each group. The students for these three courses were combined into a single category for purposes of the test, resulting in a total of four groups. No significant differences were found for the course-attended category as far as overall course satisfaction was concerned *(H (3) = 1.03, p = .795)*, retaining the null hypothesis of satisfaction with the quality of the course being the same across course attended categories.

4.1.4.11 Most enjoyable course aspect

The next part of the survey asked respondents to identify the most enjoyable aspect of their course. This was a free text facility and the various entries are analysed qualitatively later. Figure 4-1 below categorises the responses to this question across relevant topics. Some entries were relevant to more than one topic and have been coded accordingly.
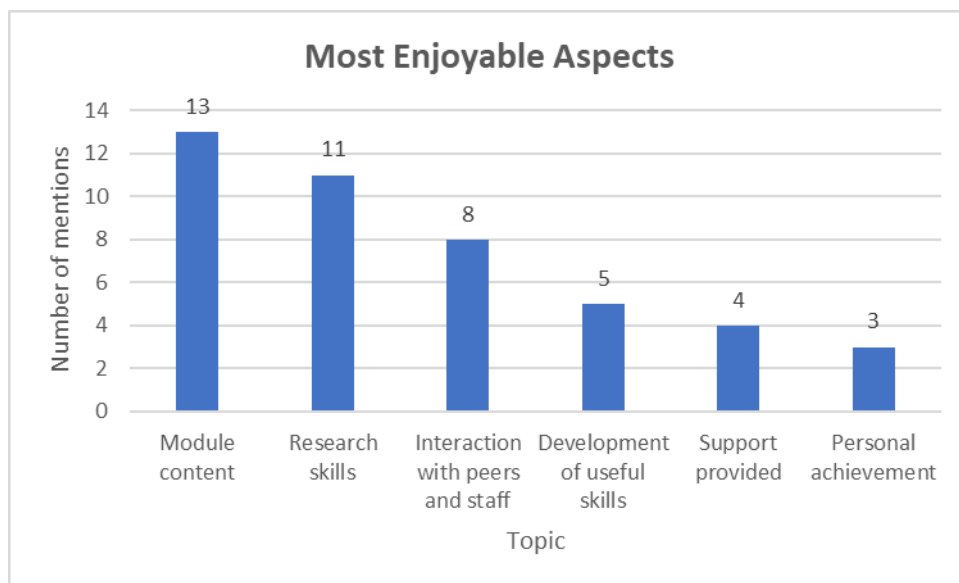
Figure 4-1 Most Enjoyable Aspects of Course

These comments are analysed qualitatively in the final part of this section.

4.1.4.12 Things to improve

To complement the question on the most enjoyable aspect of their course, respondents were invited to identify one aspect of the course that could be improved. This was a mandatory question in the survey, so all 38 respondents replied, of whom 2 answered "none" or "nothing".

Figure 4-2 below shows the topics referenced in the responses to this question.
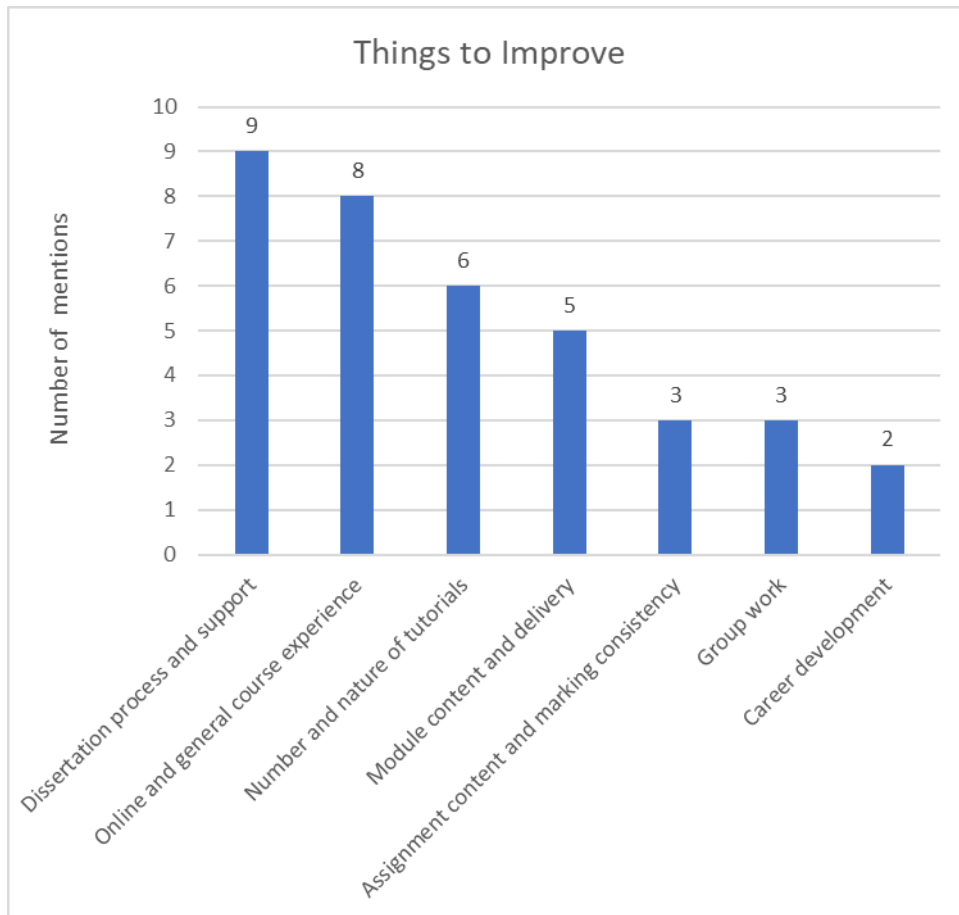
Figure 4-2 Things to Improve on Course

These comments are analysed qualitatively in the final part of this section but some brief observations on the dissertation topic are appropriate here as the topic was not developed fully in the research and further research on it is recommended below.

The dissertation process was mentioned most often in the student responses, perhaps because it has a different character to the more structured presentation of the modules and involves students working closely with supervisors that they may not have met previously. These comments were spread across all five MSc courses. The need for more structure and timeliness in the dissertation process was highlighted in several comments. This was somewhat surprising as the postgraduate department in the HEI has been providing increased dissertation supports in

recent years, including tutorials on software such as Qualtrics and SPSS, a bespoke dissertation management tool and online sessions on GDPR and the ethics approval process.

4.1.4.13 Motivation to take my postgraduate programme

Students were next asked to indicate what motivated them to undertake their particular course. Multiple choices were allowed from a list presented on-screen.

Career progression (26), employment prospects (23) and personal interest (15) were the top choices out of a total of 87 entries. Immediate job requirements was a factor in only two cases, so it appears that the students' general motivation was strategic, addressing a longer term objective rather than a short-term need. Nevertheless, the need for courses to have continued workplace relevance is an important message that arises.

Figure 4-3 below shows the full range of choices made by respondents.
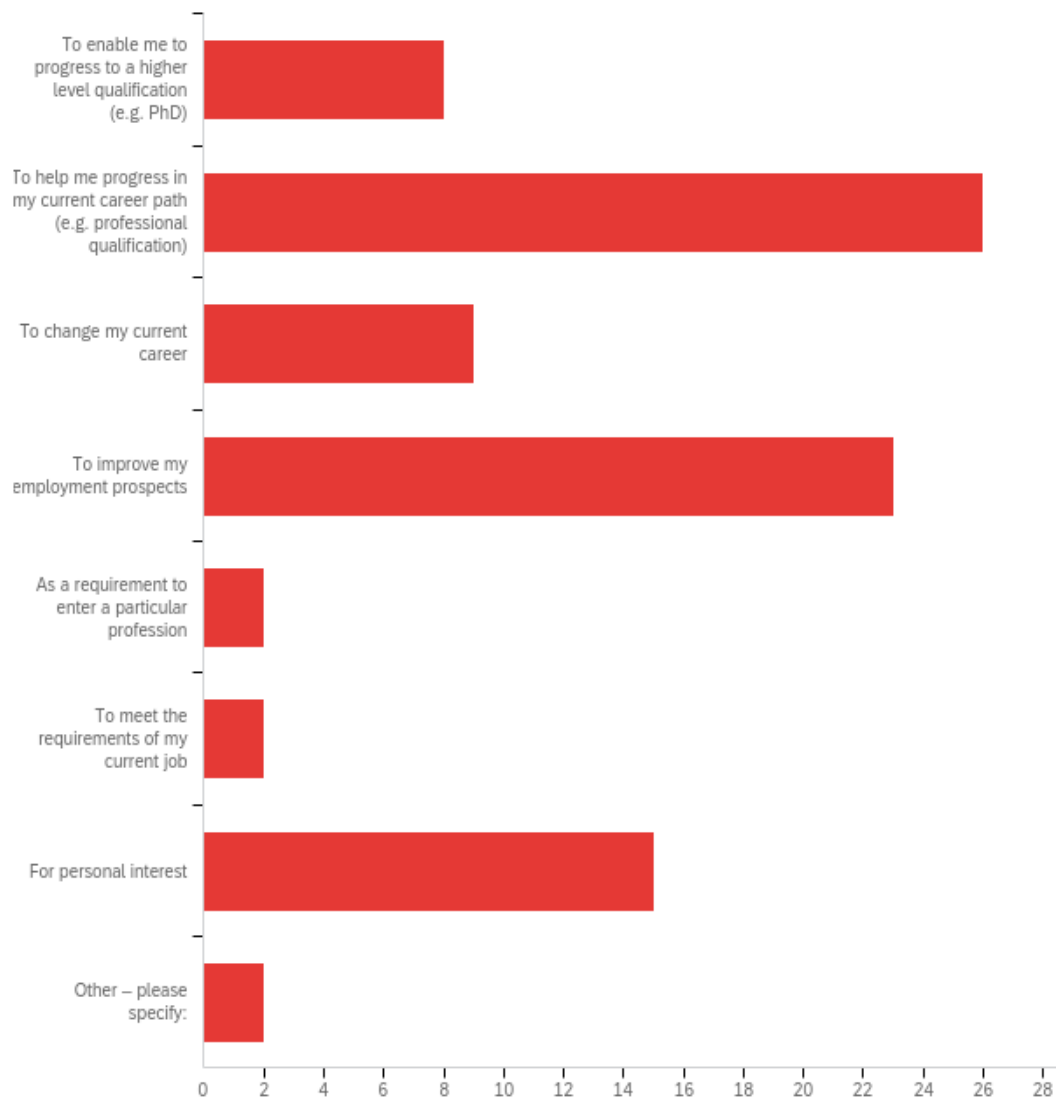
Figure 4-3 Motivation to Study

4.1.4.14 Motivation to study at the HEI

In the final survey question, the topic of motivation focused on the decision to study at the HEI. As in the general question on motivation, multiple answers were allowed.

The overall reputation of the HEI (26) was the top choice, followed by course content (25). The other top choices, out of a total of 136 responses, were the flexibility to fit in with other life demands (21), the availability of funding (17) and the way in which the course is structured or assessed (13). So, it appears that the students were attracted to the HEI as they believed it would be a good place to study; they felt course content was relevant to their needs; they thought the flexible delivery would allow them to meet their other life demands and they had the possibility of funding being available to them. Figure 4-4 below gives the full details of respondents' choices.

In terms of meeting students' needs, which was the focus of the first research question, this suggests that, bolstered by the strength of the HEI's overall reputation, the combination of relevant subject matter and the flexibility to study without compromising other aspects of a student's life should continue to be important considerations in course design and presentation.
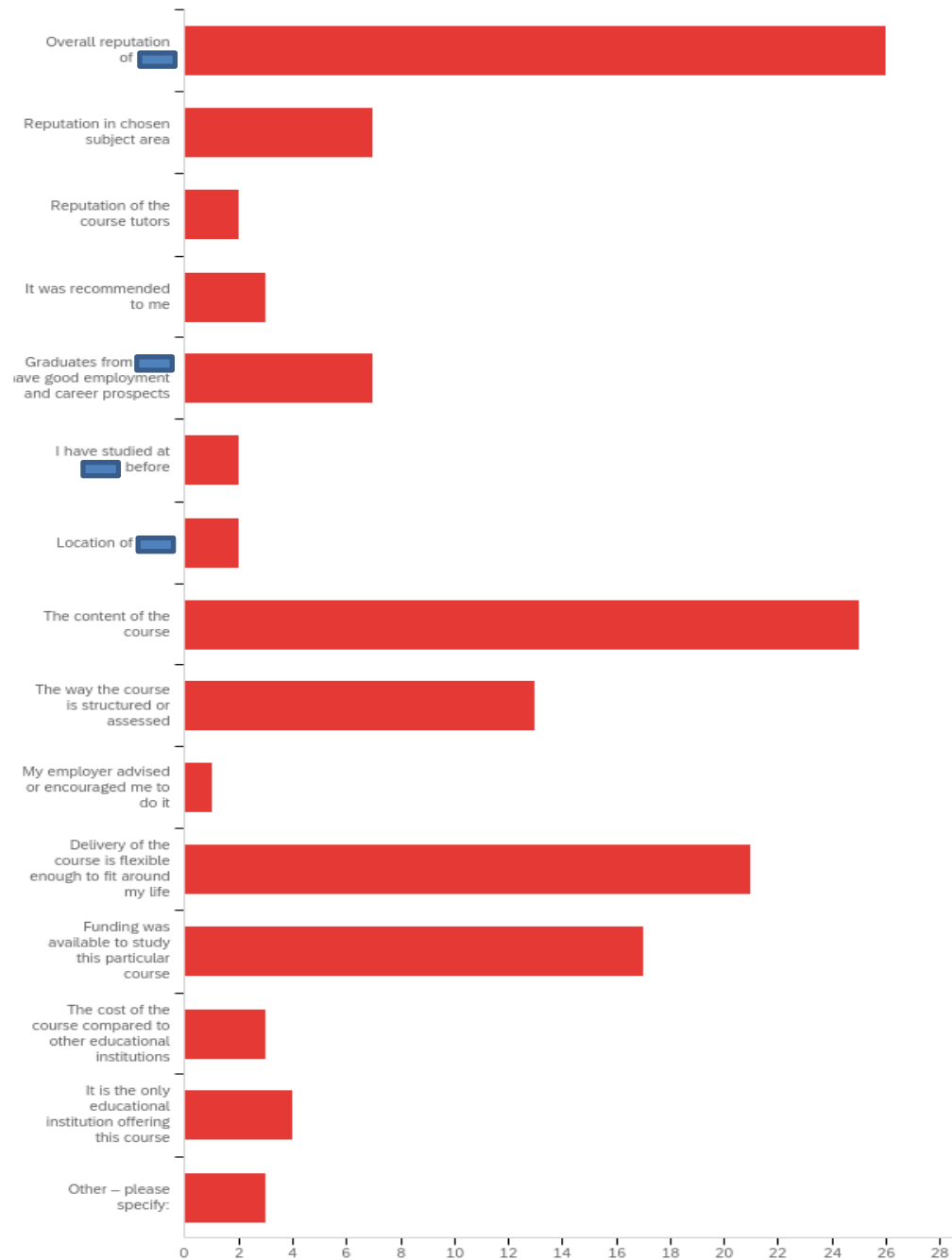
Figure 4-4 Motivation to Study at the HEI

4.1.5 Analysis of survey free text comments

As explained in Chapter Three, interviews and free-text comments in the student survey were analysed using reflexive thematic analysis. In the current context, all free-text entries were reviewed and coded, including the entries in relation to most enjoyable course aspects and things to improve, for which responses were mandatory. The codes were analysed methodologically as previously explained and Figure 4-5 below shows the six themes interpreted from the survey free-text comments as a result of this analysis. The figure also shows a sample of the codes associated with each theme. Appendix M incudes examples of the coding carried out on the free-text comments. Each of the themes is discussed in detail below.
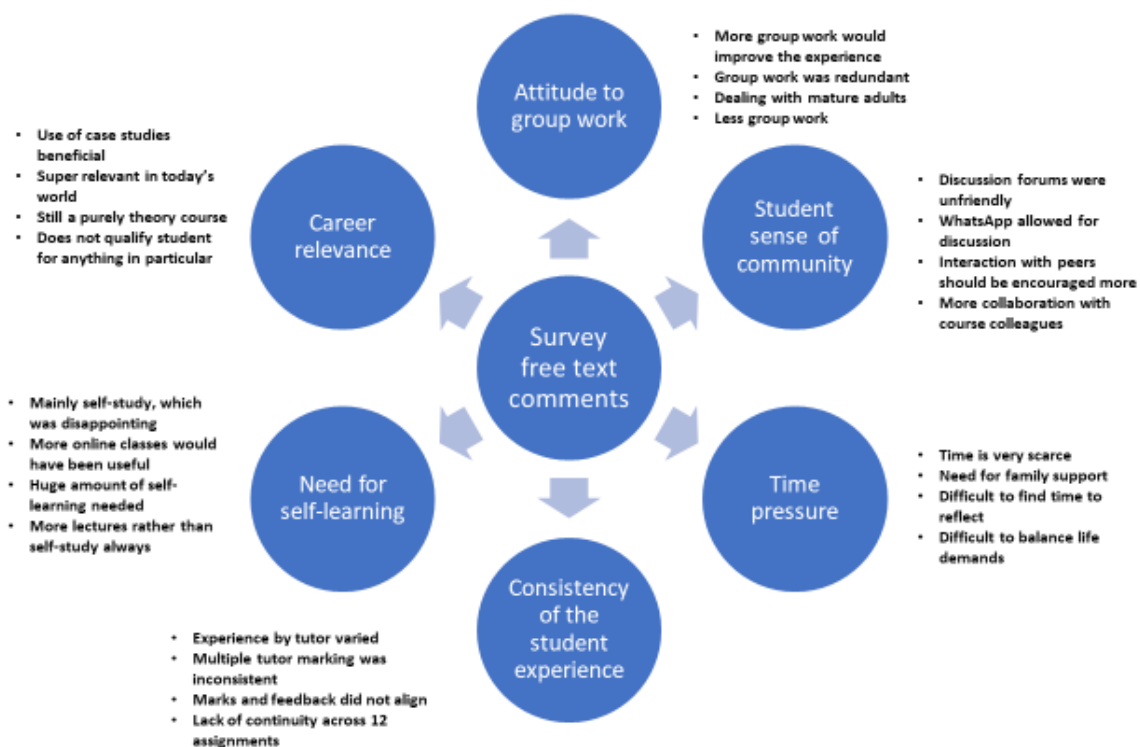
Figure 4-5 Survey Free-Text Themes

4.1.5.1 Need for self-learning

As the programmes provided for limited levels of direct tuition, students had to engage in higher levels of self-learning. The extent to which some students understood and experienced this was revealed in a number of comments:

> I didn't know before undertaking the course the amount of self-learning
> involved and it was disappointing. (F 35-44 Graduate Certificate)

Currently the course is more of a research course (requiring a huge amount of self-learning which for me with young family was too big of a commitment. I did complete the course although it did put my family and myself under unfair strain. Perhaps I should not have done it. (M 35-44 MSc Information Systems Strategy)

More lectures to actually explain and listen rather than self-study always. (F 35-44 Graduate Certificate)

Two other comments related to a perceived deficit in the number of direct instructional sessions provided, which is normally two one-hour tutorials per sub-module:

Very little lectures, mainly self-study which was disappointing as not the reason I wanted to go back to education. (F 35-44 Graduate Certificate)

Extra online classes would have been useful, especially for the more difficult modules. (F 45-54 MSc Management of Operations)

These comments suggested that not all students were aware of, or accepted, the degree of self-learning involved in the courses, which raises the question of how clearly this was signposted to prospective students in advance of their course. It must be noted, however, that the very positive response (87% agreement) in the student survey indicates that a majority of students were aware in advance that they would have a major role in regulating their own learning activities. This understanding was also confirmed by the student interviewees, as will be seen later.

Given the need for self-learning, the key issue of support for students was addressed in a number of comments, which included initial support and library-related issues:

Students need more support in the first month. (M 45-54 MSc Sustainable Development)

Some books recommended as reading were not available either through (the HEI) library or even in print/digital through Amazon! (M 35-44 MSc Information Systems Strategy)

The library didn't have even academic texts. (F 35-44 MSc Management of Operations)

An online video of how to use the library would have been helpful at the outset. (M 45-54 MSc Sustainable Development)

Suggestions for more and better tutorials or face-to-face teaching sessions reflected other comments about more direct teaching and opportunities for the students to get to know each other better:

More tutorials. (M 35-44 MSc Clean Technology)

More Saturdays onsite and to include time for mixing. I have got to know several students well via WhatsApp but have no idea what they look like. (F 45-54 MSc Management of Operations)

4.1.5.2   Pressures of time

Most of the students combine work with studying and many also have time-consuming family commitments. From some of the comments, it could be construed that students felt under considerable time pressure as a result of multiple demands on them:

Again, in the two year program time is very scarce, it's a full-time commitment in my humble opinion; no time for family or friends outside of work and the part-time course. Your family have to be behind you, 100%. (M 35-44 MSc Management of Operations)

The timetable is made up on how you make it work for yourself. It doesn't fit well if you don't make it fit around your current work / life balance. (M 25-34 MSc Management of Operations)

One student commented on the opportunity for reflection, suggesting that the demands of the course and normal life meant that true reflection did not take place until courses were over:

In the two year MSc of Operations, it was extremely difficult to have time to reflect on learning as the high volume of assignments coupled with a day job - time to reflect happens on course completion in my humble opinion. (M 35-44 MSc Management of Operations)

The challenges of the course online experience reflected the difficulty of combining course work with other life demands, while also acknowledging the time flexibility built into the modular structure of the courses:

All 4 postgrad modules in one year was tough, it was the right decision to extend that to two years. (M 35-44 MSc Clean Technology)

Course was intense - would have appreciated more time but could only dedicate so much. Not a reflection of the course itself more a personal experience. (F 35-44 MSc Management of Operations)

Trying to work through the pandemic was difficult, learning how to work with it during your daily life while trying to close out a master proved taxing. (M 35-44 MSc Management of Operations)

As a potentially alleviating factor, a constructive suggestion was made on extending the academic year, at least for students, to spread the academic load:

I'd take a shorter summer and space out assignments a bit more. (M 35-44 MSc Management of Operations)

As will be seen later, the tutors shared with their students this sense of being under time pressure from the combination of their academic and other demands.

4.1.5.3 Consistency of experience

Consistency of experience across teaching, marking and feedback were among the lower-rated aspects of the student survey, as discussed earlier. In addition to free-text entries in response to specific survey statements on the consistency of the students' learning experience, the topic of consistency also underpinned free-text entries elsewhere in the survey, for example Quality of Teaching and Learning and Assessment and Feedback. Some comments related to assignments specifically and others took in course materials and tutor performance:

I found inconsistencies and a lack of continuity over the 12 assignments. Each lecturer had different expectations of what they wanted and I found it difficult to find a happy medium. (M 45-54 MSc Management of Operations)

The questions are overly broad. for example, the learning materials were useful in some instances, irrelevant in some and poorly presented in others. … There was no [HEI] or [HEI brand] standard. Also… each student has 12 modules and a dissertation. The experience by tutor varied. My responses are an average. (M 45-54 MSc Sustainable Development)

Course material: some was out of date or impossible to source (certain books, or papers). Mix of Word and PDF docs. (M 35-44 MSc Information Systems Strategy)

See previous comments. It varied by tutor. The course seemed to be squashed in after other duties. Very much a "best effort" service at times. Criteria for assessment varied by course. For example, when once asked for a "business report" the tutor commented the language wasn't appropriate for an academic paper. It is one or the other. It cannot be both. (M 45-54 MSc Sustainable Development)

> *[Note: this student made similar comments in the survey about the variability of his experience with different tutors.]*

It was noticeable when the marking wasn't done by the lecturer that the marking was harder - it almost felt like they were trying to prove a point. (F 35-44 MSc Management of Operations)

Occasionally I received very good feedback on assignments saying how well presented the content was and the level of research was of a very high standard. In these cases, I also received comments like "keep up the good

> *work". However, the marks received did not seem to be in line with the very*
> *positive nature of the feedback. For example, on 2 assignments I received marks*
> *of approx. 72% with no indication of where I lost the remaining marks. This is*
> *important if students are to calibrate their approaches to obtain the highest*
> *marks possible. (M 35-44 MSc Management of Operations)*

It was interesting that the final comment above suggests that the student considered a mark of 72%, which is above the first class honours threshold, to be out of line with the positive feedback he received. This raises the question of whether students need further communication on the approach to marking at postgraduate level. When it came to recommending improvements in the course, more consistency in assignment marking involving multiple tutors was the subject of this free-text entry:

> *Consistency in marking assignments when multiple tutors mark groups of*
> *students. (M 35-44 MSc Management of Operations)*

As will be seen later, this issue of shared marking of assignments featured in the tutor interviews and review, where it was acknowledged by the tutors that better collaboration could take place in this area. The student interviews, analysed below, also highlighted some inconsistency in tutor marking and feedback.

4.1.5.4   Student sense of community

A number of the free-text comments were construed as dealing with an underlying issue of the sense of community among students, in terms of how they communicated with each other and the value they placed on peer interactions.

The use of WhatsApp groups rather than the course-provided student forum was highlighted in a number of comments, with poor responsiveness and engagement in the student forum given as reasons for the primacy of WhatsApp. This subject was also raised in the student interviews, where immediacy of response was identified as a reason for using WhatsApp, corroborating the second free-text entry below:

> *The discussion forum was very unfriendly and only used when required by the*
> *pupils. We all resorted to using alternatives (WhatsApp, etc) as it was so poor.*
> *(M 35-44 MSc Information Systems Strategy)*

> *The WhatsApp group was the best way to discuss things with other students.*
> *The forums were ok but responses were slow and 1-2 responses only. The*
> *WhatsApp allowed discussion. (F 45-54 MSc Management of Operations)*

The benefit of interaction with fellow students and staff was also highlighted, supporting other free-text entries suggesting that students would welcome more opportunities for such

interaction and the survey response that one third of students felt there was insufficient contact time with staff to support effective learning. This suggested that while students were self-regulating their learning, they saw value in being exposed to the views of other students and faculty, as well as to the support that comes from being part of a shared journey:

> *Interacting with the tutors, picking their brains on their topics. Questioning the information. (M 35-44 MSc Internet Enterprise Systems)*

> *Support from other students, researching the thesis. (F 45-54 MSc Internet Enterprise Systems)*

> *Interacting with my supervisor was the most interesting thing ever. (F 35-44 MSc Sustainable Development)*

> *Interaction with peers was enjoyable and this should be encouraged more. (M 35-44 MSc Information Systems Strategy)*

While interacting with fellow students was valued, the WhatsApp context was again referenced several times:

> *I enjoyed the interactions with my classmates, but this was mostly outside of the confines of the course (e.g. WhatsApp). (F 35-44 MSc Management of Operations)*

> *Interaction with fellow students. Particularly in the WhatsApp group, as this reduced the feeling of being on the course alone due to the nature of remote learning. The induction day was excellent as it set the tone for the course. Visiting the campus provided the context of what I was about to embark on. (M 35-44 MSc Management of Operations)*

The support provided by fellow students, HEI staff and others involved in the delivery of the courses, was highlighted, with one student favourably contrasting his HEI online experience with another institution:

> *The topics learned and the support from many sides (teachers, staff, colleagues). (F 35-44 Graduate Certificate)*

> *The supports available to students. (M 35-44 MSc Management of Operations)*

> *I completed my BSc fully online with zero support from that (different) university, so the support from (the HEI) was very much appreciated. (M 35-44 MSc Clean Technology)*

> *More collaboration with course colleagues. (M 24-34 MSc Sustainable Development)*

4.1.5.5 Career relevance

From a number of comments, it could be inferred that students saw career enhancement as an important benefit of pursuing their course. This was particularly evident in the survey responses on students' motivation for undertaking their studies, where career and job related factors accounted for over half the total entries made - career progression (26) and employment prospects (23) being the top two choices out of a total of 87 entries. One comment praised the support available to students in the HEI, outside their specific course:

> The career guidance is excellent. I used this department to help my prepare for a promotion interview. (M 35-44 MSc Management of Operations)

Not all comments were positive, with two students questioning the real world usefulness of two courses, the MSc in Sustainable Development and the MSc in Information Systems Strategy:

> Still a purely theory course with just report writing, no real work that would occur in 'the real world'. (M 35-44 MSc Information Systems Strategy)

> The MSc in Sustainable Development is overly general and does not qualify the student for anything in particular. (M 45-4 MSc Sustainable Development)

When reporting on what they had enjoyed most about their course, however, several students were very positive about work-related aspects:

> The business report focus both as part of …. for grad cert and …. for MSc has been really good. They focus on delivering a work quality output with academic support is the right approach I feel and ensures students will be well prepared to develop in the workplace. (M 25-34 Graduate Certificate)

> The change management module. I found this module to be extremely interesting and I was able to utilise the content in my current employment. (M 35-44 MSc Management of Operations)

> Getting an understanding of how operating systems work in the real world and how they can be applied to your everyday job, depending on what fails (field?) you work in. (M 35-44 MSc Management of Operations)

> The material on managing change is super relevant in today's world; tech is ever changing as is industry. (M 35-44 MSc Management of Operations)

> Developing skills which I can see useful in my job. (M 25-34 MSc Clean Technology)

> Researching real world companies for assignments. (M 35-44 Graduate Certificate)

The use of case studies in some modules was very beneficial and helped explain the practical applications of the concepts we were learning about. (M 35-44 Graduate Certificate)

Reflecting the importance of career related issues for many students, there were suggestions that more attention be paid to the prospects for employment, including the idea of an internship in the area of sustainable development:

Get a job related to course. (M 45-54 MSc Information Systems Strategy)

If the university would work on the internship opportunities for this course (Sustainable Development). (F 35-44 MSc Sustainable Development)

4.1.5.6   Attitude to group work

Although group work was not a topic in the student survey, it appeared in several free text comments and responses. Students were mixed in their views, which reflected the nuanced opinions of the student and tutor interviewees also, as reported later in this thesis.

Two students referenced group work as the most enjoyable aspects of their course:

Interacting with other students on the Group Project. (M 35-44 Graduate Certificate)

I enjoyed the group assignment. Looking at the current climate of Zoom meeting and working form home, that experience stood to me. (M 45-54 MSc Management of Operations)

Another suggested additional group work when it came to improving the courses:

More group work with peers would improve the experience further and foster relationship and contacts building with colleagues which is difficult but important when distance learning especially with other same course participants. (M 35-44 MSc Information Systems Strategy)

However, on the same subject of course improvements, two others took the opposite view:

I think some of the group work was redundant - by Masters level, you should have had plenty of chances to do group work in your career, and instead it added to my stress levels. (F 35-44 MSc Management of Operations)

Less group work. (F 25-34 Graduate Certificate)

Free text comments made by students, including mandatory entries, were analysed in the previous paragraphs but, to provide perspective, it is useful to analyse how the students, as a group, used the free text facility.

Just 16% of the available free text boxes were completed, leaving 84% unused. Over half the students (twenty) made no optional entries and five made just a single comment each. Consistency of the learning experience and dissertation-related issues attracted over one-third of the comments, with the remainder spread over a variety of subjects.

Overall, then, students did not make great use of the opportunity to enter comments. However, the free text comments provide colour on aspects of the student survey and insight into the student experience and should be considered in the context of the other data collected in this research. Accordingly, qualitative data arising from different sources, such as the free-text comments and interviews, have been triangulated as part of the various analyses presented here.

The next section addresses the student interview element of the research.

4.2   Student Interviews

The idea behind the student interviews was to explore issues arising from analysing the student survey data. It was anticipated that the student survey could produce results that would benefit from a deeper discussion to understand the thinking behind the responses in the survey, notwithstanding that free text comments were invited throughout the survey.

Within the student survey, therefore, participants were invited to contact the researcher if they were willing to take part in a follow-up interview. To preserve anonymity, students were asked to contact the researcher outside the survey. This may have limited the number of students who responded as it would have been easier for students to opt in by entering an email address in the survey but this would have compromised the anonymity of the participant. Nevertheless, six students offered to participate and they were contacted after the student survey data had been analysed.

Of the six volunteers for follow-up interviews, it proved impossible to find an agreed interview time with one of the students, though he offered to be involved at a later date if anything were to require elaboration or clarification. The interviews with the remaining five students took place on August 24 and August 31, 2021, in groups of two and three interviewees respectively.

The interviews were conducted via Zoom, using the DCU licensed version. The process included the automatic generation of a transcript of the audio content, which was reviewed by the researcher, with obvious errors being corrected with the help of the audio transcript. The corrected transcripts were issued to the participating students, who were invited to check the content, as a form of member-checking, and advise any required amendments, of which there were none.

The student interviewee profile is as shown in Table 4-13 below (Student ID is in the format SN-GN where SN represents student number and -GN represents the group in which the student was interviewed).

Table 4-13 Student Interviewee Profile

Student ID	Gender	Course Taken
S1-G1	M	Graduate Certificate
S2-G1	F	MSc Management of Operations
S3-G2	M	MSc Management of Operations
S4-G2	M	MSc Clean Technology
S5-G2	M	Graduate Certificate

The student interviews had a twofold focus: firstly, the topics that drew the least favourable responses in the survey– see Figure 4-6 below – as these had the potential to yield interesting information and produce actionable recommendations, as opposed to the items that received more favourable responses, indicating satisfaction with the status quo and, secondly, elements of the survey response that the researcher felt would benefit from further discussion.

Lowest Rated Items by % Agree

Item	%
Tutors are consistent in their approach to teaching	61%
Sufficient opportunities to discuss with other students	55%
I am encouraged to be involved in decisions about how my course is run	53%
Tutors are consistent in their approach to assignment marking	53%
Tutors are consistent in their approach to feedback	50%
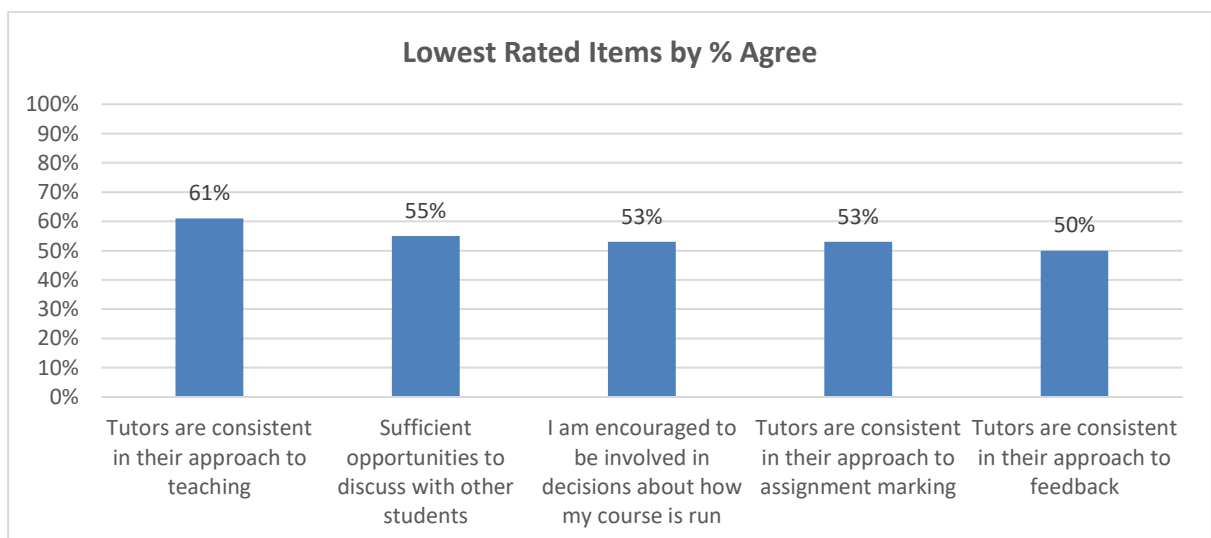
Figure 4-6 Lowest Rated Survey Items

These included the opportunity for self-assessment by students, which was rated highly in the survey, despite the absence of in-built self-assessment features in course content; the nature of instruction provided, to explore consistency in this area and the extent to which the students' self-management of their learning was supported; dissertation support for students as inconsistencies in this area had emerged as a potential issue in the survey free-text comments, and student-to-student communications, again resulting from somewhat negative survey comments about the value of the student forums and their replacement by WhatsApp as the de facto means of student peer communications. The student interview schedule is included in Appendix K.

In the analysis below, students are identified by a code where SN represents student number; M/F represents gender; GN identifies the group in which the student was interviewed and the final alphabetic code indicates the course taken by the student (MOPS – MSc Management of Operations; MCT - MSc Clean Technology; GC – Graduate Certificate).

Figure 4-7 below shows the six themes interpreted from the reflexive thematic analysis of the student interviews. The figure also shows some of the codes associated with each theme. To illustrate the thematic analysis, Appendix M incudes samples of the coding carried out on the student interviews, plus a listing of codes associated with two of the themes.
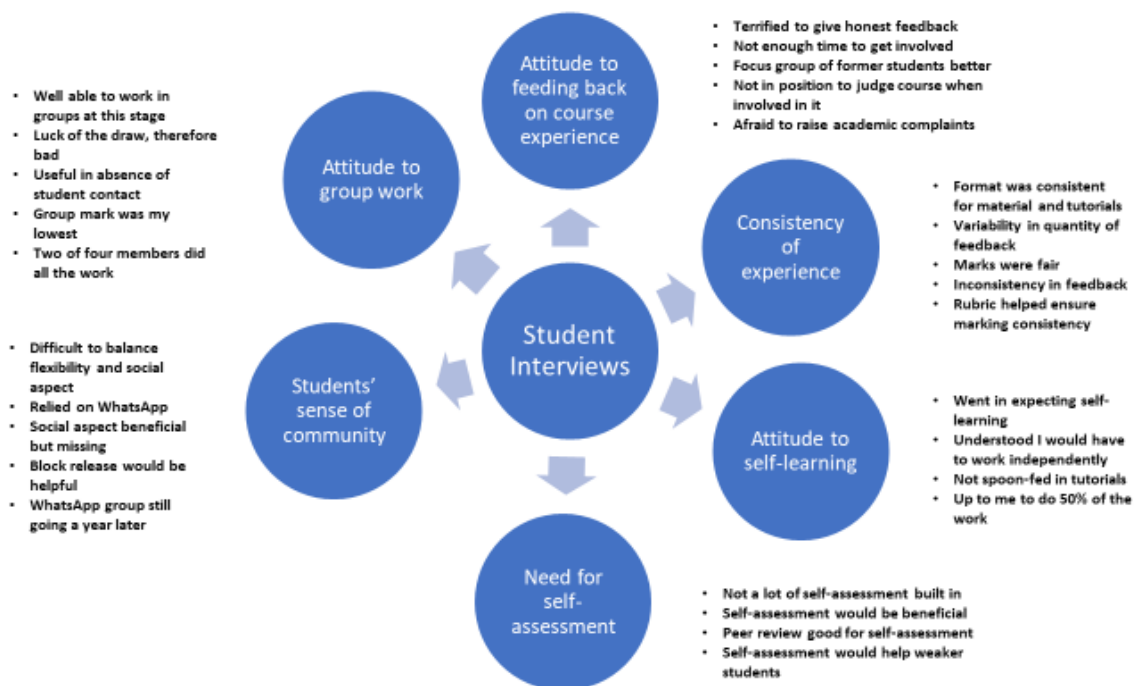
Figure 4-7 Student Interview Themes

4.2.1 Themes

4.2.1.1 Consistency of experience

When measured by percentage agreement, the statements on consistency of tutors in teaching, assessment and feedback were among the five lowest scoring items in the survey, as shown in Figure 4-6 above. Reflecting this, the student interviewees confirmed that consistency among tutors was an issue of concern to them.

This echoed findings in the literature about the importance of consistency in the student experience to help them develop as independent learners, be that in the consistency between feedback comments and marks; the need for consistent and clear interpretation of marking schemes by teachers; the need for greater consistency not just among tutors but in a broader agreement across subjects on what constitutes good assessment and feedback; and consistency in the guidance provided to tutors and students so that they would share a common understanding of assessment tasks (Brown, 2007; Ferguson, 2011; Hills *et al.*, 2018).

As will be seen below, the tutors were nuanced in their response to consistency of the student experience. Some tutors saw a need for greater consistency across all tutor activities, as part of an identifiable "brand" for the programmes. Others felt that differences in subject matter, students and tutors meant that different approaches would be taken and that this was not a bad thing.

The free-text comments in the student survey also highlighted aspects of inconsistency, covering variable experiences with different tutors and across modules. One issue raised by students on which the tutors were in agreement was the need for more marking consistency when an assignment was marked by multiple tutors.

The theme of inconsistency could be construed from comments across several areas in the student interviews – assignment marking; assignment feedback; dissertation support; quality of supervision; clarity of assignments. There was agreement that the students knew in advance that they would be self-reliant in their learning to a great extent.

The students felt that there was a consistent pattern in the ways in which course material was structured, tutorials presented, assignments constructed and feedback provided. Outside of these "look and feel" aspects, the lack of consistency could be found. The degree of explanation and illustration of important concepts varied in tutorials, as did the quantity and quality of

assignment feedback. Marking of assignments was considered to be inconsistent in some cases, with certain tutors weighing aspects such as presentation and referencing much more heavily than others. This was especially obvious in modules that were shared by a number of tutors:

> *(S2 F G1 MOPS) I found for some of the assignments, some of the marking did seem a little bit askew, and some of the directions … So yeah I sort of found some of the feedback was inconsistent. You think that you're on top of it, in one way in terms of what they were looking for in terms of layout and submission, etc, and others they weren't.*

> *(S1 M G1 GC) … vastly different feedback from what other tutors and, in some cases, no feedback, which is and it's actually one of the things I praised to people about this course, was the level of feedback then on one or two modules you don't get any and it's like oh, where did I go wrong okay.*

> *(S3 M G2 MOPS) So, as the question is asked of me there, are tutors consistent in their approach to teaching, they are consistent in material delivery and run through of the notes; would some tutors go through the notes and explain things a little differently, I think everybody has their own style of teaching when it comes to that point. Not everybody would do it the same way, but I think there was overall consistency.*

> *(S4 M G2 MCT) I had one situation where there was a two question assignment. I don't know if it was marked by two different people, but I got very opposing feedback to the two different questions that I had answered. Like one of them, the feedback was that it seemed like somebody else had written the answer to the question two as opposed to question one which threw me completely John and there was no real follow up to that it was just, it seems like somebody else wrote this, and that was pretty harsh criticism ….*

4.2.1.2 Attitude to self-learning

Supporting the high levels of agreement with the survey statements about staff being good at explaining things (95%) and awareness of the student role in regulating their own learning activities (87%), the students confirmed that they had expected to do a lot of work themselves in researching the various subject matter. Therefore, the tutors' approach of providing students with pointers and highlighting key issues in the course material was what they had expected and was sufficient to the task. Where the module required more of a step-by-step teaching approach, such as in technical aspects of research methods, this had been done appropriately, given the teaching time constraints:

> *(S3 M G2 MOPS) I was under the impression that not all the answers were going to be in the notes or in the teachings, it was up to me to meet … 50% myself so … with the volume of material that was … in all of the assignments combined*

> *over 5000 or 6000 words per module per month, you know I think you have to do a certain amount yourself.*

> *(S5 M G2 GC) I think (S3 M G2 MOPS) made a very good point at the start, whereby we knew coming into this that there's only so much that you could teach us, and it was up to us to go and research the rest.*

So, although the term instructional design may not have been familiar to the students, they said that the general approach to teaching was appropriate and had been expected, supporting the literature suggestion that a mix of approaches was needed, depending on the nature of the subject matter and students' prior knowledge (Elander and Cronje, 2016). The relatively low level of agreement (61%) in the survey concerning tutor consistency in their approach to teaching reflected the reality that some tutors performed better than others and gave greater insight into key concepts, particularly by using concrete examples of organisations whose activities brought the relevant underlying theories to life. Giving practical examples in this way validated the worthwhile nature of the learning, something that is necessary when dealing with adult learners (Merriam, Caffarella and Baumgartner, 2006, p. 84):

> *(S5 M G2 GC) What I found was that some tutors added more value to the notes. They seem to spark, well I won't say debate, but encourage attendees to have input and take some of that input and you know expand on that so, for example, real life examples of companies were used and how companies had developed their way of working, or their processes, and I think examples like that help to get the overall concept of the of the particular subject across.*

4.2.1.3   Need for self-assessment

The survey reported a high rate of agreement (82%) with the statement that sufficient opportunity for self-assessment of learning was built into the course material. This was somewhat unexpected as the course materials did not, as a design objective, feature self-assessment questions or quizzes, even though students face the challenge, in a self-regulated context, of establishing whether they have achieved an understanding of the course material (Azevedo, 2005). However, taking the term course materials to include recommended textbooks and readings, students felt that there was enough opportunity to test and benchmark their understanding as they worked through the course notes. The value of the reflective elements of assignments was also mentioned here, as was the common practice in assignments of asking students to post to a forum on a given topic and then peer-review one or more of their fellow students' postings. The latter practice allowed students to gauge where they stood relative to others and to learn from the varying viewpoints taken and examples used in the forum postings:

(S5 M G2 GC) I found [the peer review questions] were very good … because I could see what I knew relative to everybody else, and what I needed to do to reach the level of some people. From a self-assessing point of view that was something that I could proactively do as I went on, and then at the end of each module you could take a look back and say, okay, what could I have done better here and has my approach improved from when I began, and what can I bring on to the next module and all that so, yeah, I think overall structure helped a lot in that sense.

However, it was mentioned that for students' first module, the initial assignment would be submitted not knowing whether to expect a very low or high mark as they did not have any benchmark to go by at that stage. They expressed the view that some form of exemplar assignment and model answer would have been very useful. This supports Panadero's view that self-regulated learning capabilities in students need to be developed over time before any level of automatic performance will come about (2017, p. 21):

(S4 M G2 MCT) I think everybody went in sort of blind; we didn't know what was expected ... So, when I submitted my first assignment, I had no idea if I was going to get 90% or 40% or anywhere in between … I remember thinking at the time that you know sample question and answer might have been helpful at the time …

There was, however, agreement among the students, that a direct form of self-assessment or prompting could be usefully built into the basic fabric of the courses, augmenting the forms of self-assessment already available, such as reflection. In this view, the students were in line with a body of research promoting the use of prompts or other forms of self-assessment in a self-regulating context (Sitzmann *et al.*, 2009; Kauffman, 2015; Daumiller and Dresel, 2019):

(S1 M G1 GC) I think, for the people that have any doubts, it could be beneficial … and it's difficult potentially for you guys deliver it. And if they were paired with the assignment in terms of here's five topics or kind of key topics within the overall breadth of the thing we're covering and the assignment is focused on.

(S2 F G1 MOPS) I'm not sure that there was specifically though a lot of self-assessment built in … maybe five key takeaways or three key takeaways from that particular subunit, you know, quickfire five questions, multi choice type of thing that would possibly be good in terms of prompting. You could possibly have towards the beginning also just to nudge or kick people in the right direction.

(S3 M G2 MOPS) I probably struggled with self-assessment because I knew the course would be intense, but I didn't think it would be that intense, straight off the bat.

The specific issue of self-assessment did not feature in the student survey free-text comments, so there is no data to triangulate from that source.

As will be seen later, the tutors did not express strong views about self-assessment opportunities. One suggestion was that students would not engage with self-assessment if it didn't contribute to their marks and another was that building in self-assessment questions to the course material was unnecessary as this was the job of the assignments.

4.2.1.4 Student sense of community

Opportunities for discussion with fellow students was among the lowest rated items in the student survey (55% agreement) and there had been some negative commentary on the topic in the free text entries in the survey. These included comments that the forum was unfriendly and responses were slow, leading students to resort to WhatsApp as a means of communication. There were also several very positive comments about the benefits to students of interacting with their peers, classmates and tutors:

> *Interaction with peers was enjoyable and this should be encouraged more. (M 35-44 MSc Information Systems Strategy)*

> *I enjoyed the interactions with my classmates, but this was mostly outside of the confines of the course (e.g. WhatsApp). (F 35-44 MSc Management of Operations)*

> *Interaction with fellow students. Particularly in the WhatsApp group, as this reduced the feeling of being on the course alone due to the nature of remote learning. The induction day was excellent as it set the tone for the course. Visiting the campus provided the context of what I was about to embark on. (M 35-44 MSc Management of Operations)*

As will be seen later, the tutor interviews had also highlighted frustration with the lack of engagement by students on the forums, including the difficulty of getting students to participate in sessions hosted on the forums to promote discussion:

> *(T1 F G1 1-5) 00:32:36 And then I had Q and A sessions …. and once they realized five minutes into the first Q&A session that that it wasn't mandatory - well none of them are mandatory - but that they didn't need to be there …. nobody turned up to the rest of them, they all logged off, and that was it, nobody ever came.*

One tutor had also raised the question of what the forums were trying to achieve:

> *(T8 M 1-5) 22:43 … so I think we need to look at what we want to get out of discussion boards, what's the purpose, what's the value, you know, if the students aren't using it, we need to look at ourselves to say, well, why is that because we've created this as a channel.*

The student interviewees agreed that insofar as they communicated with each other regularly, it happened in the context of their WhatsApp group. This gave them a responsive and supportive environment that did not exist in Moodle, even though they acknowledged the danger of misinformation gaining traction on WhatsApp. Overall, they would have liked more face to face engagement to foster a sense of togetherness and get to know each other and their tutors better, reflecting the literature findings on this issue (Stodel, Thompson and MacDonald, 2006; Buck, 2016).

General student forums within the courses were felt to be of minimal value by the interviewees, being used for little other than straightforward factual queries to tutors or course administrators. The real communication among students took place in private student WhatsApp groups, to which tutors and course administrators did not have access. Students saw value in instantaneous communication, the likelihood of a very quick response, the familiarity and ease of use of WhatsApp and the fact that virtually everyone carried a mobile phone around with them:

> *(S2 F G1 MOPS) For my class my group, I think they felt that they got a more instantaneous response by asking classmates rather than relying on a forum; you can't expect an academic or student support to be monitoring 24/7.*

> *(S3 M G2 MOPS) When I got onto that WhatsApp that was a game changer for me, because there was definitely a couple of the subject matters where I could have been, like I was strong in, I felt strong in but I didn't feel rounded in, and when I got that extra periphery of other people's opinions on interpretation, I think, for me it just got a lot, I think, enriched the creative juices, when I was actually approaching my own version of the assignment.*

In terms of community, it was interesting that one of the WhatsApp groups had continued beyond the end of the course, with students using it for career-related communications:

> *(S2 F G1 MOPS) …that's been there as a back channel, and is a very useful one, too. And it's still going on a year later, asking advice about job interviews…*

The students saw the danger of misinformation gaining currency in a WhatsApp group, away from the evaluating eyes of a tutor, but the ease of use and instantaneous nature of communications meant that WhatsApp would inevitably become the prime channel for student-to-student communications:

(S4 M G2 MCT) Just one comment, while I'm thinking of it about the WhatsApp thing. I remember a couple of times wondering to myself if what some of the people were talking about, if it was accurate information that was being put into the chat group or if it was somebody's belief that, you know, could have maybe ended up hurting the scores of people who would have used that information in their assignment or something like that. If you had something around by [HEI] that maybe a tutor was checking in on or something like that, that could maybe point us on the right track, I know in the forums that did happen a couple of times so like we said the forums weren't that busy.

While it is likely that a private, student-only group would always exist, it was suggested that if the course forums could deploy "push" technology to a mobile device, without requiring login for every message, it could encourage more use of the forums. Whether tutors would want to be involved in such a set-up, with its unspoken expectation of being always-on and making quick responses was something that needed to be considered, with expectations being set and managed in this scenario:

(S4 M G2 MCT) I would have liked to have seen it on a different platform. If the [HEI] had … their own chat service, it would have been ideal, but it would have to be as convenient as WhatsApp … everybody's got a phone in their pocket and they can get to WhatsApp in seconds. Okay, whereas you know, maybe not everybody was logging in …. every day to catch up with the forum and if there was some sort of more accessible system, it might be easier or better to switch it to that.

4.2.1.5 Attitude to group work

Group work had been mentioned both favourably and unfavourably in the free text comments in the survey, so there was no clear message emerging. For example, in suggesting course improvements, one student asked for more group work and another for less:

Less group work (F 25-34 Graduate Certificate)

More group work with peers would improve the experience (M 35-44 MSc Information Systems Strategy)

As will be seen later, while the tutors were generally favourably disposed towards group work, they were aware of potential issues also, like "passengers" in a group who have to be carried by other group members:

(T2 F 1-5) And I suppose there are always those people that you know that particularly hide within the group …. because I do know that other people who are you know really going for the grades are carrying other people.

The student interviewees were, on balance, negatively disposed towards the inclusion of group work in assignments. The issues raised included the lack of imperative for giving students practice at working in groups as most of them already had this experience from their working lives – by contrast to undergraduates or recent graduates, for whom group work experience would be beneficial:

> *(S2 F G1 MOPS) My personal opinion is at this stage of my life, my career, I'm well able to work in a team environment and to be honest, I absolutely hated my group work assignment.*

A telling comment related to the element of chance involved in how groups were composed. The very fact that the composition of a group involved an element of luck rendered group work undesirable because students shouldn't rely on chance to do well in their studies:

> *(S1 M G1 GC) If you can't work in a team you won't hold down a job. I would temper it a little bit and say it very much depends on the luck of the draw and that's why it's a bad thing.*

The potential impact on individual marks was highlighted, even though the general idea of group work in a management-type course was accepted:

> *(S4 M G2 MCT) As I recall, the group mark that I got was the lowest of the whole lot of all my different modules. So, I probably wouldn't be as positive as maybe other people would be towards the group, for I mean I understand the point of it; it's a management course it's part of it is about managing a group and different people and that sort of thing.*

However, the frustration that can result from the effort needed to organise group sessions and the danger of group members shirking their responsibilities was evident:

> *(S3 M G2 MOPS) for me that was hard work now being honest. … You know, again, probably two in the group were just delighted to hand it off to two others … and you know it wasn't the most pleasurable experience for me personally … I didn't want to be a victim of … the actual situation and just wanted to put shape on it and move on, you know, that kind of way.*

This resonates with the findings of O'Shea, Stone and Delahunty (2015), that involvement in group work could detract from the flexibility that attracted such students to online study in the first place. The practical difficulties with organising groups in a time-constrained schedule were also mentioned by the students and, as seen in their comments above, were the problems of passengers in groups and students being unhappy with the prospect of their individual results being affected by the performance of others, over whom they had no control.

The use of collaborative learning is widespread in higher education and the case continues to be made that collaborative learning exercises are worthwhile because they benefit students (Strijbos, 2011, p. 59). However, the situation is more nuanced when it comes to students who are in mid-career. Such learners will most likely be very experienced in collaborative working and learning as this is now a key skill in the workplace (Alexander *et al.*, 2020). A common feature of group work is the awarding of marks on a group basis, with each member of the group receiving the same mark. This has long been opposed by a well-known proponent of collaborative learning as never justified (Kagan, 1995, p. 68). Nor can it be assumed that those teaching at third level are able to design effective group tasks for their students. In a survey and interview-based study of 115 online lecturers across five universities in the Netherlands, it was found that while over 100 participants included collaborative learning in their courses, many found it difficult to design and grade collaborative exercises and in many cases the collaborative learning outcomes were not what they had envisaged (De Hei *et al.*, 2015).

4.2.1.6   Attitude to feeding back on course experience

In the survey, students were relatively negative (53% agreement) about the extent to which they were encouraged to be involved in course-related decisions, placing this in the five lowest rated items in the survey. Despite this low rating, the issue did not attract any free-text entries in the relevant section of the survey, although elsewhere one student referred to being unwilling to express views freely while still a student:

> *There was a mix of experiences … I have put forward the worst experiences. I feel more comfortable doing so now that I have my final grade. Never felt I could offer fair feedback before my final grade. (M 45-54 MSc Sustainable Development)*

As the issue was more relevant to aspects of course management and evaluation rather than tutor activity, it did not arise in the tutor interviews, discussed below.

Mirroring the free-text comment mentioned above, the student interviewees were sceptical of the value of input from current students, who may feel unable to candidly express their views in case that might rebound on them personally:

> *(S1 M G1 GC) It's difficult for a student to give any sort of feedback while they're in the middle of a module because they are they are terrified of, if I critique how this guy or this lady is delivering this content to me, like my name is dirt to them.*

> *(S2 F G1 MOPS) From my own personal experience from taking part in the programme boards, the students only tend to be honest about their academic experience on two things: they will give out about the administration portion of*

> *it particularly around the timetables, but in the academic sense it tends to need something really dire before someone is going to raise their head above the parapet about it because they feel that they have got skin in the game they could be a marked person, so I agree with [name] on that one.*

The students' view reflected the findings of Seale *et al.* (2015, p. 550), who found that student voice initiatives failed to recognise the importance of power relationship between teachers and students. The students also felt that they were fully occupied in keeping up with their course demands, as well as the other demands on their time, and would not welcome heavy involvement in activities about how the courses were being run. In general, the students were happy with course organisation so, despite the relative lack of encouragement to get involved, they felt that the issue did not arise in practice:

> *(S3 M G2 MOPS) During the course I don't recall … an involvement there … I would also kind of mention that, like, I think once engaged in the course probably that would have been a distraction to me personally. And because of … time I had available to do the learning and do the assignments … I don't recall being asked about it and I don't think that's something that I would have probably engaged with anyway okay.*

> *(S4 M G2 MCT) During the course I wouldn't have had any interest in sort of offering an opinion on the course; I thought it was spot on.*

> *(S5 M G2 GC) When you're in the middle of it, you know, you're focused on the course and you don't have the time to look at the big picture.*

The students had been asked in advance to consider any issues they would to like to discuss in the interviews but nothing further was raised by the student interviewees when invited to do so.

4.3   Tutor Interviews

4.3.1   Overview

Five of the tutor interviewees were male and three were female, with experience ranging from two years to over twenty years and a range of responsibilities including writing course material, setting assignments, marking assignments, presenting tutorials and supporting tutorials. Two of the interviews were with individual tutors, one was with two tutors and one was with four tutors. It was considered that interviewing tutors in groups would help to generate discussion and add value to the conversation, so it had been hoped to avoid individual interviews. However, availability became the key constraint in organising interviews as most tutors had full-time jobs and worked with the HEI on a part-time basis. Table 4-14 below profiles the tutors' involvement in the programmes. The code TN represents the tutor number; M or F represents

gender and the suffix - GN indicates the group, if any, in which the tutor was interviewed; so, for example, T2 F G1 indicates that Tutor 2 was female and interviewed as part of Group 1.

Table 4-14 Tutor Interviewee Profile

Tutor ID / Gender / Group	MSc Mgt of Ops	MSc Clean Tech	MSc Sustain-able Dev	MSc Info Sys Strategy	MSc Internet Ent Sys	Grad Cert	Years Exp in HEI	Roles
T1 F G1		X	X			X	1-5	1-6
T2 F G1		X	X	X	X	X	1-5	1,4,5,6
T3 M G1	X	X	X	X	X	X	6-10	2,3,4,6
T4 M G1	X	X	X	X	X	X	1-5	3,5,6
T5 F G2	X	X	X	X	X	X	1-5	3,5,6
T6 M G2	X	X	X	X	X	X	1-5	3,5,6
T7 M	X	X	X	X	X	X	11+	1-6
T8 M		X	X	X	X	X	1-5	1-6

Key to Roles:

1. Write Course Material   *4. Present Tutorials*
2. Write Assignments   *5. Support Tutorial Presentation*
3. Mark Assignments   *6. Contribute to Student Online Forums*

As explained in the previous chapter, the interviews were analysed using Braun and Clarke's (2012, 2019) six phase reflexive thematic analysis approach.

Figure 4-8 below shows the five themes interpreted from the tutor interviews. The figure also shows some of the codes associated with each theme. Appendix M incudes samples of the coding carried out on two of the tutor interviews, plus a listing of codes associated with two of the themes.
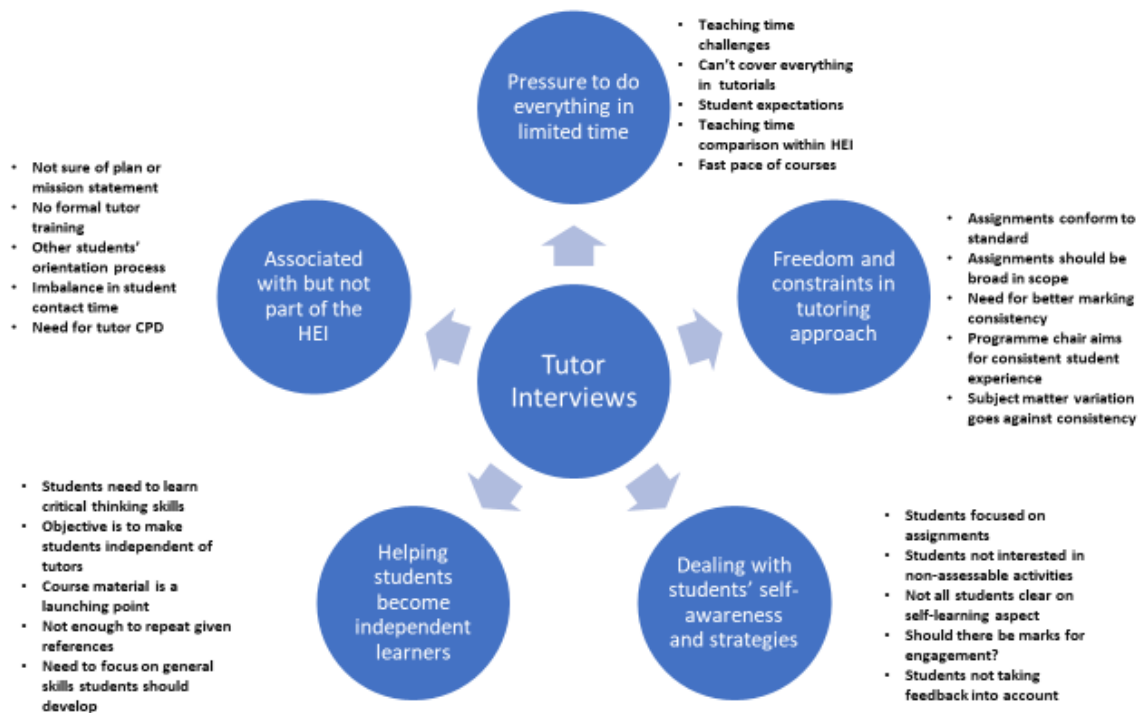
Figure 4-8 Tutor Interview Themes

The interview transcripts were read several times for familiarity and then coded using a combination of semantic and latent codes. A number of candidate themes were developed, some of which were abandoned in favour of others according as the clustering of codes was reviewed. At the end of this process, the above themes remained and are analysed below.

Despite the challenging issues that emerged from the thematic analysis, it was clear that the tutors were satisfied overall that they met the needs of the students. From the topic-based structure of the interviews, this level of satisfaction could be seen in the nature and presentation of the course material, how assignments were devised and marked, the type of feedback provided and the focus on developing students' critical thinking and independent learning skills. The tutors recognised the need for better collaboration and coherence in marking shared assignments. There were mixed views on the need for more standardisation, with some favouring closer alignment in materials, assignments and feedback, while others felt that variability in approach was inevitable and even beneficial, given the different subject matter involved and the nature of individual teaching practice. So, although they had faced some important challenges, the tutors felt that they had been able to deal with these and give students the necessary support to succeed. The tutors' activity-based response is set out in more detail after the thematic analysis.

4.3.2   Themes

In the sections below, tutors are identified by a code where TN represents tutor number; M/F represents gender; GN represents the group, if any, in which the tutor was interviewed and the remaining digits represent years' experience in the HEI.

4.3.2.1   Feeling associated with but not part of the HEI

Although it wasn't articulated directly by the tutors, it was possible to detect an undercurrent of feeling that their programmes were somehow disconnected from the rest of the HEI. This was evident in several ways, including the relatively casual way in which new tutors were introduced to tutoring, with no formal training or academic orientation, which one tutor characterised as "in at the deep end". Another tutor said that she preferred blended learning to fully online, as the blended approach created a feeling of association that was absent in the online only approach:

> (T5 F G2 1-5) I think it's crucial, we don't really do it at all, and even if it's a group of five and you just put the five people together on their first thing on site, whether it's your first presentations or your meetings or whatever, I always felt that it was great to go onto the (HEI) campus….

The same tutor showed a sense of disconnectedness when, in discussing aspects of marking, she said that she did not know what she was meant to be aligning to:

> (T5 F G2 1-5) I don't know the strategy of the department, what their plan is with regards to getting students through all the information or what they're looking for back from them. I don't know whether there's like a mission statement, I know it sounds very business type, but like sometimes you do need that, it's like having objectives for the course.

This point also arose when one tutor reported her experience of the HEI general orientation programme for new students and contrasted the online students' experience of this process. The thrust of the argument was that traditional (face-to-face) students got an opportunity to acclimatise themselves to different aspects of their environment over a period of several weeks, whereas for the online student the period was much shorter. At the same time as traditional students were becoming accustomed to the HEI and its facilities at a more measured pace, the online students were very quickly into a regime of assignments and milestones such that the communications to students from the orientation process gradually became counter-productive:

> (T1 F G1 1-5) … like it [HEI orientation] was a lovely way to introduce people so weeks one and two will introduce you to [course forum], and weeks three and four will introduce you to your online community and they were lovely things but at that point, our guys were gone, like they were now you've got an assignment due. You couldn't keep following that [orientation communications] and then you kept getting reminders if you were on that

> *module and then they were getting stressed…. even though it's designed beautifully it worked awfully for our students….*

Coneyworth *et al.,* (2020) supported the idea that postgraduate students need particular support to help them adapt to the demands of a higher level of academic endeavour. In a survey of 70 British postgraduate students, over 80% reported that they did not understand what was expected of them as a postgraduate student and they were used to an environment with much greater teacher contact hours.

In that regard, students in this research used the survey free-text facility to say they would have liked more hours and tutorials explaining things and more opportunity for peer interaction:

> *More tutorials. (M 35-44 MSc Clean Technology)*

> *More Saturdays onsite and to include time for mixing. I have got to know several students well via WhatsApp but have no idea what they look like. (F 45-54 MSc Management of Operations).*

> *Students need more support in the first month. (M 45-54 MSc Sustainable Development)*

Kimmel and Fairchild (2017, p. 60) in researching the views of seven part-time faculty in a small but in-depth study at a Kentucky university, found that faculty staff were very committed and student-centred in their instruction. This wasn't fully in line with earlier research on the topic that involved analysis of secondary data gathered from full-time and part-time faculty in over 130 colleges which suggested that full-time staff communicated with students more than their part-time equivalents (Umbach, 2007). Interestingly, this issue of the commitment of part-time faculty was mentioned by an external member of the HEI's Programme Board for Postgraduate Programmes, who commented at a board meeting that the commitment of tutors was a key strength of the HEI offering, characterising it as a "unique selling point" that would be lost at the peril of the HEI in any reorganisation of the programmes.

The relatively informal nature of tutor recruitment and training also pointed to an absence of academic connection to the HEI. Having been in the role for a year, one tutor started to develop a paper on what new tutors required in terms of training, to be used for the benefit of newly recruited tutors, in effect recognising that the induction of new tutors was lacking:

> *(T5 F G2 1-5) I started to write a paper for myself … if any new tutor was to start this is the type of thing that you could start doing. I think I had about 12 different topics, you know, they don't have to be long winded; just to give you advice, tell you what to do if you can't or don't know where to go to talk to*

> *somebody because, generally, the person we're talking to is [Programme Chair] who is not a tutor.*

These feelings echoed the findings of Jolley, Cross and Bryant (2014, p. 225), who interviewed part-time staff in a US college on their experiences, concluding that the participants suffered from a lack of institutional engagement, including staff training and development. An interesting aspect of Jolley, Cross and Bryant's research was that the vast majority (95%) of participants relied on teaching as their main source of income. This reflects other literature on part-time staff, where the emphasis is on how tenured roles have declined in number with a corresponding growth in non-tenured and contingent teaching staff (Ochoa, 2012, p. 137). It has been argued that such staff are disadvantaged through short-term contracts and associated income vulnerability. What is lacking in the literature, however, is an examination of the position of part-time staff whose educational roles are incidental to their main career and source of income and whose primary motivation to become involved in tutoring is not likely to be monetary. For example, Delgaty (2013) looked at the implications of online learning for teachers, both in terms of the effort involved in preparing and delivering material, and practical advice for institutions and teachers on how to achieve success (2015) but it was clear from her research in both cases that the academic roles were assumed to be undertaken by full-time teaching staff.

Within the HEI, one tutor with experience of the undergraduate and postgraduate programmes felt that there was a lack of engagement at postgraduate level, compared with the HEI undergraduate stream:

> *(T8 M 1-5) We have a chance to reuse stuff so, for example, if I'm in psychology and someone has done something on research methods why can't we basically say, well, he or she does that really well, why can't we take that, utilize that, make it available to our students … so I think we're not optimizing the resources we have available to us in a way that would be more effective for the student experience. I think that's an opportunity that we should look at.*

This sense of separation from the rest of the university also extended to a comparison with the academic resources available to students in other faculties:

> *(T8 M 1-5) If you look at [supplier], now we have [product A] available, okay, but the [faculty name] has what's called [product B], which is an enormous amount of additional resources that are available, right, so I think having a proper strategy with the publishers and taking advantage of what the publishers have done, and then linking that into our programmes is something I think we need to do.*

With the likely continued growth of online delivery within traditional face-to-face courses (Morris *et al.*, 2020), the HEI must recognise that online delivery is becoming mainstream and online courses will no longer be a unique or rare facility to offer students. According to one tutor, the HEI must address the issue of engagement and make improvements in order to match the inevitable rise in institutions offering similar but potentially better facilities:

> *(T8 M 1-5) I don't believe there has been the level of engagement that should be there … so I think it's a challenge for us and as more and more offerings are going online and more universities are going to offer, you know, competitive packages … that's a weakness that needs to be looked at and focused, otherwise we could lose students.*

Although the root cause may be the time pressures that the postgraduate students experience, it was suggested that they had insufficient engagement with important services such as the HEI library, which would be increasingly problematic as research skills became more pivotal to their success:

> *(T1 F G1 1-5)… people don't know the library well enough that I don't think they actually engage sufficiently there as well as with their notes, or they certainly don't at all engage with student services or the writing centre and they're such fantastic resources.*

This backs up the earlier point about the truncated orientation programme for HEI online students causing them to concentrate on course deliverables before they could fully experience the orientation process available to other students and take advantage of the range of services on offer.

4.3.2.2   *Pressure to do everything in limited time*

Having sufficient time to properly carry out their course activities was important to tutors, not just for its own sake but because the level of tutor engagement can directly affect the extent to which students become academically engaged and persist with their studies (Barnett, 2011, p. 215).

Reflecting this, one tutor outlined the challenges presented by limited direct student contact time and the impact that could have on students:

> *(T8 M 1-5) So, in a sense … if I was a student looking to do a Master's programme and I look at the resources that are available to me. We are very light in terms of direct contact time ... and that is a concern I think.*

As argued, the total time needed to adequately cater for student needs must be considered also, as seeking to increase the amount of teaching activities will carry with it additional demands on

tutors' time. According to Kenny and Fluck (2017, p. 515), this imposes a greater workload when done in an online environment and, for example, can involve time commitments of the order of six hours to prepare a new tutorial, two hours to update a tutorial and one hour per student to assess and provide feedback on student work. As interpreted by the interviewees, the problem for part-time tutors was that this work is unevenly spread and can impose heavy demands over short periods, for example to mark and provide feedback on assignments within a typical three-week target time. The literature also assumes that part-time tutors have a close association with full-time academics (Bezuidenhout, 2015), who supervise and evaluate them, which is not reflected in the postgraduate environment in the HEI.

The challenges presented by constrained teaching time could be interpreted from the tutor discussions:

> *(T6 M G2 1-5) I suppose really because it's only one or two tutorials per module I think what's needed really is just a good overview of the total. To do that within an hour is challenging you know you really want to be hitting all the real important topics on in the module.*

> *(T3 M G1 6-10) People expect a full course to be kind of covered in an hour or two, that's tough on you, you just can't do it. You have to try to pick the main concepts to do, and you just can't cover it all, it's impossible.*

> *(T1 F G1 1-5) Something that I did see back from students all the time, is that they'd like more tutorials and it's something where I feel it is difficult to deliver.*

> *(T1 F G1 1-5) I had so much feedback constantly, even mid tutorial, on the chat room - I can't believe that we've only one class to learn legal frameworks, I did this in some other course, and it was you know 12 classes in like three weeks or you know this kind of thing.*

There were several perspectives on the impact of the low amount of teaching time, the first of which was the demand from students for additional tutorials, which was either stated directly or implied by comparing previous experience:

> *(T2 F G1 1-5) And there are definitely different cohorts of people out there who have different expectations of what the course is going to bring to them, but, from my perspective, there were definitely a percentage of people that would be used to a class of some description, week in, week out, whether it be a night class if they're older students or full-time class. And I suppose, in some respects, those sorts of students would be used to being spoon fed a little bit more.*

It was a challenge for tutors to respond to these requests but, on the other hand, it seemed that students had resigned themselves to managing with the standard two tutorials per sub-module because take-up could be low on those exceptional occasions when additional tutorials were scheduled.

A second perspective was to look at why extra classes were being requested. Here, a recurring issue was the demand from students that assignments should feature prominently in tutorials, versus the tutors' desire to cover wider subject matter:

> (T1 F G1 1-5) I would try to link it to that and then keep the discussion of the assignment to the very last 10 minutes and I will keep pushing back anytime I get a question that I'll keep that to the end, because I do feel it is necessary to cover the topic.

There was recognition that extra classes were desirable in order to go beyond the assignment, while acknowledging that it wasn't possible to cover all the subject matter in tutorials, implying that students would have to do independent learning and research. One tutor was clear that the assignments should be the cornerstone of the tutorials but a majority of tutors favoured limiting coverage of the assignment in the existing tutorials or putting on extra classes to separate the assignment from the subject matter tuition. Aside from the issue of tutorials, there was agreement that the general pace of the online postgraduate courses was high and there was too much material for the students to cover in some cases.

The relative paucity of teaching time was not expressed solely in terms of the difficulty of covering everything in the available tutorial time but was based on a direct comparison with other courses, for example postgraduate courses in one of the HEI's other faculties. Even in the online programmes context, the postgraduate courses had less student contact time, with the undergraduate courses typically having 50% more tutorials on a like-for-like basis. Some of these undergraduate sessions were held on campus, which helped student engagement and socialisation.

> (T8 M 1-5) I've had some experience in the [faculty] and I was involved with research methods and the lecturers were basically doing lectures on video, and then there was quite a lot of workshops following that … I think we are very on the light side, I believe, so if I look at the psychology offering that's done [online] … I think they have much more direct time than we have, I think we're very light in terms of our contact to be honest with you.

The view was expressed that this placed postgraduate students at a disadvantage. Even where comparative data were not available, the tutors instinctively felt that the teaching time was low

and, in the interviews, they asked about availability of benchmark information on teaching time in other courses and other institutions.

The amount of teaching time on courses is not often addressed in the literature and it seems to be assumed that teaching time is set at some standard level and is not a differentiating factor in comparing teaching contexts. In cases where it is mentioned, however, the teaching hours specified or implied are considerably in excess of those in the HEI (Rosário *et al.*, 2015; Dörrenbächer and Perels, 2016; Zhu *et al.*, 2020). Similarly, Russell *et al.*, in the course of interviewing Australian academics nominated by their peers or superiors as exemplary in their approach to fostering self-regulation among students, reported that 'a considerable barrier to educator agency in teaching for self-regulated learning related to the amount of content participants were expected to teach' (2022, p. 108).

Students are under time pressure themselves, precisely because most of them don't fit the typical student profile. They are often working full-time, trying to balance competing time demands while also studying at postgraduate level (Buzwell, Farrugia and Williams, 2016). This can make them very strategic in their course activities, which is one type of self-regulating strategy. They need to decide what is of greater or lesser importance to them in the material, what areas they are weaker in, how to engage with course material and tutorials and how much effort they can expend on assignments. This can result in demands on tutors that seem quite direct or even blunt, with students only wanting assignment-related information almost from the start of the tutorials:

> *(T3 M G1 6-10) A couple of examples of people saying, look is this in the assignment and can we talk to the assignment, after 10 minutes [of the tutorial].*

Offering a level of corroboration, student comments in the survey indicated that they felt under time pressure. They found it challenging to complete course tasks while dealing with other demands on their time and needed familial support behind them. Where students are strategic in their approach to learning or in engaging with activities that don't count towards their grade, it may reflect their lack of available time and not lack of interest:

> *In the two year MSc of Operations, it was extremely difficult to have time to reflect on learning as the high volume of assignments coupled with a day job - time to reflect happens on course completion in my humble opinion. (M 35-44 MSc Management of Operations)*

Again, in the two year program- time is very scarce it's a full-time commitment in my humble opinion; no time for family or friends outside of work and the part-time course. Your family have to be behind you, 100%. (M 35-44 MSc Management of Operations)

The timetable is made up on how you make it work for yourself. It doesn't fit well if you don't make it fit around your current work / life balance. (M 25-34 MSc Management of Operations)

The difficulty of combining course work with other life demands was outlined, while also acknowledging the time flexibility built into the modular structure of the courses:

All 4 postgrad modules in one year was tough, it was the right decision to extend that to two years. (M 35-44 MSc Clean Technology)

Course was intense - would have appreciated more time but could only dedicate so much. Not a reflection of the course itself more a personal experience. (F 35-44 MSc Management of Operations)

Trying to work through the pandemic was difficult, learning how to work with it during your daily life while trying to close out a master proved taxing. (M 35-44 MSc Management of Operations)

I'd take a shorter summer and space out assignments a bit more. (M35-44 MSc Management of Operations)

One strategy to address this time pressure would be to ensure that students were fully prepared for the mechanics and academic regulations of their course before they started studying the subject matter content (Brunton *et al.*, 2018). This would require a more comprehensive and possibly mandatory induction process for students to ensure that they acquired the necessary skills to enable them to successfully pursue their studies. This could involve familiarisation with the Moodle environment, navigating the library services and developing appropriate digital skills. Even where students use technology in their outside lives, there is no guarantee that they will have the particular skills needed for their course. A reasonable period of induction would also provide an opportunity to resolve any technical issues with a student's IT configuration. Tutors reported that a lot of questions raised by students early on related to non-subject matter content just at the point at which students needed to make a good start and not fall behind in their studies:

(T1 F G1 1-5) It's too overwhelming and too many things that you can't get comfortable with any of them. Then questions that shouldn't be asked, questions they should know where to find the stuff are ending up in the forums and then I found I had very limited to no questions on the actual topic, on the

> *course materials or any of the things that you'd like students to be engaging in or learning about.*

In this research, student interviewees identified the need for more support in the critical early weeks; practical help in how to avail of library support; detailed instruction in the use of certain software products and, as one student interviewee suggested, the provision of exemplar assignments:

> *(S4 M G2 MCT) I think everybody went in sort of blind; we didn't know what was expected, but I certainly didn't know really what standard was expected. So, when I submitted my first assignment, I had no idea if I was going to get 90% or 40% or anywhere in between. … I remember thinking at the time that you know sample question and answer might have been helpful at the time….*

One of the crucial issues causing dropout is students falling behind and failing to catch up (Fetzner, 2013, p. 15), so it is important that students are given the time to become fully equipped and capable from a technology and resources viewpoint, leaving them free to concentrate on the specifics of their course.

Tutors involved in this research have started to implement their own strategies to alleviate the time pressures. Rather than relying purely on the live tutorials and recordings, some tutors have started to pre-record videos covering basic subject matter concepts for students to view before the live sessions. This gives students a chance to review foundation material and attend a tutorial better able to benefit from the new information provided. It can also allow the tutor to spend time on other topics, maximising the value of the tutorial (Sun, Xie and Anderman, 2018). If students are asked to view these videos in advance, it can generate discussion and interaction in the tutorial, helping it become more dynamic and less of a lecture. Videos also break up the monotony of text-reading for students and introduce them to the tutor's style. Even if the tutor is uncertain about creating their own video, judicious use can be made of online resources available to meet this need. Some tutors have made their tutorial slides available in advance, to provide time for deeper discussion during the tutorials, in keeping with the literature suggestion that doing so can be beneficial for students (Daniel and Bird, 2019).

Without alleviating measures, the danger is that tutorials become a vehicle purely for discussing assignments, which raises the prospect of tutors teaching to the assignment, driven by the limited student contact time. In that regard, one tutor wondered if the weighty and high stakes nature of individual assignments could be ameliorated by having more assignments but with each assignment having fewer marks at stake.

> *(T8 M 1-5) I think we could break those (assignments) up. How would I say, they're too stepped in approach, you know, I'm saying there's an awful lot of work that needs to be done to get an assignment done? Maybe we should increase the numbers of assignments, but decrease the workload required in each assignment, you know.*

Some of the student survey content was in a similar vein regarding the nature of assignments:

> *In the two year MSc of Operations, it was extremely difficult to have time to reflect on learning as the high volume of assignments coupled with a day job - time to reflect happens on course completion in my humble opinion. (M 35-44 MSc Management of Operations)*

Although this mentions the high volume of assignments, the context suggests it means the high workload from assignments. There were also suggestions that some of the assignments were too heavy and that assignments could be spread out more.

While time spent in the "classroom", be it physical or virtual, does not equate with actual learning (Chen, 2017, p. 6), there is no doubt that, even for adult students with a well-developed sense of self-worth, contact with teachers is central to creating the type of positive learning environment that encourages and motivates students to persist and succeed in their studies (Ontai, 2021, p. 3). It is important that a lack of contact time does not inhibit students in their studies.

4.3.2.3   *Helping students to become independent learners*

All tutors recognised the need to help students become independent learners. The key to this was to develop critical thinking and generalisable skills in students so that they could apply these skills to any new set of circumstances:

> *(T7 M 11+) I wouldn't be over dependent on the course material, as long as it gives them a reasonable start and, also, that it has plenty of references to start with but then they're expected to get their own references. So there again if a student comes back with an assignment, for example, that only has references from the course material then that's not quite good enough either. They need to really demonstrate independent research at postgraduate level, and I think that's pretty much a given for all of us teaching at postgraduate level.*

From the student interviews, it could be seen that students accepted the need to work independently:

> *(S3 M G2 MOPS) I was under the impression that not all the answers were going to be in the notes or in the teachings, it was up to me to meet that halfway and take the rest of the 50% that myself.*

> *(S5 M G2 GC) … we knew coming into this that there's only so much that you could teach us, and it was up to us to go and research the rest.*

Similarly, the free-text comments suggested that students enjoyed developing those skills:

> *Developing research skills. (M 45-54 MSc Information Systems Strategy)*

> *Learning the structure and process of how to conduct academic research. (M 45-54 MSc Management of Operations)*

This concentration on fostering critical skills reflects the OECD's view that learners must develop metacognitive skills such as critical thinking (OECD, 2018, p. 5). The need to help students develop these skills is also recognised academically (Bezanilla *et al.*, 2019), which further supports the tutors' position.

In practical terms, the tutors in this study reported using the course material and assignments to help students understand the key principles involved in analysing situations using the models, tools and techniques available in the course notes. The test, though, was the extent to which students could transfer that knowledge and apply those underlying principles when faced with a new set of circumstances, and how well they could formulate and articulate their findings for a given audience:

> *(T1 F G1 1-5) If somebody came to me and said I'd like a job, I have a Masters, I would like them to have good writing skills, I'd like them to have good critical analysis and I'd like them to be able to research things on their own, and if they couldn't do those things I'd be questioning the qualification, a little bit.*

Comments made by the students in the survey suggested that they agreed with the importance of being able to understand and apply concepts in different contexts, valuing the transferability of the skills they have developed:

> *The use of case studies in some modules was very beneficial and helped explain the practical applications of the concepts we were learning about. (M 35-44 Graduate Certificate).*

> *The business report focus … has been really good. They focus on delivering a work quality output with academic support is the right approach I feel and ensures students will be well prepared to develop in the workplace. (M 25-34 Graduate Certificate).*

Broadened my mindset to overall organisational strategic directions. (F 35-44 MSc Management of Operations).

The change management module. I found this module to be extremely interesting and I was able to utilise the content in my current employment. (M 35-44 MSc Management of Operations).

The idea of applying critical thinking in the workplace was also mentioned by another tutor, reflecting the tutors' professional standing and their idea of what a Masters' graduate should bring to the workplace, with its uncertain conditions:

(T5 F G2 1-5) The ultimate goal is to make sure that they understand, so I would prefer to see the students learn in such a way that they can bring it to the work life. So, if I'm asked in work to do an assignment on, I don't know, any topic in the world, having the skills to be able to search papers, have a look at data, pull together, you know, a structure and all that, I think that's where the continuous learning is.

The reference in this tutor quote to searching for appropriate sources and aligning the right principles with relevant data has been facilitated by the ease with which data sources can now be accessed. However, the sheer volume of published information, opinion and data sources makes the task of filtering out the irrelevant elements ever more challenging (Halpern, 2013). So, the key objective for the tutors is to teach the students how to think critically, giving them a generalisable and transferable skill that they apply in any given set of circumstances.

While recognising that students face their own issues of time scarcity and need help in developing their skills as well as learning the substantive content of their course, tutors have to tread a path between being supportive enough to nurture self-sufficiency in students and being overly helpful and stymying the students' ability to grow and flourish, as articulated here:

(T8 M 1-5) So, what I mean by that is there's over contact, over helping so, the analogy I would use is in order for the child to walk the child has to fall down a few times to get a few bruises … remember we're talking about Masters level academic challenges here. So how do we deal with our students in a way that is supportive, objective but helpful in the right way, then if one tutor is overly supportive, by default you're creating this scoring mechanism of tutors which is unfair, because at the end of the day, it's a Masters level programme about engaging and doing critical analysis and if you're not doing it the tutor needs to be objective and honest with you.

Without the tutors creating a dependency, and despite the low level of direct contact and other hurdles, it was noteworthy what the students could accomplish with tutor support:

> *(T8 M 1-5) I suppose the most challenging thing for our students is there seems to be an imbalance between what other programmes are delivering in terms of contact time, workshops, tutorials with their students compared to what we have been asked to deliver with, and I think it's remarkable what the students can achieve with the lack of contact.*

Students in this research reflected that view in some of their comments about the intensity and demands of the courses and also what it meant to them to achieve their goals:

> *Interacting with the tutors, picking their brains on their topics. Questioning the information (M 35-44 MSc Management of Operations).*

> *Sense of accomplishment (M 25-34 MSc Sustainable Development).*

> *Trying to work through the pandemic was difficult, learning how to work with it during your daily life while trying to close out a master proved taxing (M 35-44 MSc Management of Operations).*

> *Course was intense - would have appreciated more time but could only dedicate so much. Not a reflection of the course itself more a personal experience (F 35-44 MSc Management of Operations).*

The tutors recognised that students have the potential to learn from each other, so they encouraged students to make postings on the course forums in an effort to generate discussion about aspects of the subject matter. These efforts generally met with little response and it appeared that students would only engage in online discussion as part of a summative assessment. Although the students would later state that they found certain aspects of interaction with fellow students helpful, it appeared that this was not enough for them to devote time to it in the absence of being awarded marks for doing so. Similar views in relation to use of forums were reported among Irish postgraduate students in nursing education whose online learning was Covid related (Hill and Fitzgerald, 2020, p. 3). One of the tutors expressed her intention to continue trying to get better engagement from students on the forums:

> *(T1 F G1 1-5) I'm going to try and do a group discussion on my sub modules this year and throw out either a quote or question and let the students discuss in groups to try and learn the topic a little more or share their learning or their work experience from their own workplace. As a way to kind of get more into the topics and that way it will end up being a Q and A also, but there is actually a bit of an agenda. I don't know if that's going to work.*

Peer teaching was found by Stigmar (2016, p. 132) to result in improved generic skills for both peer tutors and students – including critical thinking, goal setting, engagement and motivation, though the effect on student learning outcomes was uncertain. Stigmar's research took the form

of a literature review that excluded virtual learning environments, though this exclusion was not fully explained. Lelis (2017), in a small-scale postgraduate study involving 11 mostly female students in a London university, had similar findings in that participants found the tutoring experience to be very positive but in the student role they were sceptical about the credibility of their peers as tutors. The implications were that students took their role as tutors seriously and put a lot of effort into it, resulting in benefits for them as they thought more deeply about the subject matter and how to present it, whereas in the student mode there was no role change for them and the only difference was that they were being tutored by an apparently less knowledgeable person, resulting in scepticism about the effect. In this context, it was interesting that one of the student interviewees in this research commented that doing online peer reviews helped him see the standards set by other students, which set a benchmark to aim at:

> *(S5 M G2 GC) The peer review questions at the start of each module, I found they were very good from my own point of view, because I could see what I knew relative to everybody else, and what I needed to do to reach the level of some people.*

Feedback was recognised by the tutors as important to students in helping them improve performance. This extended to recognising that students might be sensitive to feedback and that it should be graduated and not too granular in the early stages of the course:

> *(T1 F G1 1-5) When you start out at the beginning and you're trying to give feedback …. I'd focus on the really big things and not go too nit-picky because this is the first assignment and then by the time I see them again just before Christmas, you get more nit-picky …. it's not that it's written in a very personally targeted way, but people can be very sensitive to feedback and, like that, you can't give every single tiny detail that's incorrect every time you know and if you start doing that, from the get-go it's very overwhelming; the very first assignment in the first sub module.*

> *(T7 M 11+) …. and obviously at the other end of the system is they get their feedback then on their assignments and that's fairly important that they get comprehensive feedback and not just get a mark.*

> *(T7 M 11+) …. it's not so much even the mark, but it's the feedback that they get as to the quality of their work and so on, and that to me is really the core important job of the tutor.*

Feedback has been defined as 'a process in which learners make sense of information about their performance and use it to enhance the quality of their work or learning strategies' (Henderson *et al.*, 2018, p. 16) while Scott *et al.,* (2014), reviewing postgraduate students' experiences of feedback, saw it the means by which students could measure their progress in

acquiring the knowledge, understanding and skills that would ultimately determine their course result. The formative aspect of feedback has a key role to play in helping students develop their SRL capabilities (Nicol and Macfarlane-Dick, 2006, pp. 206–207). There is an element of reciprocity involved also as students practice of SRL improves their ability to understand and act on written feedback (Chong, 2018, p. 192). Given the importance of SRL practice in the online environment, this gives a heightened significance to providing appropriate feedback to students. In an environment of limited student-tutor contact time, the importance of feedback is accentuated in helping students understand how they are progressing and what they need to do in order to improve. Furthermore, in the absence of opportunities for informal discussion with tutors, feedback on assessments must be composed and structured in a way that maximises its impact on the student's academic achievement.

4.3.2.4   Freedom and constraints in tutoring approach

The tutors identified some restrictions placed on them to conform with the HEI's standard procedures. Primary among these was the need for assignments to have a particular format, consisting of a mix of online postings, online peer review and a substantial essay type response. Draft assignments were reviewed by the Programme Chair for consistency in terms of word count, marks weighting and overall layout. There was a perception that assignments were weighty and comprehensive in trying to cover a broad range of the course material. If assignments had a narrow focus, it was felt there was a danger that students would simply study what they needed to get through the assignment:

> (T3 M G1 6-10) Something I'm cautious of there is not to be too specific there because … if the topic is very specific … people will just not care about all the other parts of the course. So, keep it fairly broad so that people can draw from a fair amount of the course, but I had the impression the format is reasonably good, though, but of course it can always be improved.

None of the students' survey or interview comments regarding inconsistency related to the format of assignments, which was standard across all modules in the programmes. The only exception to this was the Legal Frameworks module taken by some students, which had its own unique referencing syntax. There was one indirect reference to student comments on Legal Frameworks in the tutor interviews:

> (T1 F G1 1-5) I had so much feedback constantly, even mid tutorial, on the chat room - I can't believe that we've only one class to learn legal frameworks, I did this in some other course, and it was you know 12 classes in like three weeks or you know this kind of thing.

Also, as the sole means of summative assessment, assignments were the only way of checking that students had achieved the relevant learning outcomes:

> *(T1 F G1 1-5) Two ideas I had this year were shot down because of student experience or to follow suit with the style that students have been used to, so I rewrote it. In the end it was very, not that they were similar assignments, but it was very much a kind of a set thing of a couple of smaller things with an online piece, and then a larger script.*

> *(T1 F G1 1-5) I was told … not to do beyond 30% of the assignment as group work … and not to have more than two things for the students to do because there was too many mini tasks, or whatever. And I don't mind it but I suppose when you're trying to hit so many learning outcomes, with only one form of assessment it's hard to put that into two questions.*

The same tutor expressed a desire to link the assignments across a module's three sub-modules but noted that this would require coordination with two other tutors on the module, adding to the overall workload:

> *(T1 F G1 1-5) I thought for next year of doing a project that would go across a whole module because I teach two parts of it, and someone else teaches the third part, but I'd help correct or whatever, then maybe we approach it as a module and have three different submissions …. the subjects are all linked, and it would lovely to show more of that link between what you're learning and why they're connected. Because there's different people teaching different parts and correcting different parts and yeah, it has to be by consent.*

As far as the student view on this is concerned, the only indirectly related comment was in one of the suggestions on how the courses could be improved:

> *The requirements of some of the assignments, and how the content of the module related to the expected outcomes, could have been explained in more detail. (M 35-44 Graduate Certificate)*

The linking of learning outcomes with assessment design was informal and reportedly an assumed part of the review of draft assignments by the Programme Chair but without any formal process.

The need for greater consistency in marking and providing feedback on assignments was acknowledged, especially where an assignment was marked by several tutors. While this had been happening to an extent, on an informal basis, it needed to be formalised a lot more, although this would only address consistency in marking and not in the nature and quality of student feedback. To illustrate this, an account was given of an incident in which two tutors had

inadvertently marked the same set of assignments. The problem was spotted before it had any impact on students, but it illustrated that the consistency issue related more to feedback than marking:

> *(T1 F G1 1-5) Well, … this year somebody by accident corrected 20 (assignments) assigned to me …. and our marks were pretty much bang on or within 2% of each other, so … I felt like this shows that there is consistency in the marking. But … [the] feedback was completely different, and it was not that we hadn't recognized the same things where we would mark them down or up. It was that the comments from some tutors will be very focused on critical analysis, some people focus very heavily on citing a referencing or different things … but I felt when you're reading it from a student perspective, some were very focused on a very specific thing rather than going across the rubric with the comments.*

As the tutor indicated, this related to a discrepancy in feedback on assignments when two tutors marked the same student assignments in error. Student remarks in the survey on feedback consistency corroborated the existence of an issue in this area:

> *It was not unusual to receive conflicting feedback on presentation e.g., in one module, you would submit in Word format and be told it should have been PDF format, only to receive the opposite feedback the next assignment from a different lecturer. (F 35-44 MSc Management of Operations)*

There was evident frustration in some comments about a level of inconsistency that students perceived to be unreasonable:

> *In one assignment I had two questions to answer … In marking and feedback, I was criticised for poor content and writing standard in one … answer; but praised for depth of analysis and writing standard in the other. I used the same broad methodology to answer both questions. Tutor consistency was absent in this case. Maybe one answer was of a higher standard than the other but this wasn't explained or pointed out. It felt like two different tutors may have marked the individual questions but this also wasn't stated. I don't mean for this to be a complaint, just giving a reason for disagreeing to the survey statement. (M 35-44 MSc Clean Technology)*

> *Every tutor was different. Some were poor … There was a clear inconsistency in the value of language in summaries. I was so confused the language used, e.g., excellent, when I scored 56% that I asked for a feedback call. The tutor didn't even acknowledge the request let alone follow though. (M 45-54 MSc Sustainable Development)*

To further help with addressing this, one tutor suggested that the assignment setters should provide more marking guidance to the tutors:

> *(T4 M G1 1-5) I would like to get the thoughts of the person that created the assignment just to make sure that when I'm assigning the marks that they are hitting, so I'm interpreting what they should hit, was not sure if the person who wrote the assignment had something different in mind.*

This acknowledgement of the importance of feedback reflects the literature, which has pinpointed the critical part feedback plays in supporting, motivating and guiding students in their development (Hills *et al.*, 2018). Kauffman (2015), in a review of factors that predict student success and satisfaction in the online environment, suggested that prompt feedback was a key factor in student satisfaction and motivation and that teachers may need specific guidance in that regard. The need for consistency in this feedback, which was also acknowledged by the tutors, is well established in research (Brown, 2007; Ferguson, 2011), though it seems that tutors are not yet well trained in the basic quality of marking and feedback for online students (Hills *et al.*, 2018, p. 242). While feedback is important, it is part of an overall approach that needs to combine instruction methods, learning activities and assessment in order to meet learning goals, so tutors' freedom to operate needs to be set in a framework of overall alignment of components (Blumberg, 2009).

A difference of opinion developed on the extent to which there should be more commonality and consistency across the various aspects of the tutors' work. One view was that more needed to be done to foster a coherent approach across modules, reflecting the online programmes' brand and style, while the opposing view was that differences in course material and the nature of the subject matter, allied to differences in individual tutor approaches, meant that a uniform approach would not be feasible, or even desirable:

> *(T8 M 1-5) I don't think we we've spent enough time and understanding best practice for online delivery, you know, and say if you want to deliver a video … there should be a methodology … so there's some level of consistency across the modules … but we don't have a set of guidelines, I think what's what would benefit us is what are our guidelines and best practices that we should be utilizing … I would like to see more let's say what's our in house style or standards for doing that, so if a new tutor comes on board how do they know that material that they're using and delivering is relevant to that in house standard or guidelines which are best practice.*

> *(T7 M 11+) There are two things there, you have different tutors and but you also have different subject areas as well, so it depends on the subject area, and I know, for example, some students would perceive some subject areas as being a lot more enjoyable and more straightforward than others. And certainly there is an awful lot of standardisation in terms of the assignments, and the rules and regulations, and so on, across the way tutorials are*

presented and what's required and things like the reflective [piece] about your
own analysis and your own independent research and things like that. Oh no
it's probably not consistent in so far as if there are topics that are a bit
different from the main core subjects, students could have different
experiences and preferences.

The tutor proposing greater collaboration felt that a much more collective attitude needed to be taken, that tutors themselves should be tested, lessons learned should be formally recorded and fed forward to the succeeding year and generally there should be a much greater sense of working to a standard. He also felt that the development of in-house standards for tutors would result in better engagement from students as they would have a greater sense of dealing with the institution of the HEI rather than a diverse set of part-time tutors with individual approaches. The tutor who argued against this felt that there was already considerable standardisation across the course delivery, including the format of assignments, and he also commented that 'we have an awful lot of regulations', suggesting that the current level of tutor autonomy should be at least maintained. What was interesting about this divergence of opinion is that the tutor promoting greater standardisation is one whose role in academia is full-time, whereas the other tutor has a full-time career outside the HEI. This may indicate that tutors who identify as academics would prefer to align with academic processes and standards more so than tutors who feel that they are in the role because of what they bring as individuals and are less inclined to conform to a standard.

4.3.2.5   Dealing with student self-awareness and strategies

The tutors had to deal with how the students' attitudes and strategies might affect the way in which they carried out their duties.

At a basic level, the tutors felt that some students did not appreciate the amount of self-learning that would be involved:

(T1 F G1 1-5) I always find it interesting how surprised students are with that
kind of structure, so we mustn't be clear enough when they're signing up to
the course … how much kind of self-learning is required.

This was also reflected in some student comments in the survey, though the survey overall suggested that students were aware of the self-learning involved, with well over 80% of students accepting that their own motivation, time management and regulation would be expected of them:

Very little lectures, mainly self-study which was disappointing as not the
reason I wanted to go back to education. (F 35-44 Graduate Certificate)

> *I didn't know before undertaking the course the amount of self-learning involved and it was disappointing. (F 35-44 Graduate Certificate)*

As mentioned already, the tutors felt that many students were very strategic in their learning, focusing their efforts on the assignments. In one case a student opted not to complete the online elements of an assignment, concentrating instead on the essay style element that accounted for 75% of the marks:

> *(T4 M G1 1-5) There is a time pressure there, they are definitely focused on doing the bare minimum. I had one student and he turned in very good quality work, but he never did the online stuff and I know he just decided it wasn't worth the points and he just decided to not do it, you know.*

Aside from extreme cases such as that, the tutors were clear that the students wanted them to focus on the assessment element, which meant that the assignments had to be covered in the tutorials:

> *(T7 M 11+) I would focus on the assignments because that's what [students] are focused on. There isn't time in the tutorials to ramble through all the course material anyway, you can only hit the places that are relevant to their assignments. You know so it's not like formal teaching where day after day you're going through material.*

This comment encapsulated the perceived need, from the tutors' perspective, for students to do an amount of self-learning as well as the comparatively low level of teaching time.

While it was unlikely that any student would suggest not covering assignments in tutorials, there was one explicit reference to assignments as a topic in tutorials in the student interviews:

> *(S1 M G1 GC) The tutorial session, where you get the kind of summary of the content and you get to dive in with any particular queries you have. Any time I did have queries I always made a point of going and attending those lectures and then being able to kind of go from there and tackle the assignment.*

Regarding the perceived need for self-learning on the part of students, survey comments showed that some students were surprised by the self-learning aspect:

> *Currently the course is more of a research course requiring a huge amount of self-learning which for me with young family was too big of a commitment. I did complete the course although it did put my family and myself under unfair strain. Perhaps I should not have done it. (M 35-44 MSc Information Systems Strategy)*

More lectures to actually explain and listen rather than self-study always. (F 35-44 Graduate Certificate)

Very little lectures, mainly self-study which was disappointing as not the reason I wanted to go back to education. (F 35-44 Graduate Certificate)

Extra online classes would have been useful, especially for the more difficult modules. (F 45-54 MSc Management of Operations)

Notwithstanding these comments, as noted earlier, the survey data shows that the majority of students expected to be self-reliant in their learning and the student interviews reflected this:

I was under the impression that not all the answers were going to be in the notes or in the teachings, it was up to me to meet that halfway and take the rest of the 50% myself. (S3 M G2 MOPS)

The tutors generally felt that there was no great need to include self-assessment exercises in the course material as there was already enough in the course notes, ancillary readings and resources for the students to gauge their understanding. It was felt that for self-assessment questions to be taken seriously by the students there would have to be a mark awarded for completing them successfully:

(T7 M 11+) Well, I think some of the course material, not all of it has self-answer questions and that's fine but there again I wouldn't expect it as essential in the course material that the students will be able to self-assess, that being the primary role of the assignments, and the tutor.

(T5 F G2 1-5) [In-built self-assessment] could be both, because you could say that it's not graded and if you say it's not graded then people are going to just guess. Whereas, even if you gave 10% for it, especially for students who are really interested in making sure that they get [high marks] or they're motivated and stuff like that it would give a bit more meat to it.

Similarly, tutors felt that efforts to get students to engage more on the forums would need to be rewarded in some way if students were to be enticed to contribute in any serious way:

(T8 M 1-5) If you're not getting the level of engagement on the discussion board, then you need to figure out why that is the case, you know. I think that [the forums] could be used much more proactively, I think the first thing we need to do is probably give more marks towards active participation, because you know what gets measured gets done.

In that regard, research indicates that lack of interaction by students on online forums does not necessarily indicate a fundamental lack of engagement or motivation to succeed on their part (Broadbent and Fuller-Tyszkiewicz, 2018, p. 1452).

In their interviews, the students suggested that self-assessment features built into the course presentation had the potential to be beneficial:

> *(S1 M G1 GC) I think, for the people that have any doubts, it could be beneficial … and as long as it's quick and easy for people I think there would be benefit.*

> *(S2 F G1 MOPS) I'm not sure that there was specifically though a lot of self-assessment built in … maybe five key takeaways or three key takeaways from that particular subunit, you know, quickfire five questions, multi choice type of thing that would possibly be good in terms of prompting. You could possibly have towards the beginning also just to nudge or kick people in the right direction.*

While most assignments involve an element of peer-review, this is still an individual exercise by students carried out asynchronously. However, a minority of assignments involve collaborative work, with groups of four or five students working together on part of an assignment, receiving a common mark for their work. The tutors believed that there was merit in group work in that it taught important teamwork skills, which the students would appreciate after the event, if not during it.

The tutors felt that the variation in subjects being studied by the students meant that differences in approach to teaching would follow naturally, including the course material and tutorial content:

> *(T7 M 11+) …. that different courses would require, whether they're technical or more managerial, they would require a different style to the material and so on, so I don't think that being prescriptive about how it's written and so on, might be particularly useful for writers.*

> *(T8 M 1-5) I think we need to be much more clear on that in terms of what that is, and you know because students who will do the work and go through that experience find the experience much more beneficial to them if you follow me. I guess for something like SPSS which is probably at the more technical end of what we do, probably there is a greater requirement for us to set out for students, what it is we expect them to do in advance and what approach you're going to take.*

It was also suggested that the course material, whatever the subject, needed to reflect the amount of study expected of students:

> *(T8 M 1-5) How much material is relevant for a student to cover? I think it's something we need to look at, because in the module descriptor it says here's the breakdown of the learning objectives, and this is the amount of hours*

> *you're meant to spend on a particular topic, and then we need to make sure*
> *that the material is reflective of that level of effort … so who's checking?*

Lindblom-Ylänne (2006) looked at how the type of subject matter affected the teaching approach adopted. This research, conducted with over 300 lecturers in Finland and the UK, found that a teacher-centred approach was taken for hard disciplines, such as physical sciences, engineering and medicine, and a student-centred approach was taken for soft disciplines, such as social sciences and humanities, supporting the tutors' view that the more technical subjects required a different approach. Gonzalez (2009) was unable to verify these findings but his research concerned the use of Web tools in teaching and was conducted with a very small sample of seven lecturers.

Other than one tutor making a concerted effort to get students to engage in the online forums, tutors did not utilise any type of prompting to stimulate learning (Bannert and Mengelkamp, 2013). They felt that there was enough opportunity for self-assessment built into the overall course material, mostly in the recommended textbooks, and that students could avail of this to the desired extent . This reflected the tutor view that self-management was primarily a matter for the students. The course notes, which distil the key content from the textbooks and present it to students in concise format, do not contain any form of prompting, which means that the course notes lack a potentially very helpful feature for students (Sitzmann *et al.*, 2009; Bannert and Mengelkamp, 2013; Daumiller and Dresel, 2019). The absence of such prompting hooks in the course content also reduces the likelihood of tutors availing of opportunities to offer reinforcing feedback to students to help them reflect on their learning (Wong *et al.*, 2019, p. 363).

4.3.2.6   General tutor comments

The tutors felt that the courses should build up students' capability gradually to the point where they could do independent research in the form of a supervised dissertation. This should be a key focus for tutors, giving students the feedback and support to develop the skills they required to become capable researchers. In this regard, the tutors echoed the ancient words of Plutarch, that the mind is not a vessel that needs filling, but wood that needs igniting (Kidd and Waterfield, 1993). They were also directly reflecting Zimmerman's observation on what gave rise to research on the basic concept of self-regulated learning in the first place – 'how do students become masters of their own learning processes?' (2008, p. 181):

> *(T7 M 11+) Well, I think, certainly, if you wanted to summarise what we're doing*
> *at postgraduate level, it's really making people independent of us.*

While students should have an enjoyable learning experience, it was emphasised that the HEI's academic standards had to be observed. Achieving success ought to be a challenge and there should be a sense of achievement for students in graduating. It was also pointed out that students had different motivations for studying and would behave differently accordingly:

> *(T6 M G2 1-5) You've got different categories of students and some students are there for the qualification … you have others that are … in it for the learning and your approach would be different … one of the best learnings I found was in challenging my own thinking around different subject areas where I might have a pre-set notion … and suddenly someone comes in from the side with something else, I go I never, never thought of it that way, and then try and challenge my own thinking, and try and see, is there a different way or a better way …*

Interestingly, that comment reflected the different motivational choices of students to undertake their course, as revealed in the student survey. As reported earlier, career progress and personal interest were among the highest motivators, supporting the tutor's suggestion that students undertook their courses for different reasons.

It was observed that the degree of student proximity - how easily students could interact with tutors, administrative staff and other students - was a strength of the online courses, something that ought to be recognised and retained in any future reorganisation:

> *(T8 M 1-5) I think the programmes are extremely intimate in terms of contact, connections with students, which is very, very positive. And I think it's something that's a unique selling point for [the HEI], I believe that there is this intimacy, there is this idea, a student can reach out and get contact and the response is normally very quick and typically very, very helpful okay so that's really, really good.*

This level of student care supported the students' self-regulation of their learning. In this context, however, the question was raised as to whether meaningful student feedback was being obtained in an optimal way. The possibility was raised of using student focus groups to obtain richer feedback that would help in addressing important issues:

> *(T8 M 1-5) One final point is how are we getting the feedback from the students in a format that can be useful to us. In other words, there is the general survey each student does, but I think we probably need to look at focus groups and talk about trying to get real feedback that we can use. This is working fine, this is not working, okay, let's try to figure out why.*

The students, where they expressed a preference, seemed disinclined to get involved in providing feedback while still actively engaged in their course. This was on the basis of time pressure and a feeling that, as continuing students, they could not express themselves freely:

> *In the two year MSc of Operations, it was extremely difficult to have time to reflect on learning as the high volume of assignments coupled with a day job - time to reflect happens on course completion in my humble opinion. (M 35-44 MSc Management of Operations)*

> *Again, in the two year program- time is very scarce it's a full-time commitment in my humble opinion; no time for family or friends outside of work and the part-time course. Your family have to be behind you, 100%. (M 35-44 MSc Management of Operations)*

> *Never felt I could offer fair feedback before my final grade. (M 45-54 MSc Sustainable Development)*

Overall, the interviews revealed that tutors were happy in how they met the students' needs across teaching, assessment and feedback. In general, the student survey results corroborated this view, with high levels of agreement with the statements on the quality of teaching, assessment and feedback but less so in relation to the consistency of their experience in those areas. The tutors acknowledged that cooperation in marking shared assignments needed to be improved and that better guidance could be given to tutors by assignment writers. On the subject of adopting a more standardised approach generally, thereby creating a recognisable HEI style in presentation and content, there was a divergence of opinion, with those less disposed to the idea feeling that a degree of variability was inevitable and potentially advantageous in dealing with the demands of the different subjects being taught across the various courses.

Moving away from the themes construed from the tutor interviews, it is useful to briefly summarise the tutors' views on the various activities they performed in their role.

4.3.3 Activities

The consensus view among tutors was that the course notes presented online for students to study were of sufficiently high quality. The tutors emphasised that the notes were designed to be a guide only and that students were expected to study the recommended textbooks and readings and to conduct their own independent research:

> *(T7 M 11+) It's just a starting point for the students at postgraduate level that would be my view.*

> *(T1 F G1 1-5) The idea was they would introduce you to the key theories in there, you know, on this topic, and if you want to go deeper you'd go deeper in those recommended readings.*

Instructional design did not feature strongly in the tutor accounts of their roles. It was generally felt that the course material was presented in a way that enabled students to grasp the basics of the subject matter and get enough pointers and links to do their own independent reading to gain a deeper insight into the topic:

> *(T3 M G1 6-10) We want to really facilitate and encourage and be facilitators, and so we want people to be self-learners.*

> *(T8 M 1-5) This is not a lecture driven environment, this is … self-study really.*

Those tutors who devised assignments felt that they had a degree of autonomy in terms of substantive content but that a level of standardisation was expected. They highlighted the fact that the assignments were presented in a standard format so that students experienced a common approach, including details on how and when to submit the various parts of the assignment.

Within the bounds of the marking structure in any given assignment, tutors agreed they had freedom to judge how well a student had done. Tutors would provisionally mark a few assignments in order to get a feel for the general standard of submissions before finalising the marks in any individual case.

All tutors were happy with the use of a standard assignment feedback form across all modules. The formative value of feedback was emphasised by one tutor, especially for early assignments:

> *(T2 F G1 1-5) One thing that we've got to realise … is this may be the very first time in a long time that people have had feedback at this level, for their work, because normally people put in their papers and they get a grade, just a straightforward grade, and it's left to their own either imagination or assumption how that grade was reached so now they're being given more specific information about that.*

Given the relative lack of direct teaching time, most tutors felt that assignments had to feature strongly in the online tutorials. As the assignments were the only means of summative assessment, students wanted clarity on what was being asked of them. The amount of tutorial time dedicated to the assignment varied from tutor to tutor, with some trying to limit it to the final 15 minutes of a tutorial, and others spending the majority of time on the assignment.

(T3 M G1 6-10) You can't cover all the material, if you try it becomes a disaster because you're just racing so you're trying to get a balance right between covering the main concepts and topics as much as you can but don't let it be hijacked by the assignment either and I have just 10-15 minutes max at the end and try and address the big course concepts for the first 45 minutes … but I don't think you can leave out the assignments either.

(T7 M 11+) I have tried, in the past, saying look let's swing through the course material … but they tend to be a lot more focused and have a lot more attendance if you're really just focusing on the assignment. So, a lot of them, well it's only human nature but it's also that people just don't have the time and people want to know what the assignment is about.

In most tutors' experience, the course forums were used mainly for assignment-related questions or to highlight problems with readings, textbooks or other issues. In general, students did not react to attempts to get discussions going around particular aspects of the subject matter. Some students might respond but the prevalent view was that students wouldn't spend time on activities that were not directly assessable.

The idea of sharing information among tutors was welcomed but there were different views on how formal this should be. For new tutors it was felt that their training or induction should include getting experienced tutors to coach them in the potential pitfalls of the role and point out the practical things to watch out for –akin to a set of tutorials for tutors.

The next section deals with the review held with the tutors to consider the implications of the research conducted to that point.

4.4 Tutor Review

In the final element of primary research, the eight original tutor interviewees were invited to a group session to consider the findings from the student and tutor research. It had been hoped that all eight tutors could be interviewed together, as a group, to increase the reliability of the data and underline the trustworthiness and validity of any inferences being made by the researcher. However, the options for getting the tutors together at the same time quickly narrowed down to one time slot, on the evening of October 18th, 2021. The session was held by Zoom and, in the event, it was attended by six of the original eight tutor interviewees. One tutor was abroad and unable to join the session, despite trying to do so, and the remaining tutor had left the case study HEI in the interim and opted not to remain involved in the research project.

In advance of the session, the tutors were provided with a six-page written summary of the output from the student survey, tutor interviews and student interviews, together with a copy of

the original transcript from their own interview, which they had received previously but may not have retained. In addition, the tutors were advised that, as well as an open invitation to respond to the research findings, the main topics for discussion would be those areas where a divergence of opinion existed, either among students, among tutors or between students and tutors.

The summary provided to the tutors highlighted the overall results from the student survey as well as those elements that had received least favourable responses. As the student interviews had discussed these least favoured elements and other topics identified by the researcher, the summary also addressed the consistency of the student learning experience, students' attitude to group work, their recognition of the onus on them to self-manage their learning, the extent of support for practice of self-assessment by students, the nature of student communications on the course forums and through WhatsApp, students' dissertation supervision experience and their opportunities for, and attitude to, becoming involved in decision-making about their courses. In relation to the tutor interviews, the summary outlined the overall responses of tutors on how they were meeting students' needs, a divergence of opinion among them on the need for greater uniformity in presentational and substantive aspects of tutoring, their generally positive view on inclusion of group work in student assignments and their views on the use of course forums by the students.

In the sections below, tutors are identified by a code where TN represents tutor number; M/F represents gender and the remaining digits represent years' experience in the HEI. The tutor review interview schedule is included in Appendix L.

Figure 4-9 below shows the five themes interpreted from the tutor review. The figure also shows some of the codes associated with each theme. Appendix M incudes a sample of the coding carried out on the tutor review, plus a listing of codes associated with two of the themes.
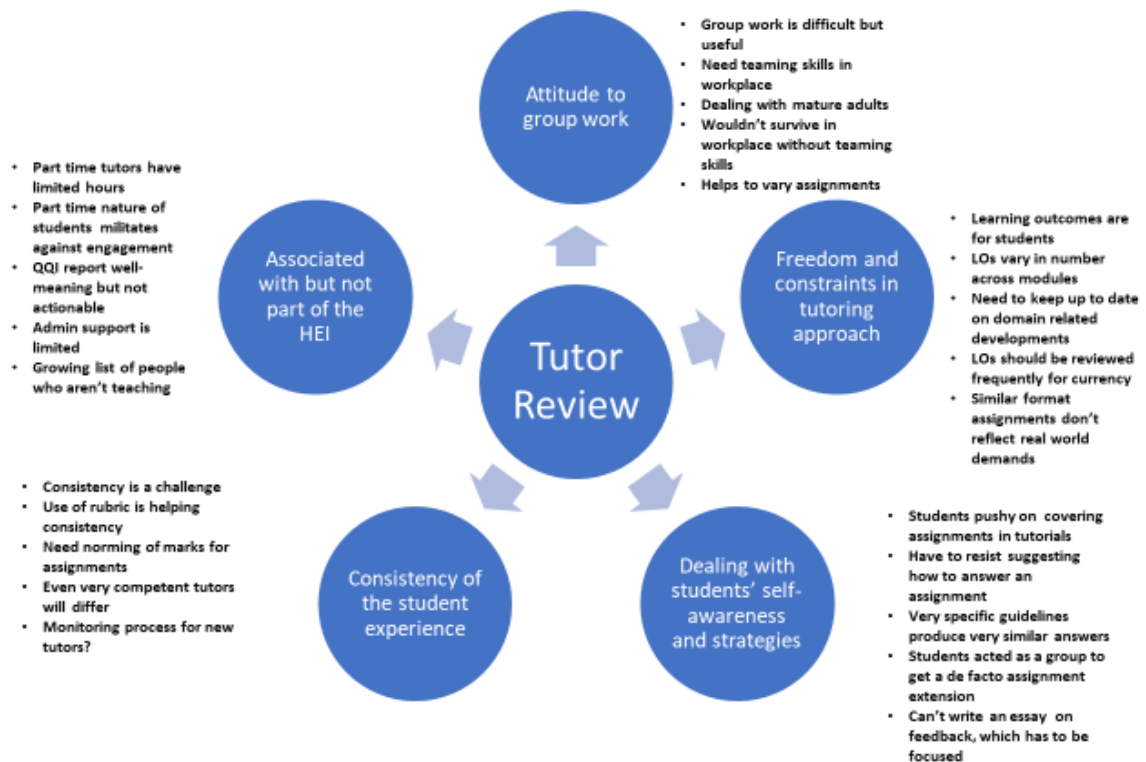
Figure 4-9 Tutor Review Themes

Initial response

After a short review of the research findings, the tutors were invited to give their reactions. The unanimous view was that there were no real surprises in the student and tutor research and it was encouraging that the student reaction was very positive overall:

> *(T1 F 1-5) I suppose, for me, I don't think I was really surprised by any of the findings.*

> *(T3 M 6-10) I mean no surprise, for me either. I wouldn't be shocked or surprised by it, and it really, I think it's, as you mentioned, reasonably positive actually.*

> *(T7 M 11+) Well yeah, as other speakers have said there doesn't seem to be any great surprises there.*

The themes interpreted from the tutor review are considered below, the first being a recurring one throughout this research—the consistency of the student experience.

4.4.1 Themes
4.4.1.1 Consistency of student experience

Consistency of tutor teaching, feedback and marking were among the items on which the student survey respondents showed the greatest divergence of views, though the student interviewees had all confirmed that they had experienced inconsistency in some of these areas:

(S2 F G1 MOPS) I found for some of the assignments, some of the marking did seem a little bit askew, and some of the directions … So yeah I sort of found some of the feedback was inconsistent.

(S1 M G1 GC) … vastly different feedback from what other tutors and, in some cases, no feedback … .

(S3 M G2 MOPS) I think everybody has their own style of teaching when it comes to that point. Not everybody would do it the same way, but I think there was overall consistency.

(S4 M G2 MCT) I had one situation where there was a two question assignment. I don't know if it was marked by two different people, but I got very opposing feedback to the two different questions that I had answered.

In their initial interviews, the tutors had also diverged in their opinions on this subject, while agreeing on the need for more collaboration on assignment marking. In the tutor review, the consensus was that there was a need for greater collaboration among tutors at the assignment setting stage, to identify key deliverables and expected content in the students' answers, with the assignment writer providing this information and answering any requests for clarification. This would establish a common base for assessment of the assignment, thereby helping to avoid issues at the marking stage, which is in line with recommendations in the literature (Brown, 2007; Ferguson, 2011; Hills *et al.*, 2018). There should be cross comparison of marks for a common assignment in advance of notifying students, with an opportunity to adjust marking for greater consistency. Some guidelines on the relative importance to be given in student feedback to presentational issues and academic rules such as referencing would also be welcomed:

(T7 M 11+) No surprises about the consistency … So, I suppose, in some ways that's natural because there's just different human beings, different tutors teaching it … Different people have different styles and even if we all have a lot of experience at correcting, we have different kind of viewpoints and so on, some conservative, some more hard marking some more soft marking … But it is an issue all right just several tutors and coming from different backgrounds, different levels of experience and so on, so I think it is a very good idea to compare for tutors.

(T4 M 1-5) I often find that you get an assignment and I'm not 100% sure what the person who wrote the assignment is looking for either … if you take something like cultural change I suppose there are 10 different models or whatever in that chapter and one student might just do 3 or 4 and it's very well written and another student might do all 10 but just tap on them and then another might do 6. They're all good in their own way, but I prefer if we all agreed at the start that really the way this question is worded, we want them to

> *hit A B and C, as a minimum, and the rest are you know bonus points or whatever. So, it would be good to just align people that way on consistency.*

Beyond that, the tutors felt that individual differences were not only inevitable, but beneficial in bringing a range of perspectives on different subjects, reflecting the reality that there would be nuanced interpretation of issues at this level of academic work. It also partly reflected the theme of freedom and constraint in how tutors approached their work from the original interviews. Furthermore, it echoed the view that while students appreciate consistency in course design, so that they don't have to deal with a variety of approaches and technologies (Cochran *et al.*, 2016), achieving consistency can be a challenge in that what one student may find helpful, another may find a hindrance (Hämäläinen, Kiili and Smith, 2017, p. 1116):

> *(T2 F 1-5) I suppose what was highlighted to me, there was the word consistent with the tutors and I'm not sure if any two students are the same, so I'm not sure how any two tutors would be the same in their approach … I suppose, it's not surprising that some people would find some subjects more difficult and may need extra contact time but I'm not at all sure was there any solutions as a result of this sort of feedback or suggestions.*

> *(T3 M 6-10) Consistency, though, is always going to be a bit of a challenge, I mean even among us tutors we have different backgrounds and different experiences as well … but I suppose it's always a little bit of challenge just to keep it as consistent as possible. You know, and even when you have two or three different tutors correcting papers, for example, you'll still see different approaches among very very competent tutors … it is a challenge … how we keep it as consistent as possible; it is a challenge, all right.*

> *(T7 M 11+) It's a natural thing that it's different, you know, it's not artificial intelligence that's teaching students, it's different human beings and that enriches the experience because they're all getting people that are teaching, coming from different experience, different points of view and so on, so that's good.*

4.4.1.2   Associated with but not part of the HEI

During the discussion, the tutors were advised of the findings of the QQI CINNTE institutional review of the HEI, specifically on the topic of consistency of the student learning experience. This review recommended that the HEI, as an institution, should implement processes and establish standards to provide a more consistent student learning experience across all faculties and schools. The tutors were not made aware of this review in advance, so that it would not colour their views. In the event, the tutors' felt that the QQI findings were principled but of limited applicability where part-time mature students were being tutored by part-time tutors at postgraduate level. Unless some processes were to be introduced, about whose effectiveness

they were dubious anyway, they felt it unlikely that the tutors could allocate more time to activities designed to address QQI's concerns, which they felt were more applicable to full-time academics whose "day job" encompassed issues such as this:

> *(T7 M 11+) And you know you're dealing with individual human beings with different experiences, different approaches so, I mean you could easily see the [HEI] would set up a role of quality control and a quality control person within each faculty but … there seems to be an ever growing list of people that aren't actually teaching, that they're doing other things in the university. So, it means well and so on, and how you actually implement that is another question.*

> *(T3 M 6-10) I just say there's nothing shocking in that really but … it's meant to be constructive … One interesting thing too, though, is that most of us here are part-time tutors that's really the engagement and the course we're involved in once or twice a year. I'm just wondering how is there a comparison from a student experience point of view, say if you're a full-time lecturer, you're living, eating, drinking and breathing this seven days a week. So, I'm just wondering, well, would you have the opportunity to really get much deeper into it.*

The level of engagement of tutors compared with full-time academics was highlighted, as was the lack of communication of policies and the sense that a cohort of non-academics were involved in activities that was contributing to a feeling of alienation. The feeling was that with the level of involvement and amount of time available to tutors, it wasn't feasible for them to participate in initiatives such as the one suggested by the CINNTE review, especially if there is also a communications gap militating against it:

> *(T6 M 1-5) I think, maybe it's just a missing link, I think there needs to be a greater awareness of these types of policies as they exist.*

4.4.1.3   Attitude to group work

There had been a mix of comments on group work in the student survey, with some favourably disposed towards it and others against:

> *I enjoyed the group assignment. Looking at the current climate of zoom meeting and working form home, that experience stood to me. (M 45-54 MSc Management of Operations)*

> *I think some of the group work was redundant - by Masters level, you should have had plenty of chances to do group work in your career, and instead it added to my stress levels*. *(F 35-44 MSc Management of Operations)*

> *Less group work (F 25-34 Graduate Certificate)*

> *More group work with peers would improve the experience further and foster relationship and contacts building with colleagues which is difficult but*

important when distance learning especially with other same course participants. (M 35-44 MSc Information Systems Strategy)

The student interviewees felt that, as experienced working adults, they already had the skills to work in groups:

(S2 F G1 MOPS) My personal opinion is at this stage of my life, my career, I'm well able to work in a team environment and to be honest, I absolutely hated my group work assignment.

The students understood the thinking behind the inclusion of group work in assignments but felt that it was unnecessary in their case and brought an element of risk to an individual student whose marks could be adversely affected by the actions or inactions of other students.

While the tutors felt that group work had inherent value, including giving the assessment tasks a degree of variety, taking the students out of their comfort zone and challenging them, on balance they agreed with the student interviewees that a combination of the practical difficulties in implementation and potential issues of fairness outweighed the likely benefits. In an undergraduate setting, where the need to give students experience of teamwork was strong, the potential benefits would most likely outweigh the drawbacks:

(T1 F 1-5) Even the student feedback shows kind of a bit of conflict where people are saying that they can understand the benefits of group work but don't like doing group work and don't want it and there's difficulty around this, which is part of the whole reason why we get people to do that, you know, the way to encourage people to get over those difficulties and understand how to work well as a group and as a team, and so on, and the same with them.

(T7 M 11+) Very good point. That's a very good point that you have unearthed because maybe we're treating them like children really. They're experienced adults and let's just say they wouldn't survive a week if they weren't team players anyway.

The latter comment corresponds with the findings of O'Shea, Stone and Delahunty (2015), that the more rounded nature of the adult student meant that their sense of identity as a student was different from typical students and this could negatively influence their willingness to take part in group work (2015, p. 54). Research also suggests that while there are benefits associated with group work (Strijbos, 2011), there are also challenges for both students and teachers in implementing it effectively and fairly (Kagan, 1995; De Hei *et al.*, 2015).

4.4.1.4   Freedom and constraints in tutoring approach

There was consensus among the tutors that the learning outcomes for modules should play a more prominent role in course material and assignments, something that had been referenced in one of the free-text comments in the student survey:

> *The requirements of some of the assignments, and how the content of the module related to the expected outcomes, could have been explained in more detail. (M 35-44 Graduate Certificate)*

For some subjects, like supply chain management, the landscape changes very quickly with new, technology-enabled facilities appearing. The learning outcomes needed to be considered anew each year in light of current and emerging practices:

> *(T7 M 11+) I get the impression the learning outcomes are more for the students to say look, this is what you should just achieve. But we kind of have been at it for a while so we know what we're trying to do in terms of develop analytical skills, report writing skills, research skills and so on, and for the students certainly the learning outcomes are very important, I think, for the students they should be told you need to read this first and understand what you're doing and where you're going not just kind of you know, take a deep dive into the course material. I think that's helpful.*

> *(T3 M 6-10) In relation to subject matter it does shift somewhat on like, for example, in supply chain into new areas, you know the emerging areas such as, we all know, AI and those areas they're becoming much more central now, and so I think as a tutor you do have to refresh yourself as well, it's not a matter of repeating the same stuff each year. There's I think there is a need to you know to stay up as well stay and stay in touch with the trends, you know.*

> *(T1 F 1-5) Should those learning outcomes be more visible or should they be reviewed almost on a yearly basis - I definitely think so.*

It was also observed that balance should be achieved between having too many learning outcomes, which became very prescriptive, and too few, which made fulfilment very simple, perhaps overly so:

> *(T1 F 1-5) One module that had such specific ones that I think you were limited. If you were going to achieve them you're going to have to give that assessment each time you deliver the module. But I did find it interesting when I was told to show how was I meeting all the learning outcomes … and I was asked, show how you've met all the learning outcomes for this other module, and there were only three, and it was really easy to show you met them several times over, they probably could have been more specific, so we need a happy medium.*

It was acknowledged that assignments were an essential component of the tutorials and it was up to each tutor to decide how much time to allocate to them. This reflected the time constraints on both students and tutors and the fact that students could be very strategic in allocating their time. The tutors felt that they had to respond to the students' strategy of prioritising assignment work by featuring them prominently in tutorials, which was the main opportunity students had for face-to-face discussion with tutors. Questions from students always weighed heavily towards the assignments, pushing the tutorials in that direction:

> *(T1 F 1-5) There were already questions before the first tutorial and all the questions were assignment questions whether it's formatting or something on the actual question but there's been nothing on course content, which I find is the same year on year on the forums, but in the tutorial, in both tutorials, we went back to the assignment at the end because that's where all the questions are.*

> *(T7 M 11+) If we didn't cover the assignment, they wouldn't turn up.*

> *(T3 M 6-10) They'd go crazy if you didn't cover the assignment.*

4.4.1.5   Dealing with students' self-awareness and strategies

It was agreed by all the tutors that the students' strategy was to concentrate their efforts on the assessable elements of their course. Engaging students more on the student forums was seen as a desirable objective but the problem had so far proven impervious to attempts to stimulate interest from students, including the type of "thought question" prompting of students reported by Smith (2019). There was a sense that students, under time constraints themselves, would not devote time to non-assessable activities, no matter how relevant or worthy they were (Broadbent and Fuller-Tyszkiewicz, 2018, p. 1452). On the tutor side, this also reflected the theme of feeling under pressure to do things in a limited time that was construed from the original interviews. If both students and tutors felt under pressure to get through the course content and assignments, inviting students to take part in additional activities was likely to be fruitless. However, it was agreed that there would always be a student-only forum, probably based on WhatsApp because of its accessibility and immediacy, but it was necessary to advise students to use the Moodle forum for any course-related issues as the danger existed of misinformation becoming established through sharing and repeating.

In both free-text comments and interviews, the students themselves were aware of the dangers inherent in a student-only WhatsApp group but felt that the benefits outweighed the risks:

I enjoyed the interactions with my classmates, but this was mostly outside of the confines of the course (e.g. WhatsApp). (F 35-44 MSc Management of Operations)

Interaction with fellow students. Particularly in the WhatsApp group, as this reduced the feeling of being on the course alone due to the nature of remote learning. The induction day was excellent as it set the tone for the course. Visiting the campus provided the context of what I was about to embark on. (M 35-44 MSc Management of Operations)

(S4 M G2 MCT) Just one comment, while I'm thinking of it about the WhatsApp thing. I remember a couple of times wondering to myself if what some of the people were talking about it, if it was accurate information that was being put into the chat group or if it was somebody's belief that, you know, could have maybe ended up hurting the scores of people who would have used that information in their assignment or something like that. If you had something around by [HEI] that maybe a tutor was checking in on or something like that, that could maybe point us on the right track, I know in the forums that did happen a couple of times so like we said the forums weren't that busy.

It was pointed out that recent graduates who addressed students in an online event had also warned them against the dangers of relying on WhatsApp for advice that ought to be sought through Moodle and the danger of over negativity on the WhatsApp group:

(T6 M 1-5-2) I think what you need to do is to develop a sense of community … so that they are actually communicating together … we're not seeing students using the forum, I think, and we don't really know how much they use WhatsApp, so is there really a community of learning there that's actually engaged? I think sometimes some issues are probably aired on WhatsApp, kind of they run away with them and there's certain grievances aired online that probably leads into aggression … things go out of proportion when they're off the (HEI) website.

(T1 F 1-5) … the past pupils who came back to talk to the new students mentioned that they found there was misinformation on the WhatsApp group and to be careful of that. Now that came from themselves, not us telling them, you need to say this, that or the other, it was like a student who told the students that they left the WhatsApp group because it was too much. They did highlight the benefits of it but they definitely were strong enough on the negatives of it, which I thought was really interesting that the students were raising that.

No additional comments were made by the tutors in response to an invitation to do so before the session was ended.

It was interesting that the tutors' views were largely unchanged from their initial interviews, with the exception of including group work in assignments, perhaps encouraged by the generally positive response by students in the survey and interviews. While acknowledging the need for more structure and collaboration in relation to marking assignments, especially shared assignments, the tutors were not convinced that a more general level of standardisation should be adopted, especially in relation to the teaching or tutoring aspect of their roles. Rather, the majority view was that a degree of variability in approach was not only prompted by differences in subject matter but potentially beneficial in exposing students to a variety of teaching approaches. This reflected the nuanced response to consistency in teaching from the students, with the tutors believing that an attempt to homogenise their teaching approach would not necessarily be helpful to the students.

This concludes the presentation of findings and the final chapter of the thesis reviews the five research questions in light of what has been learned in the course of the research.

5   Conclusions

5.1   Introduction

The constantly growing demands on HEIs, including competition, funding requirements and wider social challenges suggest that online learning will become an ever more significant feature of education in the coming years. This research sought to add to knowledge and understanding of the phenomenon of online learning, from the perspectives of both students and tutors engaged in online learning in the context of postgraduate programmes in one Irish HEI.

A review of relevant academic literature led to the formulation of five research questions, set out initially in Chapter Two and restated below. To address these questions, a convergent parallel mixed methods research design was adopted and a case study strategy was implemented. A variety of techniques were used to collect data from the 2019-2020 cohort of students and their tutors in the case study HEI, including a student survey, tutor interviews, follow-up student interviews and a final tutor review. Having provided a detailed account of the findings of the research in the previous chapter, this final chapter reviews the research questions to summarise the key messages arising from this research and their potential significance for those who design and deliver online learning experiences in higher education settings.

Observations for the benefit of programme management are made, as well as suggestions for future research to expand and develop issues raised in this research. The contributions of the research are identified and its limitations are acknowledged before concluding remarks are presented.

5.2   Research Questions, Findings and Conclusions

Based on the overarching research questions set out in Chapter 1, the literature review gave rise to five specific research questions:

- In the students' view, to what extent did the course content and delivery address their needs? (RQ1)
- In the tutors' view, to what extent did they meet student needs through course content and delivery? (RQ2)
- To what extent did the tutor's instructional approach reflect an understanding of the concept of self-regulated learning? (RQ3)
- To what extent did the students enjoy a consistent teaching, learning and assessment experience? (RQ4)

- To what extent were the students aware of the requirement to self-manage their learning? (RQ5)

5.2.1 Research Question 1

RQ1: In the students' view, to what extent did the course content and delivery address their needs?

Students' experience, such as that captured in the student survey, is a prime determining factor of satisfaction with the quality of their educational experience (Wilkins and Stephens Balakrishnan, 2013). The overwhelmingly positive response from students, if not quite a case of *res ipsa loquitur*, strongly indicated that the courses were meeting their needs very well, with 90% of students agreeing or strongly agreeing that they were satisfied with the quality of their course. While there were varying levels of positivity across the different survey topics, the general pattern was clear and most students were very happy with their course experiences. This is noteworthy given that student populations may vary in their levels of prior knowledge, personal autonomy, cognition (Money and Dean, 2019) and motivation (Salmon *et al.*, 2017) and that older students and those in employment have higher expectations of what they will experience in online courses (Barczyk *et al.*, 2017, p. 182).

Students did not express the same high levels of satisfaction with all aspects of their courses, in particular the consistency of their learning experience, incorporating teaching, assignment marking and assignment feedback. As indicated in Chapter 1, this research was partly motivated by the perception that students may not enjoy a sufficiently consistent experience throughout their course. This concern pre-dated the QQI institutional review of the HEI that highlighted the issue of consistency of the student learning experience throughout the university. While not central to the concept of self-regulated learning, consistency is key to the notion of regulation in general, in that inconsistent performance or operation is inimical to the sense of something being in a regulated state. Having a consistent learning experience, especially around assessment and feedback, is important to students (Brown, 2007). Consistency of experience is integral to building trust and confidence as it reduces anxiety, sets expectations and creates a better environment for participants in any online sphere (Salazar, 2016). For these reasons, the survey included three statements to elicit students' view on how consistent their experience had been with teaching, assignment marking and feedback. These issues are examined further when Research Question 4 is discussed later in this chapter.

Opportunities to discuss work with fellow students was among the lower rated items in the survey, despite the existence of an online forum where students were encouraged to raise

questions or make comments in order to generate a discussion on relevant topics. As mentioned in Chapter Four, attempts by tutors to promote such discussion have been largely fruitless. However, it is important that no negative conclusions are drawn from this as there can be many reasons for students not to use discussion forums. These include perceived usability issues in comparison with other communications channels such as WhatsApp, as reported by students in this research, while wider research suggesting that a lack of interaction on forums is not to be interpreted as a lack of engagement or motivation to succeed (Broadbent and Fuller-Tyszkiewicz, 2018, p. 1452).

It was noteworthy that workplace issues were interpreted as a theme in the student research. Career-related choices were prominent in the course motivation reported by students in the survey - career progression and employment prospects being the top two choices - while some of the adverse comments related to perceived deficiencies in the workplace relevance of the courses. This desire for industry relevance echoes Cheng and Chan (2021), who spoke of the challenges to educators of the demands for a competency-based curriculum supporting contemporary skills such as learning-to-learn and student self-regulation of cognitive learning strategies. Indeed, this trend is evident even in curriculum change at secondary education level, with its focus on 21st century skills and competences (Gleeson, Klenowski and Looney, 2020). These findings suggest there is scope for HEIs offering programmes that cater for postgraduate working students to consider the extent to which workplace demands should feed into strategic objectives and trickle down to the content and presentation of the programmes.

5.2.2   Research Question 2

RQ2: In the tutors' view, to what extent did they meet student needs through course content and delivery?

This research question sought the views of tutors on how well they addressed student needs through course content and delivery.

The tutor interviews revealed a generally positive experience of their role, the freedom to devise assignments and tutorial content and the capability to help students achieve their academic objectives. The tutors saw their roles as meeting the objectives of the modules, highlighting the key messages within the course content and giving students the resources and support to do independent learning and research, as well as assessing and providing feedback on their work. Helping students become independent learners was identified as an objective during the interviews as the tutors recognised that students had to manage their own learning, both in the

modules and, later, during their dissertations. Accordingly, they saw their role as equipping students to carry out independent research, in which they were supported by research emphasising the importance of developing general critical thinking skills in students (Bezanilla *et al.*, 2019). Tutors' focus was on the independent research aspect and not on how best to interact with integral resources such as course notes and related textbooks. Even so, the tutors recognised that mature postgraduate students bring a wealth of workplace and life experience to bear on their learning, so explaining key concepts and giving students the tools to contextualise their learning were seen as valid objectives by tutors. It is not merely the "what" that needs to be explained, but the "why" also, and it must be recognised that, as experienced professionals, students are likely to expect an explanation as to why certain concepts are highlighted and considered highly important. In this the tutors were supported by research suggesting that people should be told why they need to learn something and not merely that they need to learn it (Merriam, Caffarella and Baumgartner, 2006, p. 84).

Tutors felt under time pressure as a result of the low level of direct contact with students. This placed a premium on addressing the summative assessment elements of the courses, leading to assignments having a prominent role in online tutorials. As noted in Chapter Four, the tutors felt that assignments had to be weighty and broad, as a more narrow focus could induce students to study only what was necessary to answer the assignment. While the tutors recognised that students had to do a lot of self-study and manage their own learning, there were no specific strategies such as provision of prompts or self-assessment questions built into course notes or tutorials to assist the students with this task. The provision of such prompts is recognised as helpful to students, especially in a self-regulating environment (Bannert and Mengelkamp, 2013; Kauffman, 2015; Daumiller and Dresel, 2019).

Although they believed they were performing effectively, tutors felt a sense of disconnection from the HEI and did not enjoy good academic links with their full-time colleagues or have the same access to professional development opportunities. This resulted in challenges for tutors in providing students with an optimal learning experience, which reflected research on the working conditions of non-tenured faculty (Jolley, Cross and Bryant, 2014; Kimmel and Fairchild, 2017). Part-time staff such as these tutors ought to be supported and developed in their work, an issue that is addressed in the Recommendations, below.

No major impediments to role performance were identified by the tutors, so they felt a reasonable degree of freedom in how they worked. Equally, they believed that students could be strategic in their approach to learning and felt they had to recognise this and organise their

tutoring to address the students' needs. This manifested itself in the form of students focusing their efforts on assignments and being reluctant to engage in non-assessable activities, leading the tutors to react and plan their tutoring approach accordingly. However, there was a divergence of opinion on the extent to which their role and activities should be more closely defined. There was consensus on the need for more collaboration and standardisation where multiple tutors marked a single assignment and there was agreement on the benefits of tutors sharing teaching experiences so that good practice could be promoted and potential pitfalls identified. The divergence of opinion centred on consistency in the student experience and the extent to which tutors can provide a consistent experience for students in the material they study, the tutorials they attend, the assignments they complete and the marking and feedback for those assignments. Most tutors saw their degree of freedom as positive but some expressed a desire for more coherence and standardisation across activities, with one tutor explicitly stating that she was not aware of the overall expectations or strategic direction of the online unit in the HEI. A view expressed by some tutors was that differences in approach were inevitable because of differences in the subject matter being taught, especially if it was technical in nature. The other view was that while such differences were inevitable, a lot could be done to manage these variations within the framework of a more consistent and defined approach. For those who favoured this more standardised approach, the module learning outcomes would be to the fore in authoring course notes, drafting assignments or preparing feedback. It was suggested that a focus on learning outcomes would be facilitated by adopting a more standardised approach to these activities. As explained earlier, a general sense of disconnectedness from the HEI and a lack of collegiality with full-time academics was interpreted in the tutor interviews and it may be that this perceived separation from the institution contributed to some tutors feeling that they were free to adopt their own approach rather than conforming to a set of norms. Given the underlying theme of consistency inherent in this situation, the discussion on Research Question 4 below is also relevant here.

A number of tutors commented that self-management or regulation of learning was an issue for the students alone and did not feel that it was their job to help students with this, beyond giving them the skills to do independent learning outside course-related tasks. This reflected the suggestion by Lawson *et al.*, (2019, p. 231) that skills and belief in SRL may not be prevalent among teachers. However, given the relatively low level of direct teacher-student contact in the context of any student's overall educational effort, and as the findings of this research clearly highlight that not all students necessarily identify as self-regulating or understand what SRL is, it is incumbent on teachers to foster SRL to help students become independent learners (Artino

and Stephens, 2009), with some suggesting that this should be done from as early as primary level (Laurillard, 2020, p. 36). Accordingly, an important finding emerging from this research is that there would be considerable benefit in establishing a process to ensure that tutors understand SRL, with its practical implications for students and themselves – a topic covered in the Recommendations, below.

5.2.3   Research Question 3

RQ3: To what extent did the tutor's instructional approach reflect an understanding of the concept of self-regulated learning?

From the tutors' perspective, no formal approach was taken to the task of instruction. The strategy adopted by tutors was to make students aware of the key concepts in the course material, textbooks and recommended readings. They would then support the students' interaction with these resources, mainly in a reactive mode, responding to student queries. A majority of tutors did not write their own course material and those who did often updated pre-existing material rather than develop it afresh. Other than one tutor who tried to engage students by posting questions on the forum, tutors did not use any form of prompting, within the course material or otherwise, to help students with their self-regulation of learning.

The student survey statements on Quality of Teaching and Learning achieved a very high agreement level. The survey statement that the amount of contact time with staff was sufficient to support effective learning had a lower agreement level but two thirds of respondents still agreed or strongly agreed. High percentage agreement levels were recorded in respect of the statements on use of authentic examples throughout the course, the applicability of the knowledge gained to the real world and the opportunities for self-assessment provided within the course material. In combination, this suggests the students felt that the instructional approach supported them in managing their own learning. Students were given the necessary resources and tutoring and were then expected to do independent work and research to develop their knowledge and understanding. There seemed an implicitness to how this was done rather than a specific teaching approach being followed. Several tutors have received certification in teaching and assessing in an online environment, which, in the researcher's experience, was likely to have assisted them in their tutoring role, but there wasn't a specific instructional design input. However, Gurley (2018, p. 215) suggests that formally trained lecturers provide a better level of facilitation to online learners and, as this facilitation can be critical for students in the form of timely interventions (Baxter, 2012, p. 122), it is highly likely that a programme of formal training for tutors, including instructional design principles (Sanga,

2017, p. 20) would be beneficial. Instructional design should not be considered in isolation, however, and, as proposed by Kauffman (2015), should be managed as one of several factors to be aligned in a coherent approach to course delivery, including learning objectives, assessment methods and feedback.

The tutors' felt that sufficient self-assessment was built into the course material in its wider definition, including recommended textbooks, and this was reflected by the positive response from students that sufficient opportunity for self-assessment was built into the course material. However, the literature supports the idea that inclusion of prompts or other methods of supporting or testing students' understanding is particularly effective in an SRL environment (Schmidt, Maier and Nückles, 2012; Daumiller and Dresel, 2019). Given the tutor view that SRL was primarily a matter for students, they would not have sought to implement SRL-supportive initiatives, so this was not seen by them as a missed opportunity. Remedying this situation so that the course material and its presentation recognise the self-regulating needs of students is covered in the Recommendations, below.

It should also be noted that the students' responses in relation to opportunities for self-assessment may not have been informed by an appreciation of what else could have been done to help them. Unless a student had prior experience of an environment where self-assessment questions or prompts were built into the course content to supplement fundamental SRL training, they would have had no comparators to use in their consideration and therefore no awareness of what else might have been put in place.

5.2.4   Research Question 4

RQ4: To what extent did the students enjoy a consistent teaching, learning and assessment experience?

Consistency of experience drew the least positive response from students, with consistency of teaching, assignment marking and assignment feedback all being among the five lowest rated items in the survey. In the post-survey interviews, the students emphasised the importance of this issue, saying that they received conflicting advice from different tutors, especially on aspects of presentation and referencing. They also reported variability in the quantity and quality of the feedback they received on their assignments. In some cases, the feedback concentrated on matters of presentation and did not deal adequately with the substantive content of the student's submission. Structural and presentational aspects of the course delivery were consistent across modules but marking and feedback were more inconsistent, especially where

multiple tutors shared a single assignment. Students said they found the general approach to teaching had been appropriate and in line with the expectation on them to become independent learners and self-regulate their studies. Allied to the comments by some students that the variability in teaching was not necessarily a bad thing, it seems clear that the concerns about inconsistency related more to the assessment and feedback issues rather than to the direct teaching or tutoring aspect. Research has shown that students value consistency in feedback, which is critical in their developing independent learning skills (Ferguson, 2011; Hills *et al.*, 2018) as well as in their learning experience generally, including course design (Cochran *et al.*, 2016).

Based particularly on their qualitative input, students felt they would enjoy a more consistent learning experience if these issues of variability were addressed. It appears, therefore, that it would be in line with best practice if the consistency of the learning experience were to be improved to bring it in line with the students' general opinion on their course experience.

To situate this discussion of consistency of the learning experience in a wider context, it is appropriate to factor in the views expressed by QQI in its 2019 institutional review of the HEI as part of the QQI CINNTE programme, which was mentioned previously. In summary, QQI found deficiencies in the consistency of the student learning experience and that the HEI needed to do more, though assurance and monitoring, to ensure a consistent student experience to a defined threshold level, regardless of the programme of study. Interestingly, inconsistency in the student experience was highlighted in three of five universities reviewed under the CINNTE programme, apart from the HEI in this research. Noteworthy also was the absence of a reference to SRL in any of these reports.

Linking the topics of consistency and the importance of student voice, which were covered as part of the literature review in Chapter 2, QQI recommended that the HEI implement an independent, university-wide, evaluation of teaching to provide a consistent measure of the student learning experience. In so doing, a requirement was identified for more reliable management information to be obtained from consistent datasets of student evaluation of teaching and learning down to the module level. This implies the creation of mechanisms to extract the voice of the student on their teaching and learning experience and, by comparing this against a target threshold, to work towards the target in a consistent way across all academic units and programmes.

The tutor view on the need for consistency of approach was nuanced, being strongest in relation to marking and feedback in multi-tutor assignments. The benefits of consistency in the student

experience has been well recognised (Ashraf, Barry and McFarlane, 2016) and multi-tutor grading is a particularly problematic aspect of that general issue, given the importance of inter-rater reliability (Willey and Gardner, 2010, p. 89). As discussed above, beyond that specific issue there was less agreement among the tutors on the desirability of greater conformity across their activities, with some expressing a desire to see more of a standardised approach to guide tutors on the preferred way of doing things, while others felt that differences in subject matter militated against an overly-prescriptive approach and that differences were to be expected in how individual modules would be presented to, and experienced by, students.

Further work is needed to examine the student view more closely and to identify ways of introducing more consistency, not just at the look-and-feel level, but in substantive tutoring, without compromising academic independence. While that independence implies a degree of choice among tutors on how they present their modules, it is noteworthy that QQI felt that too much was being left to the discretion of individual academic staff, giving rise to an uneven learning experience. So, an initial step might be to look at how the quality of marking and student feedback on assignments could be made more consistent as this was a factor raised by students in this research. A focus group of tutors could be usefully convened to brainstorm solutions in this area.

5.2.5   Research Question 5

RQ5: To what extent were students aware of the requirement to self-manage their learning?

Self-regulated learning was an important concept in this research, given the extent of self-learning and self-management required of online postgraduate students. Students showed a strong awareness of the elements of SRL in their responses. The key SRL component of self-motivation was recognised by students in a very strong way, with a 97% level of agreement, the joint highest item in the survey. The other SRL elements of time management, use of authentic examples, time for reflection and recognition of the self-regulating nature of the students in course design, all had high levels of agreement also. However, it was evident from the survey free text comments that not all students recognised their self-regulating nature or were happy about its implications. Given that self-efficacy and self-regulation are important skills in achieving academic success in an online environment (Broadbent and Poon, 2015; Bradley, Browne and Kelley, 2017; Ergen and Kanadli, 2017), there is a need to ensure that all students are aware of the SRL demands that will be placed on them. It should also be noted, however, that mere awareness of SRL, as demonstrated in the student survey, does not automatically translate into practice of SRL (Foerst *et al.*, 2017, p. 11). Unless the concept of SRL is broken

down into its constituent elements for students and specific tools and techniques identified to address each element, they will not capitalise fully on their awareness of SRL. Students who recognise the need to self-regulate will require help in devising and executing SRL useful strategies, without which their awareness of SRL would be of little value. This need is addressed further in Recommendations, below.

The student interviews, in particular when discussing the instructional approach of the tutors, confirmed an advance awareness on their part regarding self-regulation. The students did not expect everything to be covered for them as direct instruction and were aware that they would have to do much of the work themselves.

The student interviews were also generally positive concerning the level of self-assessment provided in the courses, backing up the strong survey agreement level. This positivity centred around the peer-review aspect of assignments and the reflective elements built into the courses. However, the interviewees also suggested that additional forms of self-assessment or prompting could be usefully built into the course material to help with understanding key concepts, which is a recognised need for students (Azevedo, 2005). In a self-regulating environment, such prompts have been shown to be particularly beneficial to students in achieving their academic goals (Kauffman, 2015; Daumiller and Dresel, 2019) and to be a well-recognised means of scaffolding online students (Zheng, 2016, p. 193).

Being able to discuss this issue with the student interviewees provided nuanced information that would have been absent if relying on quantitative data alone. In that regard, the student response to this research question can be summarised as positive in relation to prior awareness of the self-management demands they would face and satisfaction with the level of self-assessment provided to help them monitor their understanding of course material. However, the students also recognised that there was scope to do more with the course material and presentation to help them self-assess their understanding of course concepts.

5.3   Recommendations
5.3.1   Recommendations
The recommendations that follow are addressed to three categories of audience:

i.   tutors and students involved in programmes of this kind within the host HEI.

ii.   similar HEI providers nationally and QQI.

iii.   practitioners and researchers working and researching in the area of online tertiary education (acknowledging the limitations of policy transfer to different cultures and systems).

It should be noted that, following a strategic review aimed at positioning the HEI for future growth in online education, its online programmes were relocated to other faculties within the HEI from Autumn 2022. Accordingly, relevant recommendations here are for the appropriate faculty to consider.

Recommendation 1: SRL training for students

As outlined previously, this research further highlighted the importance of SRL in the online context. Furthermore, it revealed that even when students endorse various elements of SRL at face value, this may not necessarily translate to a full and meaningful understanding of the concept, or to effective implementation of SRL strategies.

With this in mind, a suggestion arising from this research is that course designers do not take for granted that their students understand the concepts of SRL but rather take specific steps to foster SRL understanding and practice in students.

Accordingly, it is recommended that SRL training be introduced for all online students. This training would make students aware of SRL and teach them various strategies for implementing all the elements of SRL, as well as helping them develop their powers of evaluative judgment, which is a necessary complementary skill (Panadero *et al.*, 2019). Direct instruction in SRL prior to the commencement of the students' course (Dörrenbächer and Perels, 2016) is one type of SRL training suggested by Broadbent *et al*., (2020) and it has parallels with the Online Start-Up Skills course offered to students by the HEI. This course is designed to equip students with the skills needed to flourish in an online study environment but it is optional, so there is no guarantee that all students will avail of it. It could usefully be adapted and extended by including SRL training within its remit, given that self-regulation is arguably more critical for success than many topics that are typically included in pre-course training. It is recommended that this training be mandatory for students and take place before they embark on their studies. It has been shown that students do not naturally practice SRL and an awareness of SRL does not translate into productive use of SRL strategies without training (Foerst *et al.*, 2017). Given the benefits associated with SRL for online students, this training ought to improve students' learning experience and academic achievement (Broadbent and Poon, 2015; Cho, Kim and Choi, 2017). In the host HEI context, three of Rowe and Rafferty's (2013) four suggested instructional design approaches to promote and support SRL are met: a clear course roadmap with specific deadlines; use of an LMS and provision of online discussion boards. While the effectiveness of the discussion board element has considerable potential for improvement, the fourth element, provision of specific training to help students develop their online SRL strategies, is currently

missing. Accordingly, providing such training for students on a mandatory basis would address a gap identified in the literature on Online SRL.

There is evidence that SRL skills make students more robust to challenges in their learning environment and that reported higher levels of SRL practice reduced the impact of Covid-19 compared with students who reported a lower level of SRL practice (Jia, 2021). However, care needs to be taken in how these self-regulating skills are developed. Use of SRL techniques is linked to greater academic success (Broadbent and Poon, 2015) and to promotion of lifelong learning (Russell *et al.*, 2022, pp. 98–99), but there is evidence that merely adapting a learning management system to better recognise the self-regulating nature of students, while helping with practice of some SRL skills, may not directly improve academic performance (Khiat and Vogel, 2022). This is especially so as it can be challenging to get students to avail of all the facilities offered by a learning management system in the first place (Araka *et al.*, 2021). However, there is an imperative to promote SRL as it has been suggested that SRL skills are part of a virtuous circle and key to developing digital literacy (Greene *et al.*, 2018), which has become ubiquitous in all aspects of life, including education, with technology now endemic and pervasive, rather than being an external influencing factor (OECD, 2019, p. 9).

Recommendation 2: SRL training for tutors

This research also found that tutors considered SRL a matter for students and did not appreciate the role they could play in assisting students' SRL practice. While SRL is relevant to all students, it has a particular importance for online students, so the tutors' supportive role is accentuated in the online context.

Online delivery, with its reliance on students' SRL capabilities, is likely to grow in higher education in the wake of Covid-19 (Morris *et al.*, 2020). Non-permanent full-time faculty require training for their roles as online educators and this training can be critical to their success (Hitch, Mahoney and Macfarlane, 2018). Accordingly, as part of an overall professional development plan, it is recommended that tutors be trained in SRL so that they understand its benefits for students and how they can help students practice SRL through their tutoring activities. Tutor support is critical for students in their SRL practice, so tutors themselves must be trained in SRL, from the student and tutor perspective, and they should also be encouraged to integrate their support into a holistic approach that includes formative feedback (Lawson *et al.*, 2019). Furthermore, educators' ability and willingness to self-regulate their own teaching practice has been described as the first step in students becoming more self-regulated (Kramarski, 2018).

Online students may lack the skills to become independent learners without external help. At the same time, the online environment has the potential to offer innovative teaching approaches combining the power of the underlying technology with the structure and organisation of a more traditional classroom (Thomson, 2018, pp. 76–77). However, if tutors are not trained to understand the concepts and practical implications of supporting self-regulating online students, the opportunity could be missed and both students' and tutors' experiences would be a lot less satisfying than they should be.

Recommendation 3: Online teaching training for tutors

The online environment has its particular teaching challenges, with research (Ní Shé *et al.*, 2019) and regulatory bodies (QQI, 2018) both emphasising that creating and teaching online courses is different from the face-to-face setting.

Online programmes ought to be specially designed for online delivery and not merely adapted from other formats. This implies that those involved in teaching or tutoring be appropriately skilled in online teaching, especially so as it has been suggested that tutors trained in online teaching provide more informed, timely and comprehensive facilitation of students online learning (Gurley, 2018, p. 215). Accordingly, it is recommended that a programme of training be devised for tutors to equip them with the required skill set and appropriate continuing professional development during their tutoring careers. Among the skills required for those operating in the postgraduate environment specifically are a knowledge of the constructivist learning theory (Almpanis, 2016, p. 309), dovetailing with the need for students to have an awareness in this area also (Blignaut, 2014). With the high pace of technological change and the usage of technology being particularly associated with a constructivist approach (Tondeur *et al.*, 2017, p. 558), there is added reason to implement a continuing professional development programme for all tutors, linking in with institutions' teaching technology support capability. This professional development would also encourage a continuing dialogue with tutors on their experience, which should help with empowerment of tutors and communication with institutional management to facilitate meaningful change (Barnes, Macleod and Huttly, 2018, p. 33). Any potentially isolating effect of teaching fully online would also be alleviated by a dialogue creating a sense of collegiality among tutors, with the beneficial effect of vicarious learning arising from sharing of experiences, especially with aspects of technology usage (Sullivan, Neu and Yang, 2019, p. 351).

This recommendation could also help with the approach to instructional design. Instructional design is not something that tutors can be expected to master independently, without

appropriate training (York and Ertmer, 2016). Tutor training would also benefit the practice of self-regulation by students, in the absence of which there is a danger that students will not perform in an optimal way (Andrade, 2014). This training should not become technology-focused, as may be the danger in an online setting, because students' concerns are more pedagogical than technological (Gómez-Rey, Barbera and Fernández-Navarro, 2017, p. 242). There is also the consideration that more online delivery is happening within traditional educational programmes. While this was given impetus by Covid-19 restrictions, there is now a discussion on the effectiveness of online delivery (Stevens *et al.*, 2021) and how it can be deployed independently or incorporated into traditional programmes to provide a hybrid model. This is akin to the experience with remote working, which was not generally used pre-pandemic, but whose usefulness and value in a hybrid working model is now being reconsidered by many public and private organisations. For online tutors, getting involved in a programme of professional development, delivered online or where the focus is on technology, will have the added benefit of helping them develop and maintain their online teaching self-efficacy (He, 2014; Corry and Stella, 2018).

Recommendation 4: Inclusion of SRL prompts in course material

This research highlighted the absence of embedded prompts in course material to help students with their SRL practice. It also revealed that tutors did not see an issue with this, viewing the overall level of self-assessment facilities in the courses as adequate. When considered in light of research conducted on the topic, however, this can be seen as a missed opportunity to support students in a practical and effective way.

Course content or material has been described as 'the fundamental form of interaction on which all education is based' (Vrasidas, 2000, pp. 339–340). Zimmerman (2012), who conducted research among 139 students at a higher educational institution in the Southwestern United States, found that students who interacted more with course material achieved higher success in their online courses. As a result, teachers were encouraged to discuss with students the importance of course material and how they interacted with it (2012, p. 161). Research has shown that students who are reminded of their SRL practice through strategically placed prompts respond positively and perform better than those who don't receive such prompts (Kauffman, 2015; Daumiller and Dresel, 2019). This needs to be done systemically to ensure that the benefits are effective across learning sessions (Müller and Seufert, 2018) and as part of a holistic approach, supported by tutor feedback (Wong *et al.*, 2019, p. 363).

Learning analytics and intelligent tutoring systems can help online students develop their SRL skills, but they are most suited to well-resourced and supported settings in terms of IT capability and personnel. They are much less suited to the needs of resource-constrained environments where tutors have a very limited amount of direct contact time with students. Many of the interventions described in the literature (Rosário *et al.*, 2015; Dörrenbächer and Perels, 2016) would demand time commitments from tutors that are likely to be well beyond what is feasible given tutors' other time demands. A potential approach would be to implement a form of SRL training for students prior to their main course of study, augmented by a system of prompts built into the course material. This would provide a base level of SRL awareness and capability in students prior to their main course of study, supplemented regularly by prompted reminders offering opportunities to practice SRL embedded into course material and activities. This would still require significant pedagogical and technological support as well as a corresponding training programme for tutors but it would be a much more realistic and practical solution to the need to train students in SRL practice. It would also keep the focus on the student as the most important agent in the entire process – technology and other supports can assist but ultimately the student must be motivated and prepared to avail of these supports if they are to be effective.

Prompts could be partly implemented in the form of self-assessment questions built into the course material. This approach would allow students to test their knowledge at key stages of a course module, for example at the end of a topic, before continuing on with the rest of their study. Such an approach would support students by providing them with a test of the type that a teacher might set in a conventional teaching setting. It would also be in line with QQI's recommendation that online students should be able to self-test and monitor their rate of progress at suitable points in their course (QQI, 2018, p. 17).

Recommendation 5: Creation of student focus group

Students in this research displayed a reluctance to become involved in decision making about their courses. This was attributed by them to a lack of time, the need for reflection on completion of their studies and a fear of potential retribution if they spoke freely as continuing students. However, experiential feedback from students is a valuable input to ongoing quality management of programmes and its absence is a deficit that can be addressed.

To do this, it is recommended that the student and tutor voices be captured on a continuous basis and their feedback used to improve the learning experience. This feedback could be actively used to review how well programmes are being implemented in practice, with any necessary actions being planned. If the views of the students in this research are representative

of students generally, it may be appropriate to create focus groups of students who have just completed their studies, to avoid potential reluctance to speak freely on the part of continuing students.

In the context of QQI's recommendation on the desirability of collecting consistent datasets of student evaluations, part of the value of any periodic survey is the benefit it provides to the participants, so some method of clearly feeding back results would be required to keep students motivated to participate, especially in light of Crane's (2001, p. 54) dictum that schools must listen to students if they are to become better places of learning. Accordingly, surveying students on the quality of teaching and learning should be accompanied by a mechanism to report back to them on how their input was evaluated and acted upon, something that is not common with student surveys of teaching (Hämäläinen, Kiili and Smith, 2017, p. 1108).

While the term feedback suggests something that is given to students, Hattie noted that the most powerful form of feedback comes in the opposite direction, from students, as it helps to make learning visible and creates a platform for synchronising teaching and learning (2010, p. 173). Accordingly, as a basic principle, it is important that student feedback is obtained and actively managed in some way, especially so as student voice has been characterised as a key contributor to the transformation of higher education (Manca *et al.*, 2017, p. 1075).

Recommendation 6: Review of group work in assignments

Participants in this research held a range of views on the inclusion of group work in student assignments. At the tutor level, an underlying initial view was that group working was an important work-related skill to which students should be exposed, whatever the practical difficulties involved. The students were mixed in their responses, with some in favour and some against. Given the nature of the students in this research, the majority of whom were working adults well versed in group working, the balance of opinion across students and tutors tipped against inclusion of group work, but this cannot be generalised to students in other contexts, especially undergraduates who have not been exposed to group work previously.

In the context of the HEI in this research, the use of group work in assignments should be reviewed to analyse its benefits and drawbacks as well as identifying potentially beneficial changes. The inclusion of group work in assignments drew mixed comments from the student survey participants, while the student interviewees were clear that, on balance, group work was more problematic than beneficial. They believed that the downsides, including a reduction in flexibility, outweighed any potential benefits. The issue of reduced flexibility reflected research

findings in this area (O'Shea, Stone and Delahunty, 2015, pp. 52–54). The tutor review session came down in favour of this view also, having considered the reasoning presented by the students. Much research on group work focuses on its value in preparing students for the demands of their future lives (Alexander *et al.*, 2020) but ignores the position of postgraduate students who already possess and practice collaborative and teamwork related skills (Strijbos, 2011; De Hei *et al.*, 2015). Furthermore, research at graduate level conducted among 47 students of a fully online course in Washington State, USA, found no significant difference between high and low collaboration, as measured by final grade score (Wicks *et al.*, 2015). The sometimes implicit assumption that teachers are inherently capable of correctly designing, implementing and assessing group work also needs to be challenged (De Hei *et al.*, 2015). Despite collaborative assessment being considered a high-impact teaching practice (Linder and Hayes, 2018), it is recommended that its inclusion be considered in the context of individual courses, especially the profile of participating students and, where included, it be done in a thoughtful way with skilled design and implementation.

Recommendation 7: Provision of exemplar assignments

A specific suggestion from students is this research was the provision of an exemplar assignment to help students conceptualise the type of response they would be expected to submit. While the backgrounds of the students in this research may have been a factor, as discussed below, it is a topic worthy of general consideration, given Panadero *et al.'s* support for their use (2019, p. 537).

The provision of exemplar assignments would help students in the early stage of their courses, especially where assignments are the sole means of summative assessment. In relation to assessment generally, it is worth noting that one of the tutor interviewees in this research favoured the inclusion of terminal examinations on the basis of fairness to students. With the current public discussion on the potentially damaging effect of AI-generated submissions by students, this is a subject likely to receive renewed attention. There were other comments from tutors about the potentially narrow focus of assignments and the possibility of including the degree of engagement by students as part of the overall assessment process. These are wider issues that should be considered by providers when reviewing their courses. In respect of assignments, students returning to education after a significant break would have a natural apprehension as to what constitutes a good answer to an assignment, especially so as it cannot be assumed that a diverse set of students will arrive ready-equipped with all the skills needed to succeed at Masters level (Coates and Dickinson, 2012). This particularly relevant to the students

in this research, many of whom were returning to education after some time away and may have been unfamiliar with the quality of work expected of them. One of the student interviewees commented that when submitting his first assignment he did not know if he 'was going to get 90% or 40% or anywhere in between' and he remembered thinking that a 'sample question and answer might have been helpful at the time.' Therefore, as part of an induction process for students, which, as already recommended, could include specific material on helping students develop the necessary SRL skills to succeed in an online delivery environment (Rowe and Rafferty, 2013, pp. 596–599), an exemplar assignment could be provided to demonstrate the layout, academic content and coherent argumentation expected of students. This would help students in a practical way and also help to alleviate the initial uncertainty mentioned in the student interviews.

Recommendation 8: Focus on learning outcomes

An important issue in this research arose in a peripheral way but addressing it would have direct benefits as well as indirectly helping with the consistency of the student experience. This concerns the importance of ensuring that learning outcomes feature appropriately in course delivery.

It is recommended that course providers ensure that module learning outcomes are explicitly addressed when creating course material, devising assignments and preparing feedback. This would ensure a level of coherence in the activities for an individual module and create a commonality of approach as the students move from one module to another throughout their studies. The need for this was highlighted in one student comment from the survey: 'The requirements of some of the assignments, and how the content of the module related to the expected outcomes, could have been explained in more detail.' This view was backed up in the tutor interviews and in the tutor review, where one of the participants observed: 'Should those learning outcomes be more visible or should they be reviewed almost on a yearly basis - I definitely think so.' This approach would help in ensuring the continuing currency of learning outcomes and, in the process, help to ensure that assignments address relevant current issues. In addition, career progression was an important part of student motivation, so reviewing learning outcomes to keep them relevant would help to ensure that the courses address workplace requirements as well as academic requirements.

Recommendation 9: Review of consistency of student experience

This research highlighted an issue with the consistency of the student experience that resonated with a similar finding in the QQI CINNTE review of the host HEI. In a broader context, as noted

earlier, QQI found similar issues regarding consistency of the student experience in several other institutions under the CINNTE programme.

The lack of agreement among tutors in this research on the extent to which they should adopt a more standardised approach suggests there is a need for course providers to review this issue, especially as it affects the consistency of the student experience. To address the concerns raised by QQI, it is recommended that providers come up with a set of procedures to improve the student experience without compromising academic independence. Factors guiding this review should include students' preference for consistency in course design so that they don't have to deal with a multiplicity of approaches and technologies (Cochran *et al.*, 2016); the criticality of feedback in motivating and supporting students (Hills *et al.*, 2018); the need for better marking guidelines for online tutors to promote effective feedback (2018, p. 242) and the preference students have for consistency in feedback to aid their development of independent learning skills (Ferguson, 2011). Given the SRL environment in which the students work, the need for consistency is heightened as formative feedback plays an important role in helping students develop their SRL capabilities (Nicol and Macfarlane-Dick, 2006, pp. 206–207).

Recommendation 10: Increased teaching time

One of the factors identified in this research was the challenge of meeting student needs with limited direct teaching time. Both students and tutors highlighted the problems they encountered with the amount of tutorial time provided in their courses. At a more general level, the availability of a benchmark to guide the amount of teaching hours appropriate to specific courses would help to ensure that inadvertent under allocation would not occur.

It is recommended, therefore, that the level of teaching time allocated to the HEI postgraduate programmes be reviewed as this is well below comparators within the HEI, nationally and internationally (Rosário *et al.*, 2015; Dörrenbächer and Perels, 2016). The tutors reported challenges in trying to support students within the current tutorial hours, which compare unfavourably even with online undergraduate courses in the HEI. The hours of direct student teaching need to be examined with a view to bridging this gap to match relevant benchmarks. The typical tutorial schedule for the HEI's online postgraduate students is two to four hours per month. By contrast, research into the teaching regime of one group of Australian undergraduate and postgraduate students in a constructivist setting, described three hours of lectures and tutorials per week, plus other activities. This highlights the relative poverty of teaching time in the HEI online postgraduate context, especially as students must be disciplined to avoid potential distractions while working online (Barry, Murphy and Drew, 2015).

Sufficiency of contact time between staff and students to support effective learning was the item that drew the least positive response in the student survey regarding the quality of teaching and learning, achieving 66% agreement against an average 86% agreement for quality of teaching and learning overall. There were also comments in the survey and the follow-up interviews expressing surprise about the lack of direct teaching. Post-Covid the future is likely to be a blend of online and in-person presentation using a set of affordable and accessible technologies (Kanwar, 2021). Students are becoming used to online components in their courses, so online delivery no longer implies a pre-eminence of self-learning and an absence of direct teaching. With online delivery growing, not just in formal education but in continuing professional development for those in mid-career (Forde and Gallagher, 2020) and with many institutions combining online elements with a comparatively high face-to-face teaching content, institutions such as the HEI may suffer because of its low level of direct student contact time – two one-hour tutorials for a 5 ECTS sub-module where the equivalent face-to-face teaching time might be 12 hours. If online students feel a sense of disadvantage relative to traditional students (Buck, 2016, p. 138), whether that 'campus envy' is real or imagined, as discussed in research conducted over the course of a year in the University of Edinburgh (Ross and Sheail, 2017, p. 840) it is important to adopt ameliorating strategies. This includes revising the allocation of teaching time and preparation time to more realistic levels (Kenny and Fluck, 2017, p. 515).

Recommendation 11: Creation of better academic links for tutors with the HEI

As discussed earlier, the theme of a lack of association with the HEI was construed from the tutor interviews. This resonated with international research but was nuanced in that the HEI's tutors were primarily non-academics as opposed to non-tenured academics. Notwithstanding this, allowing a gap between tutors and institution to develop or endure carries the risk of tutors performing in a non-optimal way and not delivering full value to the programmes and students.

It is recommended that an initiative be undertaken to create and foster a link between part-time tutors and their full-time colleagues, which would address those feelings of disconnectedness that were interpreted from the tutor interviews. Hitch *et al.*, (2018, p. 294) in a review of recent relevant literature, found that part-time staff needed to have a sense of belonging and be provided with 'support, development and supervision' if they are to stay on as satisfied members of staff. This suggests that the issue is not a local problem in the HEI but exists internationally also (see https://www.aaup.org/issues/contingency/background-facts) and is associated with the negative effects of widespread use of non-tenured and adjunct staff (Jolley, Cross and Bryant, 2014). The initiative recommended here would help to address the heavy

reliance by the HEI - and possibly other institutions - on part-time tutors whose main occupation is outside academia. The literature on part-time faculty concentrates on the decline in tenured roles and the corresponding growth in non-tenured and contingent teaching staff (Ochoa, 2012, p. 137; Delgaty, 2013, 2015). It is lacking detailed consideration of the position of part-time staff whose educational work is incidental to their main occupations and who are unlikely to be primarily motivated by monetary considerations. For such tutors, other motivations exist and a different approach needs to be considered in terms of how their association with their institution can be nurtured and strengthened. The sense of belonging needed by tutors reflects a similar need on the part of students (Caglar, 2013; Brunton and Brown, 2019, p. 3), so this is a shared requirement and addressing it would help lay the ground for greater student success.

Recommendation 12: Improved student messaging service

This research found that students had a strong preference for using WhatsApp as a means of communication. Students stated that they used WhatsApp rather than the course-supplied online forum, meaning that at least some student communication that should have been taking place in the course forum was now happening 'off the radar', with no moderation or oversight by anyone on the course provider side. Along with other established issues with social media use, this carries the potential danger of misinformation gaining currency though sharing in student groups.

While student-only WhatsApp groups will undoubtedly continue to operate, there would be benefit in seeking a technological solution to harness the useful features of WhatsApp and combine them with the benefits of oversight from the tutors or course administrators. This would imply the deployment of push technology, whereby forum postings could be made by, and notified to, registered participants without the need for constant logging in and security-checking of credentials. The feasibility of such a solution would have to be established through dialogue with the appropriate technical and teaching support groups in the HEI - and other institutions, as this is likely to be a widespread issue - to ensure compliance with standards and regulations, including cyber-security. The popularity of WhatsApp among the students in this research did not come as a surprise as most special interest groups in all aspects of life, including education, create private WhatsApp groups to facilitate communication and dialogue. Research by Stone and Logan, based in DCU, found that many students prefer to use an 'informal private space' for raising issues or asking questions that they would be uncomfortable airing in an online forum, despite the associated risk of misinformation (2018, p. 52). However, even the students in this research referred to the danger of inaccurate information gaining traction in a WhatsApp

group lacking any form of external moderation. Any new student forum initiative would need to be measured for usefulness and the level of engagement from students, something that a number of tutors suggested recognising for assessment purposes. In that regard, despite its online setting, it is interesting that, at least up to quite recently, little use was being made of technological capabilities such as learning analytics or educational data mining to measure and promote SRL strategies for learners, with more traditional methods designed for classroom support being used in e-learning environments (Araka *et al.*, 2020).

Summary

With the above recommendations, the student experience in online postgraduate programmes should result in the following:

- An overall programme designed for online presentation.
- Up to date subject matter content written with the needs of the online learner in mind.
- Students and tutors trained to practice and support self-regulated learning.
- Supports provided for the self-regulating learner, including self-assessment features and prompts built into subject matter content.
- Strong academic links between tutors and full-time staff.
- Consistency in timing and content of student interactions, including feedback on assignments.
- Consistency in course presentation across modules.
- For students completing their studies, they should feel:

    A sense of belonging as an alumnus of a respected university.

    Parity of esteem with full-time students.

    Peer standing with postgraduates in other disciplines.

5.3.2 Recommendations for Further Research

Further research, as set out below, should be undertaken to build on aspects of this research.

It is recommended that the host HEI support a longitudinal research programme to collect and analyse the student and tutor view on the quality of the postgraduate programmes on a continuing basis. This could be integrated into the existing programme review activities within the HEI. The literature supports the idea of capturing the student (Seale, 2010; Freeman, 2016; Canning, 2017) and teacher (Fletcher *et al.*, 2012; Gozali *et al.*, 2017) voices as indicators of quality of the learning experience. Quality may be conceived of as consistently meeting requirements (Slack and Brandon-Jones, 2019) but in a dynamic, constantly altering

environment, these requirements change over time, so the student and teacher view must be captured and measured on a regular and ongoing basis. The widely used Online Learning Consortium approach to quality measurement includes the student and teacher voices as pillars of quality (Esfijani, 2018, p. 63), further strengthening the case for data collection in this area, while QQI has recommended to several Irish HEIs that they should ensure proper procedures are in place to collect consistent datasets of student evaluation of teaching and learning.

A more focused research project could usefully delve into specific teaching and learning aspects, separate from more general course-related aspects, in order to refine and better align the assessment, teaching and learning activities (Biggs, 2014). While tutor and programme management input would be vital, this could be achieved, in part, through the use of a focus group of students, as mentioned above, who would provide the student view once they have completed their studies, thereby eliminating any possible reticence in expressing opinions that might be associated with continuing students. The students in this research indicated that they might not feel empowered to speak freely, as current students, and they also suggested that time pressure on them as students meant that they would not be disposed to allocating much-needed time to activities that did not contribute to their final grade. The creation of a focus group of recently qualified students would suffer from neither of these limitations and could provide very useful input for course providers.

While students displayed an awareness of the requirement to self-manage their learning, it would be worth establishing what strategies, if any, they deploy to meet this requirement. This would help on a continuing basis to inform the nature of SRL training offered to students and the inclusion of prompts and self-assessment facilities in course material. Simple awareness of the need for self-regulation does not translate into the adoption of useful SRL practices (Foerst *et al.*, 2017), so SRL training for students needs to be practical in nature, as well as conveying the underlying theoretical concept. Once SRL training for students is in place, this recommendation would provide feedback from students on which strategies they had adopted, and why, including their reasons for not using particular strategies. The latter could help course providers to refine their training approach to address deficiencies and to build on identified strengths.

Further research into the students' experience of their dissertation supervision, together with the supervisors' views, would help to provide more rounded insight into the quality of the dissertation process. This was a limitation in the research, as per Section 5.5 below, as the dissertation supervision experience was highlighted in the student survey free text comments,

suggesting there was an issue around the consistency of that experience. However, the research did not explore this in sufficient depth, so it remains unresolved as a potential issue.

It is recommended that joint research be undertaken by QQI and the HEI to establish the precise nature of the issues around consistency and, in conjunction with planned improvements in course delivery, to help ameliorate their impact. Given the findings on consistency of student experience arising from the student survey and student interviews in this research and a similar theme emerging from the QQI CINNTE reviews of several institutions, detailed research of this type could yield beneficial results. There is scope for cross-HEI comparisons to understand the common themes and HEI-specific factors involved, supplying data as a base for QQI to compose guidelines for course providers to avoid or alleviate the issue. Analysis of this data could provide useful insights on the extent to which online and adult postgraduate students have unique needs (Angell, Heffernan and Megicks, 2008).

5.4   Contribution

This thesis contributes to professional knowledge and practice in a number of ways.

This is the first in-depth study of the experiences of self-regulating online learners in Ireland at a potential inflection point for the future of online learning. Knowledge gained from this research on the experiences of the students and tutors involved has the potential to inform the better delivery of online courses generally. In the absence of finalised regulatory guidelines from QQI for online programmes in Ireland, the responses from students and tutors in this research provide a clear set of suggestions about what could be considered for inclusion in such guidelines, or to complement them in a practical way, once they are published. In particular, it draws attention to the importance of taking explicit steps to foster understanding and practice of self-regulated learning, which is a key skill for online learners. These steps include the embedding of SRL-supportive features such as prompts or self-assessment questions into course material, the provision of SRL training for students and also for tutors in how they can best support students in their practice of SRL, as well as instigating procedures to ensure that tutors confer and collaborate to provide as consistent a learning experience for students as possible. It also suggests that QQI recommend to HEIs that they take steps to foster a better environment for part-time teaching staff, including stronger academic links with their full-time colleagues and more opportunities for professional development. While traditionally there has been a focus on the students' role in self-regulation, this research highlighted the importance of the teachers' role and how it is critical in complementing the students' efforts and that more focus is needed on this at all levels of delivery and regulation.

As set out in Chapter Two, the experience of online postgraduate students in Ireland has received comparatively little attention from researchers, outside of the medical field, so this research helps to address a gap in the literature on online postgraduate research in Ireland. Also, the literature is light in researching the teacher role, as shown in a systematic review of literature on online teaching and learning from 2009 through 2018, conducted by Martin *et al.*, that identified a need for additional research into topics associated with the instructor role in online teaching (2020, p. 11). Accordingly, this research addresses another gap in the literature by its affordance of an equal focus on the voice of the teacher as that of the student.

It is methodologically innovative, with triangulation of student and tutor input, using qualitative and quantitative methods, deepened by a second review with tutors and consideration of regulatory audit data in the form of the QQI CINNTE institutional reviews. For example, the qualitative data from the tutor review facilitated a much deeper understanding of the theme of disconnectedness from the HEI on the part of the tutors, which was brought to the fore by consideration of the QQI CINNTE review. Without the inclusion of an additional phase of qualitative data collection, this important finding would not have been understood in such a deep way. Furthermore, its student survey uses a recognised questionnaire designed specifically for taught postgraduates (Soilemetzidis, Bennett and Leman, 2014).

It highlights the problems and pressures arising from the low level of teaching hours that apply in the HEI online postgraduate context, by reference to institutional and national comparators and findings from the literature (Rosário *et al.*, 2015; Dörrenbächer and Perels, 2016; Zhu *et al.*, 2020). Tutors and students alike reported the time pressure they felt in their respective roles. While it is arguable that additional tutorials would not alleviate the overall burden on students, a richer level of tuition might help them to better organise their time and aid their timely understanding of key subject matter concepts. For the tutors, having extra time to cover key course concepts would ease the burden on them in individual sessions. However, the research also showed the resilience of the students when faced with this environment, prompting one of the few tutor participants who was a full-time academic with experience across other third level teaching environments to observe that it was 'remarkable' what the students achieved with such low levels of contact.

It points out the very high level of reliance on adjunct faculty in the HEI online postgraduate programmes, compared with findings from the literature (Ochoa, 2012, p. 137; Delgaty, 2013, 2015; Jolley, Cross and Bryant, 2014). This suggests that HEIs need to be mindful of the degree of reliance on such staff and to avoid assuming that academic activities, communications or

arrangements are automatically understood by, relevant to and implemented appropriately for part-time staff. They should proactively examine the position of part-time staff involved in course delivery and see that necessary steps are taken to ensure that such staff are adequately trained, supported and monitored.

It identifies the absence of embedded self-assessment or SRL-supportive features such as prompts in course material and presentation, aspects that are supported by the literature as helpful to students (Kauffman, 2015; Müller and Seufert, 2018; Daumiller and Dresel, 2019). While such features would be of help to all self-regulating students, the position of online learners is particularly open to benefit from such support, given the comparative absence of proximate physical supports.

As mentioned in the context of useful suggestions arising for QQI, the research points out the lack of academic links between programme tutors and full-time academic staff, giving rise to communications gaps and a sense of alienation or disconnectedness with their institution on the part of the tutors. This supports research outside Ireland suggesting that much work needed to be done across a range of organisational levels to ensure the development needs of part-time staff are adequately addressed (Hitch, Mahoney and Macfarlane, 2018, pp. 295–296). In an Irish context, the research highlights the potential for this issue to create difficulties, given the high reliance on adjunct staff to deliver the online postgraduate programmes in the HEI.

It highlights the desirability for student and tutor training in SRL theory and practice in order to strengthen the students' ability to self-manage their learning (Kramarski, 2018; Broadbent *et al.*, 2020). Tutors were generally unaware of the potential role they could play in supporting students' self-regulation, while students were aware at a conceptual of the self-management demands placed on them but were not supported in understanding this in a deeper way or developing strategies to implement it in practice. This highlights the potential for a major deficit in SRL to develop where both students and tutors, especially part-time non-academics, lack sufficient depth of awareness of the concept at both a theoretical and practical level.

It confirms in the HEI context the importance of consistency of experience in teaching, marking and feedback for online postgraduates (Ferguson, 2011; Cochran *et al.*, 2016; Hills *et al.*, 2018). For adult online learners, the time gap in their educational endeavours may cause apprehension on their part in returning to education, as was suggested by the students in this research. A supportive environment is needed to help these students settle into their studies, which, as suggested elsewhere, may include the provision of exemplar assignments. However, the

literature supports the importance of consistency in the learning experience, despite which QQI's reviews suggest that many HEIs are underperforming in this area. This research provides empirical evidence of the importance of the issue of consistency for students and supports QQI's view that there is work to be done to bring about a higher level of consistency of the learning experience in Irish HEIs.

The findings of this research are of interest to online postgraduate programmes internationally, as appropriate analogies can be drawn from them on how other courses might be designed and presented to better meet the needs of their online postgraduate students, wherever located. This is particularly so in relation to professional practice where there is a heavy reliance on adjunct staff and/or the courses provide for a low number of teaching hours. The inclusion of SRL-supportive features in course material, allied with appropriate training for students and tutors would help to alleviate the challenges arising from how the courses are currently presented.

5.5   Limitations

Regardless of how well a research project is planned and carried out, it will have limitations. The limitations in this research, set out below, cover research sample size for both students and tutors, the comparative lack of discussion on dissertation supervision and the limitations of technology-mediated interviews.

While the student survey provided very clear and generally positive responses, it is acknowledged that the number of survey respondents, at 38, was small and potentially unrepresentative of the total postgraduate student population. This raised the question of non-response bias and if there was a reason behind the decision of those who opted not to respond to the survey invitation. Survey non-response bias relates to potential differences between participants and non-participants on topics of interest, which could result in erroneous estimates of the wider research population's views. This is an issue faced by many survey-based research projects where the response rate is low.

The tutor interview participants represented 50% of the relevant tutors, so similar considerations apply to this set of respondents as to the student survey. There is no guarantee that the tutors who did not participate share the same opinions, proportionately, as the actual participants. In this case also, the data from the participants is a cross sectional snapshot and is possibly influenced by current events, experiences and issues encountered during course delivery that may prove to be transient in nature. While the issue of non-response bias may arise

here also (Roberts and Allen, 2015), all the students and tutors were invited to participate in the research and there were follow up reminders from the Programme Chair after the initial invitation to participate had been issued. Accordingly, the researcher made reasonable endeavours to eliminate any bias in the sample of students and tutors who took part in the research.

It would also have been interesting to hear the views of students who failed to complete their courses, as their reasons for failing to finish may have raised issues not evident in the data collected from the actual participants. Previous research carried out with unsuccessful students in a US college on three separate occasions over a 10-year period up to 2010 found in each case that the main reason why online students had been unsuccessful was because they 'got behind and it was too hard to catch up' (Fetzner, 2013, p. 15). Given the time constraints of the current research project, it was not possible to include unsuccessful students but it would be useful for HEIs to collect as much information as possible from students who exit programmes early, as such information could be useful in identifying improvements in course organisation and delivery.

Blignaut (2014) suggested that it was right to use a case study when attempting to learn more about students in their own context. It should be acknowledged, however, that the student sampling frame was a single student cohort, representing the academic year 2019-2020, and other student cohorts may have had different experiences. However, the constraints of the research timescale meant that a cross sectional time horizon had to be chosen, while seeking to augment the 2019-2020 student population with earlier cohorts could have raised issues of differences in the course presentation and tutors between the various cohorts.

The use of case studies in research has been long criticised (Hamel, Dufour and Fortin, 1993) due to the difficulty of generalising results obtained from studying a "necessarily limited" number of cases (Villarreal Larrinaga, 2017, p. 155). The lack of statistical validity, the inability to test hypotheses and an absence of representativeness of the phenomenon under examination are said to mean that generalisations cannot be made from case studies. However, unlike quantitative studies that often rely on large sample sizes, case studies, which can be more qualitative in nature, try to gain a greater understanding of the reasons underlying phenomena rather than the incidence of their occurrence. Therefore, for case studies, the concept of "transferability" may be more appropriate than "generalisation" (Villarreal Larrinaga, 2017, pp. 155–156). Individual case studies can each make a contribution to knowledge that, over time, can transfer to other contexts and combine to provide a full picture of a particular phenomenon.

Nor is this suggestion of recent vintage, as almost 30 years ago Stake spoke of propositional generalisation arising from a summary of the interpretation of qualitative data, supplemented by a researcher's personal experiences or "naturalistic generalisations" (1995, p. 86).

While the dissertation topic was addressed in the student survey and interviews and, insofar as the relevant modules are concerned, in the tutor research, the subject of dissertation supervision was not separately addressed and the student feedback indicated that students may not enjoy a smooth supervision experience in all cases.

The continuing restrictions on indoor gatherings arising from Covid-19 meant that the interviews in this research project were conducted remotely, using Zoom. While the participants were familiar with the online environment as a standard rather than emergency means of course delivery, it would have been preferable if some of the interviews could have taken place face to face as this is a more natural setting for interviews and more conducive to sharing of views and ideas.

5.6   Concluding Remarks

This case study research presented an in-depth exploration of the shared experience of a cohort of online postgraduate students and their part-time tutors. In so doing, it contributed to an understanding of the challenges and opportunities that arise for such students, tutors and, more widely, for course providers and regulatory authorities. The trends evident in higher education and in the growing demands for continuing professional development to meet the needs of a fast-changing work environment suggest that instances of adult learners in an online self-regulating environment will become an increasingly familiar feature of the educational landscape. Lessons learned in exploratory research such as this provide actionable insights that will operate to benefit both academic institutions and the workplace.

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Appendix A Self-Regulated Learning Theories

The Operant theory, rooted in the behaviourist approach of BF Skinner, relies on extrinsic reward systems to motivate learners. Self-reinforcement, self-monitoring and self-evaluation all play key roles in self-regulation and interaction with the external environment is favoured over any internal mental processes.

In the *Phenomenological theory*, the role of self-awareness is key and the motivation to improve oneself and enhance one's self-image are key driving forces. The external environment is viewed not as an independent entity but as having a reality in the form of the learner's subjective perception of it. Acquiring self-awareness can have negative consequences also and strategies to mitigate this may need to be employed.

The Information Processing theory viewed the human learning function in terms of the then newly developing role of computer processing systems, including memory storage and decision trees. Motivation and environmental issues were not given prominence and the self-awareness underlying self-regulation was largely seen as automatic rather than conscious.

The Social Cognitive theory, originated by Bandura, focuses on the interaction of three influences: personal, behavioural and environmental. Outcome expectations and self-efficacy expectations (the ability to implement actions necessary to attain desired performance levels) play key motivational roles. As well as extrinsic factors, the ability to self-observe and self-evaluate accurately are critical factors.

The Volitional theory, with its roots in religious notions of free-will, concentrates not so much on the learning aspect as the learner's intentions. Strategies deployed by learners are evaluated more on their effect of preserving the original intention to learn than on their learning impact. As might be expected from the centrality of cognitive factors, the effect of the external environment is minimised in this theoretical approach.

The Vygotskian theory was based on Vygotsky's focus on the influence of speech, be that an inner speech acting as a form of self-control, or a dialogue to create a mutual understanding (between learner and teacher) of a contextualised task. With the latter focus, the notion of co-regulation was key in the Vygotskian approach. Given his background in Marxism, Vygotsky saw the external environment exerting a key sociohistorical influence on development and learning.

The Cognitive Constructivist theory, based on the work of British psychologist, Bartlett and Swiss epistemologist, Piaget, had as a central idea the interaction of schemas and new information in

the learning process. Previously stored schemas, or models, were adapted and embellished by the arrival of new contextual information. This differentiated the notion of merely recalling previously stored information and, by this, the Cognitive Constructivist approach sees learners having an active personal role throughout the learning process. Cognitive strategies (declarative knowledge) and metacognitive strategies (procedural and conditional knowledge) are key components of the Cognitive Constructivist approach.

Appendix B HEA Principles of Student Engagement

1. Democracy: The institution will adhere to democratic principles, and will encourage these principles in staff, students, and in wider society.

2. Student as partner: The implications of perceiving students as partners, rather than as consumers are substantial and deep. The student as partner is an active member of an institution with which s/he shares a strong sense of allegiance and commitment.

3. Inclusivity and diversity: Institutions will actively seek to gain insights and contributions from all sectors of the academic community in their governance and decision-making processes. This will go beyond the formal legislative requirements, to provide myriad formal and informal engagement opportunities. As institutions become more socially and culturally diverse, student unions will work to ensure that the diverse nature of the student body is represented on the executive team.

4. Transparency: Institutions will be transparent in the life cycle of their decision-making processes, while student unions will be transparent in their internal lines of governance, and in the relationship between elected officers and permanent staff. They will ensure that suitable measures are in place to facilitate knowledge transfer from year to year.

5. Students as co-creators: Students will be expected to take responsibility for their own learning. Irish HEIs will embrace innovative teaching and learning techniques which value active involvement from the students.

6. Collegiality and parity of esteem: Irish HEIs and student unions will promote collegiality between staff and students across the institution. Central to collegiality is the development of an open and trustful relationship between individual staff and students within the institution.

7. Professionalism and support: Students and their representatives will contribute fully and act in a professional manner when they are involved in the structures and processes of the HEI. This professionalism is the joint responsibility of the institution and student union. The institution will recognise that staff and student members on committees may have different life experiences and areas of expertise but all are equally valued in the ongoing evolution of the institution. It will be the responsibility of the institution to provide the necessary supports to the student representatives as to enable them to fulfil their role.

8. Feedback and feedback loop: Institutions will welcome and encourage open and prompt feedback from students. Suitable measures will be put in place across the institution to ensure

that students are facilitated in providing feedback in a safe and valued manner. Feedback practices will be transparent and the feedback loop will be closed in a timely fashion.

9. Self-criticism and enhancement: Student unions and institutions will continue to be self-critical of their student engagement practices. They will use evidence-based techniques to assess and critique the effectiveness of their strategies for building a culture of engagement.

10. Consistency: Institutions and student unions will ensure that values and practices with regard to student engagement are applied consistently through particular institutions and across institutions, and may put procedures in place to allow departments to share good practice measures.

Appendix C Alternative Methodological Choices

Ontology, Epistemology and Axiology

The philosophical approach to a research project establishes the researcher's position concerning the nature of reality being investigated, the nature of knowledge and the role of values. In addition, the assumptions arising from a research philosophy create the basis of, and justification for, how the research will be carried out (Bryman, 2012).

There is a fundamental need for coherence between research methods and the underlying research paradigm. Sefotho (2015) defined paradigm as a philosophical lens and approach to conducting research shared by a community of researchers that is, in turn, influenced by the sense-making and prevailing world view of those researchers (2015, p. 25). This philosophical lens contains ontological, epistemological and axiological elements, which are discussed in turn below.

Ontology
Saunders and Lewis (2018, p. 106) and Crotty (2004, p. 10) define ontology in philosophical terms as the study of being. At its most basic, an ontological stance asks if an objective reality exists or, alternatively, if reality arises from individual cognition (Scotland, 2012). At one extreme, the positivist or objectivist philosophical view is that reality is objective and something that is discoverable through scientific inquiry, independently of the researcher. By contrast, an interpretivist or subjectivist view is that reality arises from the social actions and perceptions of people (Saunders, Lewis and Thornhill, 2019, pp. 134–137). The pragmatic approach straddles both of these opposing views and draws from each as required.

Epistemology
Epistemology is a branch of philosophy concerned with the nature of knowledge (Sefotho, 2015, p. 30). Researchers need to state their epistemological assumptions about how knowledge can be created, obtained and disseminated. Analogous to the ontological outlook on the relationship between the person and reality, epistemology defines the relationship between the knower and the known. The subjectivist view is that knowledge is created by how we interact with the external world. It is therefore context-specific and arises out of personal interactions. For the positivist or objectivist view to be consistent, on the other hand, the ontological assumption of a separation between objective reality and researcher must be followed by an epistemological assumption of a separation between the knower and the known. So, just as reality is independent, knowledge is also independent but can be acquired by scientific inquiry (Saunders and Lewis, 2018, p. 107).

Axiology

Axiology is concerned with the role that values and ethics play in research. At a minimum, a researcher needs to be conscious of his or her own beliefs and values and continuously monitor if, and to what extent, these values are influencing the research effort (Saunders, Lewis and Thornhill, 2019, p. 134). Researchers may have a positive attitude towards how their values influence their work or they may treat it as something to look out for and avoid. This stance, in turn, will inform the researcher's attitude towards the values of those who are being researched.

In this research, the ontological stance was not limited to positivist or interpretivist positions but was open to whatever approach would best help to answer the research questions. Similarly, observable or subjective meanings were considered acceptable forms of knowledge if they contributed to answering the research questions. Values had a role to play in interpreting results as data of a subjective or objective nature were examined. All of these choices pointed to pragmatism as the fundamental paradigm to govern the research (Wahyuni, 2012, p. 70).

Paradigms

Research is a particular way of knowing or understanding that differs from other ways, such as insight or acceptance of higher authority, in that it is a systematic inquiry designed to collect, analyse and interpret data. Research is carried out in an effort to "understand, describe, predict or control an educational or psychological phenomenon or to empower individuals in such contexts." (Mertens, 2015, p. 2).

Different schools of thought within philosophy offer frameworks through which people express their varying world views, examples being phenomenology, pragmatism, empiricism and rationalism. Paradigms develop from these schools of philosophy as they present established ways of viewing the world, sense-making and going about doing things. The researcher chooses a paradigm based on their ontological and epistemological views of the world (Tuli, 2010, p. 103) be that an objective, detached reality; a socially constructed, context-dependent entity, or a combination of both.

In educational research, choosing a paradigm is fundamental to the purpose, intent and objectives of the research. Unless a paradigm is established at the outset to guide all subsequent choices, there is no sound basis for proceeding to discriminate between competing options in research design, methodology and methods (Mackenzie and Knipe, 2006, pp. 194–196). Paradigms represent the basic set of beliefs or worldview that should guide a researcher and

inform all actions in the course of a research project (Guba and Lincoln, 1994). Accordingly, the paradigm that defines a researcher's philosophical stance "has implications for every decision made in the research process" (Mertens, 2015, p. 7). Paradigms, then, are the constructions defining the first principles from which a researcher is operating and which should, accordingly, be the foundation set of beliefs on which all decisions made by a researcher are based (Denzin and Lincoln, 2000). If this were not the case, the basic coherence of a research design would be compromised.

The concept of a paradigm dates back to classical Greece and its modern usage is attributed to Kuhn, who first introduced the idea almost 60 years ago, characterising it as a philosophical way of thinking (Kuhn, 1962). Although there are multiple interpretations of paradigmatic categories and, it is claimed, up to 11 foundational paradigms (Tang, 2011, p. 212), in practical terms there is a finite number of major paradigms in social science research – positivism, critical realism, interpretivism, postmodernism and pragmatism, which are summarised below.

Positivism
Positivism is closely associated with the research approach used in the natural and physical sciences. Social phenomena are studied in the same way as physical entities and naturally occurring phenomena. Observable and measurable facts are sought in research and the objective is to produce law-like generalisations.

Critical Realism
Critical realism also adopts a scientific approach, similar to positivism. However, it concentrates on what we observe and experience, seeking to understand the complexity of the underlying structures that shape and give form to observable phenomena.

Interpretivism
Interpretivism takes the critical realism approach a step further by concentrating on the study of social phenomena in their natural setting. The social aspect of human interaction in any given sphere is the focus of attention for interpretivists, examining the interpretation subjects make of the environment in which they are operating.

Postmodernism
The postmodernist focus is on the influence of language and power relations. It seeks to challenge accepted norms and ways of thinking and to give a voice to non-mainstream views and stances. Accepted values and codes may be created by a self-interested group designed to keep that group in an advantaged position and the postmodern approach seeks to challenge and test those accepted norms.

Pragmatism

The pragmatist's approach distances itself from adherence to any predisposed position such as positivism, with its focus on measurable phenomena, or interpretivism with its concentration on the social context. Rather, it looks at what the objectives of any given research project are and how best those objectives can be achieved. Based on this analysis, the most appropriate means of research are applied to the project at hand, which may vary from case to case.

Creswell's Types of Mixed Methods Design

The Convergent Design: In the convergent design, quantitative data and results yield general trends and relationships, while qualitative results provide in-depth personal perspectives of individuals. The combination or merging of both quantitative and qualitative results add up to not only more data, but also a more complete level of understanding than would not have been possible by using each method alone. As a result, the convergent design allows researchers to advance multiple perspectives or even validate one set of research data with the other.

The Explanatory Sequential Design: In the explanatory sequential design, a study begins with a quantitative component, followed by a qualitative component. Consequently, by using the explanatory sequential design, inferences can be drawn about how the qualitative results help to explain the quantitative results.

The Exploratory Sequential Design: In the exploratory sequential design, the qualitative element comes first, followed by the quantitative element and here the quantitative results help to explain the prior qualitative results.

Research Strategies

Experiment: a research strategy seeking to establish whether a hypothesised causal relationship exists between variables, by manipulating an independent variable in controlled conditions and testing the hypothesis by analysing the effect of such manipulations on a dependent variable.

Survey: a research strategy involving the collection of data from a typically large research population using either questionnaires or structured interviews.

Case study: an in-depth examination of a specific issue in its actual or real-life context, obtaining relevant data from a number of sources.

Archival research: a research strategy that relies on documentary records and evidence as its primary form of data.

Ethnography: a research strategy rooted in the study of primitive societies that involves understanding a phenomenon from the perspective of those on the inside or directly involved in the activity of interest.

Grounded theory: a research strategy that seeks to develop a theory from a series or cycle of primarily inductive strategies, building up incrementally to the final development of a theory.

Action research: a research strategy involving insider-research, akin to the case study approach, but with the researcher taking an active role as a participant in the activities under investigation.

Narrative inquiry: a research strategy that places value on the holistic aspect of participants' evidence, rather than focusing on specific answers to a questionnaire or to more structured interview questions. The linking together of incidents and experiences as part of the narrative forms an overall story or narrative that has important implications for the area of research.

Appendix D PTES Questionnaire

Section A: Teaching and Learning

1. **Overall, to what extent do you agree or disagree with the following statements regarding teaching and learning on your course?**

	Definitely agree	Mostly agree	Neither agree nor disagree	Mostly disagree	Definitely disagree	Not applicable
a. Staff are good at explaining things	O	O	O	O	O	O
b. Staff are enthusiastic about what they are teaching	O	O	O	O	O	O
c. The course is intellectually stimulating	O	O	O	O	O	O
d. The course has enhanced my academic ability	O	O	O	O	O	O
e. The learning materials provided on my course are useful	O	O	O	O	O	O
f. There is sufficient contact time (face to face and/or virtual/online) between staff and students to support effective learning	O	O	O	O	O	O
g. I am happy with the support for my learning I receive from staff on my course	O	O	O	O	O	O

2. **If you have any further comments on these issues then please provide them here. Please be as specific as possible:**

Section B: Engagement

3. **Overall, to what extent do you agree or disagree with the following statements regarding engagement on your course?**

	Definitely agree	Mostly agree	Neither agree nor disagree	Mostly disagree	Definitely disagree	Not applicable
a. I am encouraged to ask questions or make contributions in taught sessions (face to face and/or online)	O	O	O	O	O	O
b. The course has created sufficient opportunities to discuss my work with other students (face to face and/or online)	O	O	O	O	O	O
c. My course has challenged me to produce my best work	O	O	O	O	O	O
d. The workload on my course has been manageable	O	O	O	O	O	O
e. I have appropriate opportunities to give feedback on my experience	O	O	O	O	O	O

4. **If you have any further comments on these issues then please provide them here. Please be as specific as possible:**

Section C: Assessment and Feedback

5. **To what extent do you agree or disagree with the following statements regarding assessment and feedback on your course?** (Feedback includes oral and written feedback given in both formal and informal contexts)

	Definitely agree	Mostly agree	Neither agree nor disagree	Mostly disagree	Definitely disagree	Not applicable
a. The criteria used in marking have been made clear in advance	○	○	○	○	○	○
b. Assessment arrangements and marking have been fair	○	○	○	○	○	○
c. Feedback on my work has been prompt	○	○	○	○	○	○
d. Feedback on my work (written or oral) has been useful	○	○	○	○	○	○

6. **If you have any further comments on these issues then please provide them here. Please be as specific as possible:**

Section D: Dissertation or Major Project

If you are unsure what Dissertation or Major Project refers to, it could include a long-essay, independent research project, laboratory project, or other major supervised assessment task that forms an important part of your overall course.

7. **Are you currently planning, undertaking, or have completed, a dissertation or major project as part of your course?**
   - ○ Yes (Please answer the questions below)
   - ○ No (Please skip the questions below and click 'continue' at the bottom of the page)

8. **If 'yes', what stage of your dissertation or major project are you currently at?**
   - ○ Planning
   - ○ Currently doing
   - ○ Completed

9. **To what extent do you agree or disagree with the following statements regarding your dissertation / major project?** (If you have not had experience of an item then please select 'Not applicable or Too soon to say')

	Definitely agree	Mostly agree	Neither agree nor disagree	Mostly disagree	Definitely disagree	Not applicable or Too soon to say
a. I understand the required standards for the dissertation / major project	○	○	○	○	○	○
b. I am happy with the support I received for planning my dissertation / major project (topic selection, project outline, literature search, etc)	○	○	○	○	○	○
c. My supervisor has the skills and subject knowledge to adequately support my dissertation / major project	○	○	○	○	○	○
d. My supervisor provides helpful feedback on my progress	○	○	○	○	○	○

10. **If you have any further comments on these issues then please provide them here. Please be as specific as possible:**

Section E: Organisation and Management

11. **To what extent do you agree or disagree with the following statements regarding the organisation and management of your course?**

	Definitely agree	Mostly agree	Neither agree nor disagree	Mostly disagree	Definitely disagree	Not applicable
a. The timetable fits well with my other commitments	O	O	O	O	O	O
b. Any changes in the course or teaching have been communicated effectively	O	O	O	O	O	O
c. The course is well organised and is running smoothly	O	O	O	O	O	O
d. I was given appropriate guidance and support when I started my course	O	O	O	O	O	O
e. I am encouraged to be involved in decisions about how my course is run	O	O	O	O	O	O

12. **If you have any further comments on these issues then please provide them here. Please be as specific as possible:**

Section F: Resources and Services

13. **To what extent do you agree or disagree with the following statements regarding the learning resources and support services at your institution?**

	Definitely agree	Mostly agree	Neither agree nor disagree	Mostly disagree	Definitely disagree	Not applicable
a. The library resources and services are good enough for my needs (including physical and online)	O	O	O	O	O	O
b. I have been able to access general IT resources (including physical and online) when I needed to	O	O	O	O	O	O
c. I have been able to access subject specific resources (e.g. equipment, facilities, software) necessary for my studies	O	O	O	O	O	O
d. I am aware of how to access the support services at my institution (e.g. health, finance, careers, accommodation)	O	O	O	O	O	O

14. **If you have any further comments on these issues then please provide them here. Please be as specific as possible:**

Section G: Skills Development

15. To what extent do you agree or disagree with the following statements regarding the development of skills on your course?

	Definitely agree	Mostly agree	Neither agree nor disagree	Mostly disagree	Definitely disagree	Not applicable
a. As a result of the course I am more confident about independent learning	○	○	○	○	○	○
b. My confidence to be innovative or creative has developed during my course	○	○	○	○	○	○
c. My research skills have developed during my course	○	○	○	○	○	○
d. My ability to communicate information effectively to diverse audiences has developed during my course	○	○	○	○	○	○
e. I have been encouraged to think about what skills I need to develop for my career	○	○	○	○	○	○
f. As a result of the course I feel better prepared for my future career	○	○	○	○	○	○

16. If you have any further comments on these issues then please provide them here. Please be as specific as possible:

Section H: Overview

17. To what extent do you agree or disagree with the following statement about your overall experience of your course?

	Definitely agree	Mostly agree	Neither agree nor disagree	Mostly disagree	Definitely disagree	Not applicable
Overall, I am satisfied with the quality of the course	○	○	○	○	○	○

18. Please comment on one thing that has been most enjoyable or interesting on your course:
....

19. Please comment on one thing that would most improve your experience of your course:
....

Motivations

20. My main motivations for taking this postgraduate course were: *(please select all that apply)*

☐ To enable me to progress to a higher level qualification (e.g. PhD)
☐ To progress in my current career path (i.e. a professional qualification)
☐ To change my current career
☐ To improve my employment prospects
☐ As a requirement to enter a particular profession
☐ To meet the requirements of my current job
☐ For personal interest
☐ Other *(Please specify)*..

21. I am studying for this qualification at this particular institution because of:
   (*please select all that apply*)

☐ Overall reputation of institution
☐ Reputation in chosen subject area / department
☐ Reputation of the course tutors
☐ It was recommended to me
☐ Graduates from this institution have good career and employment prospects
☐ I have studied at this institution before
☐ Location of institution
☐ The content of the course
☐ The way the course is structured or assessed
☐ My employer advised or encouraged me to do it
☐ Delivery of the course is flexible enough to fit around my life
☐ Funding was available to study this particular course
☐ The cost of the course compared to other institutions
☐ It is the only institution offering this course
☐ Other (*Please specify*)……………………………………………………………..

22. Would you agree or disagree that the information provided by your institution (including course specific information) to help you choose your course was…

	Definitely agree	Mostly agree	Neither agree nor disagree	Mostly disagree	Definitely disagree	Not applicable
a. easy to find	○	○	○	○	○	○
b. useful	○	○	○	○	○	○
c. sufficient	○	○	○	○	○	○
d. accurate	○	○	○	○	○	○

23. If you have any further comments on the information provided by your institution, please provide them here. Please be as specific as possible:

About yourself

To help us understand whether provision at this institution and across the sector is meeting the needs of all postgraduates, we would now like to ask some questions about you and your course. As with the rest of the survey, all reporting will be anonymous and your responses will be treated confidentially.

24. What is your age?
   ○ 25 years old or younger
   ○ 26-30 years old
   ○ 31-35 years old
   ○ 36-40 years old
   ○ 41-45 years old
   ○ 46-50 years old
   ○ 51-55 years old
   ○ 56 years old or older
   ○ Prefer not to say

25. What is your gender?
   ○ Male
   ○ Female
   ○ Prefer not to say
   ○ Other (Please specify)…………………………………………………………..

26. Do you consider yourself to have a disability? (for example dyslexia, long-term illness, mental health condition, physical impairment)

○ Yes
○ No
○ Prefer not to say

If yes, please choose one or more from the following options:

☐ Social/communication impairment such as Asperger's syndrome/other autistic spectrum disorder
☐ Blind/serious visual impairment uncorrected by glasses
☐ Deaf/serious hearing impairment
☐ Long standing illness or health condition such as cancer, HIV, diabetes, chronic heart disease, or epilepsy
☐ Mental health condition, such as depression, schizophrenia or anxiety disorder
☐ Specific learning difficulty such as dyslexia, dyspraxia, or AD(H)D
☐ Physical impairment or mobility issues, such as difficulty using your arms or using a wheelchair or crutches
☐ A disability, impairment or medical condition that is not listed above
☐ Prefer not to say

27. When you started your course, did you consider yourself to be fluent in English?

○ Yes (please skip the question below)
○ No (please answer the question below)
○ Prefer not to say (please skip the question below)

If 'No', to what extent do you agree or disagree that you have received appropriate support for your English language needs

○ Definitely agree
○ Mostly agree
○ Neither agree nor disagree
○ Mostly disagree
○ Definitely disagree
○ Not applicable

28. For fees purposes, is your normal place of residence registered as:

○ UK (including Isle of Man and Channel Islands)
○ Other EU
○ Non EU

29. Where is your normal place of residence?

[List of countries]

30. What is your ethnic group? (Please choose one option that best describes your ethnic group or background):

○ White / White British...................................... English / Welsh / Scottish / Northern Irish / British
○ White / White British...................................... Irish
○ White / White British...................................... Gypsy or Irish Traveller
○ White / White British...................................... Any other White background
○ Mixed / Multiple ethnic groups...................... White and Black Caribbean
○ Mixed / Multiple ethnic groups...................... White and Black African
○ Mixed / Multiple ethnic groups...................... White and Asian
○ Mixed / Multiple ethnic groups...................... Any other Mixed / Multiple ethnic background
○ Asian / Asian British...................................... Indian
○ Asian / Asian British...................................... Pakistani
○ Asian / Asian British...................................... Bangladeshi
○ Asian / Asian British...................................... Chinese
○ Asian / Asian British...................................... Any other Asian background
○ Black / African / Caribbean / Black British... African
○ Black / African / Caribbean / Black British... Caribbean
○ Black / African / Caribbean / Black British... Any other Black / African / Caribbean background
○ Other ethnic group... Arab
○ Other ethnic group... Any other ethnic group
○ Prefer not to say

About your course

For these questions, please respond in relation to the taught postgraduate course you are currently studying.

31. I am registered for the qualification of:

- ○ MA
- ○ MBA
- ○ MSc
- ○ Other Taught Masters (e.g. LLM, MPhil, MRes)
- ○ Postgraduate Certificate (including PGCE)
- ○ Postgraduate Diploma
- ○ Other *(Please specify)*……………………………………………………………………..

32. Please indicate which of the following most closely matches your discipline.
Please note that **a)** if you are undertaking teacher training, you should select 'Teacher Training' rather than the discipline you aim to teach; **b)** if you are studying management or business in relation to a particular discipline then you should select that discipline (e.g. nursing, tourism, computer science):

==========================

- ○ Teacher Training (please indicate this if you are undertaking Teacher Training, not the discipline that you teach)
- ○ Education studies (including Research Skills in Education, and Academic Studies in Education)
- ○ Social Work (including Child Care and Community Work)

==========================

- ○ Medicine and Dentistry
- ○ Medical Science and Pharmacy (including Anatomy, Neuroscience, Pharmacology, Physiology and Pathology)
- ○ Nursing (including Midwifery)
- ○ Other subjects allied to Medicine (for example: Aural and Oral sciences, Nutrition, Public Health, Medical Technology)

==========================

- ○ Biology and related Sciences (including Biochemistry, Ecology, Genetics, and Microbiology)
- ○ Sports Science (including Sport Coaching, Sport Development, Sport Studies)
- ○ Psychology
- ○ Veterinary Sciences (for example: Pre-Clinical and Clinical Veterinary Medicine)
- ○ Agriculture and related subjects (for example: Food & Beverage Studies, Animal Science, Environmental Conservation)

==========================

- ○ Physical Science (for example: Physics, Chemistry, Forensic and Archaeological Science, Geology)
- ○ Physical Geography and Environmental Science
- ○ Mathematical Sciences (including Statistics and Operations Research)
- ○ Computer Science
- ○ Mechanically-based Engineering (including Aerospace Engineering, Production & Manufacturing Engineering)
- ○ Electronic and Electrical Engineering
- ○ Civil and Chemical Engineering (and other Engineering not covered above)
- ○ Technology (for example: Biotechnology, Maritime Technology, and Materials Technology)

==========================

- ○ Architecture, Building and Planning
- ○ Human and Social Geography
- ○ Sociology, Social Policy and Anthropology
- ○ Politics (including International Studies)
- ○ Law
- ○ Economics

==========================

- ○ Business (including Marketing)
- ○ Management (including Human Resource Management)
- ○ Finance and Accounting
- ○ Tourism, Transport, Travel (and others in Business and Administrative studies not covered above)

==========================

- ○ Media studies (including Media Production)
- ○ Communications and Information studies (including Publishing and Journalism)
- ○ English-based studies (for example: English Language, English Literature, Scots Literature)
- ○ European Languages and Area studies
- ○ Other Languages and Area studies
- ○ History and Archaeology
- ○ Philosophy, Theology and Religious studies
  =========================
- ○ Art and Design
- ○ Performing Arts (including Music, Dance, and Drama)
- ○ Other Creative Arts (for example: Cinematics, Photography, Crafts)
  =========================
- ○ Combined

33. *** **Which Department do you belong to?** *** *This is a question for each institution to map their departmental structure.*

34. **What are you currently registered as?**

- ○ Full-time
- ○ Part-time
- ○ Currently not registered (e.g. finished the course) was full-time
- ○ Currently not registered (e.g. finished the course) was part-time

35. **I am:**

- ○ Primarily a face to face learner [e.g., based at my institution]
- ○ Primarily a distance learner [e.g. work based learner, OU student]

About your education and career

36. **When you started your current course, what was your highest level qualification:**

- ○ Qualifications below undergraduate degree
- ○ Undergraduate degree or equivalent
- ○ Postgraduate degree (e.g. MA)
- ○ No academic qualifications but professional experience
- ○ Other *(Please specify)*…………………………………………………………..

37. **Prior to your current PGT course, how long has it been since you completed an academic course (at any level)?**

- ○ Not applicable (please go to question 38)
- ○ Less than one year
- ○ Between one and three years
- ○ Between four and nine years
- ○ Ten years or over

If you have previously completed an academic course, was the academic institution at which you studied

- ○ The institution at which you are now studying
- ○ Another UK institution
- ○ An institution in the EU, outside the UK
- ○ An institution outside the EU
- ○ Not applicable

38. **Are you currently in paid employment?**

- ○ Yes
- ○ No

If yes, how many hours of paid employment do you undertake in a typical week?

- ○ 1-10 hours
- ○ 11-20 hours
- ○ 21-30 hours
- ○ More than 30 hours

39. Please indicate all the ways that you have funded your course fees and living costs while studying
(please leave blank if you have not used a type of funding)

	Funded course fees	Funded living costs while studying
Personal income (e.g. from employment)	☐	☐
Bank loan (e.g. personal loan, mortgage, Professional and Career Development Loan)	☐	☐
Other unsecured debt (e.g. credit card, payday lender)	☐	☐
Savings	☐	☐
Family or friends	☐	☐
Funding from Charity	☐	☐
Funding from Research council	☐	☐
Funding from Institution (e.g. bursary, scholarship, waiver)	☐	☐
Funding from Employer	☐	☐
Funding from UK Government	☐	☐
Funding from Other EU Government	☐	☐
Funding from Non-EU Government	☐	☐

Appendix E Pilot Survey Questionnaire

We would like to collect some demographic information, starting with your age group. Please click the relevant button.

18-24
25-34
35-44
45-54
55-64
65 or over

Please enter details of your gender, or click Prefer not to say, as appropriate.
Male
Female
Non-binary / third gender
Prefer not to say

Please indicate the course you undertook.
MSc Management of Operations
MSc Information Systems Strategy
MSc Internet Enterprise Systems
MSc Sustainable Development
MSc Clean Technology
Graduate Certificate

Were your studies funded (in whole or in part) under the Springboard programme?
Yes
No

Quality of Teaching and Learning

1. To what extent do you agree or disagree with the following statements regarding teaching and learning on your course?

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Not Applicable
Staff are good at explaining things						
Staff are enthusiastic about what they are teaching						
The course is intellectually stimulating						
The course has enhanced my academic ability						
The learning materials provided on my course are useful						
There is sufficient contact time (face to face and/or virtual or online) between staff and students to support effective learning						
I am happy with the support for my learning I receive from the staff on my course						

If you have any other comments on these issues, please provide them here. Please be as specific as possible:

| |

Self-Regulated Learning

2. To what extent do you agree or disagree with the following statements regarding self-regulated learning on your course?

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Not Applicable
It was made clear that I would have a major role in regulating my own learning activities within the course						
The importance of practicing good time management was emphasised from the outset of the course						
The overall presentation of the course recognised that I would be regulating my own learning						
I was given sufficient opportunity to reflect on my learning throughout the course						
I understood that my motivation to succeed would be an important factor in my progress						
Authentic examples were used throughout the course						
I can see how the knowledge gained in the course can be applied in the real world						
The course material was presented in a way that allowed me to test my progress as I worked through it						
Tutors are consistent in their approach to teaching						
Tutors are consistent in their approach to assignment marking						
Tutors are consistent in their approach to feedback						
Not enough opportunity for self-testing was built into the course material						

If you have any other comments on these issues, please provide them here. Please be as specific as possible:

| |

Engagement

3. To what extent do you agree or disagree with the following statements regarding engagement on your course?

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Not Applicable
I am encouraged to ask questions or make contributions in taught sessions (face to face and/or online)						
The course has created sufficient opportunities to discuss my work with other students (face to face and/or online)						
My course has challenged me to produce my best work						
The workload on my course has been manageable						
I have appropriate opportunities to give feedback on my experience						

If you have any other comments on these issues, please provide them here. Please be as specific as possible:

Assessment and Feedback

4. To what extent do you agree or disagree with the following statements regarding assessment feedback on your course? (Feedback includes both oral and written feedback given in both formal and informal contexts).

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Not Applicable
The criteria used in assessment have been clear in advance						
Marking and assessment has been fair						
Feedback on my work has been prompt						
Feedback on my work (written or oral) has been useful						

If you have any other comments on these issues, please provide them here. Please be as specific as possible:

Dissertation

5. Are you currently planning, undertaking or have completed a dissertation as part of your course?
- ☐ Yes
- ☐ No

6. What stage of your dissertation are you currently at?
- ☐ Planning

☐ Currently doing
☐ Completed

7. To what extent do you agree or disagree with the following statements regarding your dissertation? (If you have not had experience of an item then please select "Not Applicable / Too soon to say).

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Not Applicable / Too soon to say
I understand the required standards for the dissertation						
I am happy with the support I received for planning my dissertation (topic selection; project outline; literature search etc.)						
My supervisor has the skills and subject knowledge to adequately support my dissertation						
My supervisor provides helpful feedback on my progress						

If you have any other comments on these issues, please provide them here. Please be as specific as possible:

Organisation and Engagement

8. To what extent do you agree or disagree with the following statements regarding organisation and engagement on your course?

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Not Applicable
The timetable fits well with my other commitments						
Any changes in the course or teaching have been communicated effectively						
The course is well organised and is running smoothly						
I was given appropriate guidance and support when I started the course						
I am encouraged to be involved in decisions about how my course is run						

If you have any other comments on these issues, please provide them here. Please be as specific as possible:

Resources and Services

9. To what extent do you agree or disagree with the following statements regarding the learning resources and support services on your course?

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Not Applicable
The library resources and services are good enough for my needs (physical and online)						
I have been able to access general IT resources (including physical and online) when I needed them						
I have been able to access subject-specific resources (e.g. equipment, facilities, software) necessary for my studies						
I am aware of how to access the support services in the HEI (e.g. health, finance, careers, accommodation)						

If you have any other comments on these issues, please provide them here. Please be as specific as possible:

Skills development

10. To what extent do you agree or disagree with the following statements regarding the development of skills on your course?

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Not Applicable
As a result of the course I am more confident about independent learning						
My confidence to be independent or creative has developed during my course						
My research skills have developed during my course						
My ability to communicate information effectively to diverse audiences has developed during my course						
I have been encouraged to think about what skills I need to develop for my career						
As a result of the course I feel better prepared for my future career						

If you have any other comments on these issues, please provide them here. Please be as specific as possible:

Overview

11. To what extent do you agree or disagree with the following statements about your overall experience on your course?

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Not Applicable
Overall I am satisfied with the quality of the course						

12. Please comment on one thing that has been most enjoyable or interesting on your course:

13. Please comment on one thing that would most improve your experience of your course:

Motivation

14. My main motivations for undertaking this postgraduate programme were:
- ☐ To enable me to progress to a higher level qualification (e.g. PhD)
- ☐ To help me progress in my current career path (e.g. professional qualification)
- ☐ To change my current career
- ☐ To improve my employment prospects
- ☐ As a requirement to enter a particular profession
- ☐ To meet the requirements of my current job
- ☐ For personal interest
- ☐ Other – please specify:

15. I am studying for this qualification at the HEI because of:
- ☐ Overall reputation of the HEI
- ☐ Reputation in chosen subject area
- ☐ Reputation of the course tutors
- ☐ It was recommended to me
- ☐ Graduates from the HEI have good employment and career prospects
- ☐ I have studied at the HEI before
- ☐ Location of the HEI
- ☐ The content of the course
- ☐ The way the course is structured or assessed
- ☐ My employer advised or encouraged me to do it
- ☐ Delivery of the course is flexible enough to fit around my life
- ☐ Funding was available to study this particular course
- ☐ The cost of the course compared to other educational institutions
- ☐ It is the only educational institution offering this course
- ☐ Other – please specify:

Please set out details of any difficulties or issues you had in completing this survey.

_____

If you feel that any additional questions should be included in the survey, please set out details below.

_____

Appendix F Final Survey Questionnaire

We would like to collect some demographic information, starting with your age group. Please click the relevant button.

18-24
25-34
35-44
45-54
55-64
65 or over

Please enter details of your gender, or click Prefer not to say, as appropriate.
Male
Female
Non-binary / third gender
Prefer not to say

Please indicate the course you undertook.
MSc Management of Operations
MSc Information Systems Strategy
MSc Internet Enterprise Systems
MSc Sustainable Development
MSc Clean Technology
Graduate Certificate

Were your studies funded (in whole or in part) under the Springboard programme?
Yes
No

Quality of Teaching and Learning

1. To what extent do you agree or disagree with the following statements regarding teaching and learning on your course?

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Not Applicable
Staff are good at explaining things						
Staff are enthusiastic about what they are teaching						
The course is intellectually stimulating						
The course has enhanced my academic ability						
The learning materials provided on my course are useful						
There is sufficient contact time (face to face and/or virtual or online) between staff and students to support effective learning						
I am happy with the support for my learning I receive from the staff on my course						

If you have any other comments on these issues, please provide them here. Please be as specific as possible:

| | |

Self-Regulated Learning

2. To what extent do you agree or disagree with the following statements regarding self-regulated learning on your course?

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Not Applicable
It was made clear that I would have a major role in regulating my own learning activities within the course						
The importance of practicing good time management was emphasised from the outset of the course						
The overall presentation of the course recognised that I would be regulating my own learning						
I was given sufficient opportunity to reflect on my learning throughout the course						
I understood that my motivation to succeed would be an important factor in my progress						
Authentic examples were used throughout the course						
I can see how the knowledge gained in the course can be applied in the real world						
Sufficient opportunity for self-assessment of learning was built into the course material						
Tutors are consistent in their approach to teaching						
Tutors are consistent in their approach to assignment marking						
Tutors are consistent in their approach to feedback						

If you have any other comments on these issues, please provide them here. Please be as specific as possible:

| | |

Engagement

3. To what extent do you agree or disagree with the following statements regarding engagement on your course?

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Not Applicable
I am encouraged to ask questions or make contributions in taught sessions (face to face and/or online)						
The course has created sufficient opportunities to discuss my work with other students (face to face and/or online)						
My course has challenged me to produce my best work						
The workload on my course has been manageable						
I have appropriate opportunities to give feedback on my experience						

If you have any other comments on these issues, please provide them here. Please be as specific as possible:

Assessment and Feedback

4. To what extent do you agree or disagree with the following statements regarding assessment feedback on your course? (Feedback includes both oral and written feedback given in both formal and informal contexts).

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Not Applicable
The criteria used in assessment have been clear in advance						
Marking and assessment has been fair						
Feedback on my work has been prompt						
Feedback on my work (written or oral) has been useful						

If you have any other comments on these issues, please provide them here. Please be as specific as possible:

Dissertation

5. Are you currently planning, undertaking or have completed a dissertation as part of your course?
   - ☐ Yes
   - ☐ No

6. What stage of your dissertation are you currently at?
   - ☐ Planning
   - ☐ Currently doing
   - ☐ Completed

7. To what extent do you agree or disagree with the following statements regarding your dissertation? (If you have not had experience of an item then please select "Not Applicable / Too soon to say).

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Not Applicable / Too soon to say
I understand the required standards for the dissertation						
I am happy with the support I received for planning my dissertation (topic selection; project outline; literature search etc.)						
My supervisor has the skills and subject knowledge to adequately support my dissertation						
My supervisor provides helpful feedback on my progress						

If you have any other comments on these issues, please provide them here. Please be as specific as possible:

Organisation and Engagement

8. To what extent do you agree or disagree with the following statements regarding organisation and engagement on your course?

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Not Applicable
The timetable fits well with my other commitments						
Any changes in the course or teaching have been communicated effectively						
The course is well organised and is running smoothly						
I was given appropriate guidance and support when I started the course						
I am encouraged to be involved in decisions about how my course is run						

If you have any other comments on these issues, please provide them here. Please be as specific as possible:

Resources and Services

9. To what extent do you agree or disagree with the following statements regarding the learning resources and support services on your course?

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Not Applicable
The library resources and services are good enough for my needs (physical and online)						
I have been able to access general IT resources (including physical and online) when I needed them						
I have been able to access subject-specific resources (e.g. equipment, facilities, software) necessary for my studies						
I am aware of how to access the support services in the HEI (e.g. health, finance, careers, accommodation)						

If you have any other comments on these issues, please provide them here. Please be as specific as possible:

Skills development

10. To what extent do you agree or disagree with the following statements regarding the development of skills on your course?

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Not Applicable
As a result of the course I am more confident about independent learning						
My confidence to be independent or creative has developed during my course						
My research skills have developed during my course						
My ability to communicate information effectively to diverse audiences has developed during my course						
I have been encouraged to think about what skills I need to develop for my career						
As a result of the course I feel better prepared for my future career						

If you have any other comments on these issues, please provide them here. Please be as specific as possible:

Overview

11. To what extent do you agree or disagree with the following statements about your overall experience on your course?

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Not Applicable
Overall I am satisfied with the quality of the course						

12. Please comment on one thing that has been most enjoyable or interesting on your course:

13. Please comment on one thing that would most improve your experience of your course:

Motivation

14. My main motivations for undertaking this postgraduate programme were:
- ☐ To enable me to progress to a higher level qualification (e.g. PhD)
- ☐ To help me progress in my current career path (e.g. professional qualification)
- ☐ To change my current career
- ☐ To improve my employment prospects
- ☐ As a requirement to enter a particular profession
- ☐ To meet the requirements of my current job
- ☐ For personal interest
- ☐ Other – please specify:

15. I am studying for this qualification at the HEI because of:
- ☐ Overall reputation of the HEI
- ☐ Reputation in chosen subject area
- ☐ Reputation of the course tutors
- ☐ It was recommended to me
- ☐ Graduates from the HEI have good employment and career prospects
- ☐ I have studied at the HEI before
- ☐ Location of the HEI
- ☐ The content of the course
- ☐ The way the course is structured or assessed
- ☐ My employer advised or encouraged me to do it
- ☐ Delivery of the course is flexible enough to fit around my life
- ☐ Funding was available to study this particular course
- ☐ The cost of the course compared to other educational institutions
- ☐ It is the only educational institution offering this course
- ☐ Other – please specify:

<u>Self-Regulated Learning</u>

Pilot Survey

Case Processing Summary

		N	%
Cases	Valid	39	70.9
	Excluded[a]	16	29.1
	Total	55	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.889	8

The Alpha score of .889 exceeds the recommended threshold of .7 for reliability of a scale value.

In the analysis of the individual items in the scale, no significant change in the Alpha value would have resulted from removing any single question. For two questions, removal would result in a marginal increase in the Alpha value, to .899 and .908 respectively. For the remaining six questions, removal would result in a slight decrease in the Alpha value, in the lowest case to .851. Accordingly, the questions in the survey under the heading Self-Regulated Learning provided a reasonable basis for calculating a single scale score.

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted

It was made clear that I would have a major role in regulating my own learning activities within the course	28.74	25.090	.757	.865
The importance of practicing good time management was emphasised from the outset of the course	28.74	25.090	.801	.860
The overall presentation of the course recognised that I would be regulating my own learning	28.72	24.524	.876	.851
I was given sufficient opportunity to reflect on my learning throughout the course	28.64	25.289	.784	.862
I understood that my motivation to succeed would be an important factor in my progress	28.49	25.362	.827	.857
Authentic examples were used throughout the course	28.69	28.377	.605	.880
I can see how the knowledge gained in the course can be applied in the real world	28.33	32.754	.329	.899
The course material was presented in a way that allowed me to test my progress as I worked through it	28.85	30.555	.303	.908

Self-Regulated Learning

Final Survey

Case Processing Summary

	N	%

Cases	Valid	38	100.0
	Excluded[a]	0	.0
	Total	38	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.783	8

The Alpha score of .783 exceeds the recommended threshold of .7 for reliability of a scale value.

In the analysis of the individual items in the scale, no significant change in the Alpha value would have resulted from removing any single question. For two questions, removal would result in a marginal increase in the Alpha value, to .787 and .791 respectively. For the remaining six questions, removal would result in a slight decrease in the Alpha value, in the lowest case to .724. Accordingly, the questions in the survey under the heading Self-Regulated Learning provided a reasonable basis for calculating a single scale score.

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
It was made clear that I would have a major role in regulating my own learning activities within the course	29.74	13.821	.538	.752
The importance of practicing good time management was emphasised from the outset of the course	29.74	13.280	.652	.735

The overall presentation of the course recognised that I would be regulating my own learning	29.87	13.307	.552	.748
I was given sufficient opportunity to reflect on my learning throughout the course	30.16	12.623	.697	.724
I understood that my motivation to succeed would be an important factor in my progress	29.61	15.056	.361	.777
Authentic examples were used throughout the course	30.18	13.776	.334	.791
Sufficient opportunity for self-assessment of learning was built into the course material	30.13	13.793	.521	.754
I can see how the knowledge gained in the course can be applied in the real world	30.05	13.294	.371	.787

Quality of Teaching & Learning

Pilot Survey: The Alpha score of .821 exceeds the recommended threshold of .7 for reliability of a scale value. Accordingly, the reliability of the Quality of Teaching and Learning scale is indicated.

In the analysis of the individual items in the scale, no significant change in the Alpha value would result from removing any single question. For one question, removal would result in the Alpha value increasing to .843. For the remaining six questions, removal would result in a slight decrease in the Alpha value, in the lowest case to .767.

Final Survey: The Alpha score of .790 exceeds the recommended threshold of .7 for reliability of a scale value. Accordingly, the reliability of the Quality of Teaching and Learning scale is indicated.

In the analysis of the individual items in the scale, no significant change in the Alpha value would result from removing any single question. For one question, removal would result in the Alpha

value increasing to .835. For the remaining six questions, removal would result in a slight decrease in the Alpha value, in the lowest case to .709.

Engagement

Pilot Survey: The Alpha score of .758 exceeds the recommended threshold of .7 for reliability of a scale value. In the 2014 redesign of PTES, the Engagement scale was considered to not clearly form a single factor and it had the lowest Alpha score of all the scales, though it was still above .7. Accordingly, it was suggested that the questions under the Engagement heading may be more usefully examined individually and not in the form of a single scale score.

In the analysis of the individual items in the scale, a slight decrease in the Alpha value would result from removing any single question, in a range of .688 to .741.

Final Survey: The Alpha score of .503 in the final survey was less than the recommended threshold of .7 for reliability of a scale value. In the 2014 redesign of PTES, the Engagement scale was considered to not clearly form a single factor and it had the lowest Alpha score of all the scales, though it was still above .7. Accordingly, it was suggested that the questions under the Engagement heading may be more usefully examined by drilling down into the individual items, complemented by the scale score as a useful general indicator. In the quantitative testing of the Engagement scale in PTES in 2014, it was found that the questions on workload management and course challenge loaded more strongly onto other factors, so, as a cross check, a factor analysis was carried out on the final survey data. Similar to the PTES test, this found that the same two questions loaded more strongly onto another factor compared with the remaining questions.

Dissertation

Pilot Survey: The Alpha score of .961 well exceeds the recommended threshold of .7 for reliability of a scale value. Accordingly, the reliability of the Dissertation scale is indicated.

In the analysis of the individual items in the scale, removal of one of the four questions would result in a marginal increase in the Alpha value, to .963, while removal of any of the other questions would result in a slight decrease in the Alpha value, in the worst case to .930.

Final Survey: The Alpha score of .905 well exceeds the recommended threshold of .7 for reliability of a scale value. Accordingly, the reliability of the Dissertation scale is indicated.

In the analysis of the individual items in the scale, removal of one of the four questions would result in a marginal increase in the Alpha value, to .923, while removal of any of the other questions would result in a slight decrease in the Alpha value, in the worst case to .831.

Organisation and Management

Pilot Survey: The Alpha score of .762 exceeds the recommended threshold of .7 for reliability of a scale value. Accordingly, the reliability of the Organisation and Management scale is indicated.

In the analysis of the individual items in the scale, removal of any of the five questions would result in the Alpha value decreasing slightly, in the worst case to .696.

Final Survey: The Alpha score of .806 exceeds the recommended threshold of .7 for reliability of a scale value. Accordingly, the reliability of the Organisation and Management scale is indicated.

In the analysis of the individual items in the scale, removal of one of the questions would result in the Alpha value increasing slightly to .852. Removal of any of the remaining four questions would result in the Alpha value decreasing slightly, in the worst case to .702.

Resources and Services

Pilot Survey: The Alpha score of .776 exceeds the recommended threshold of .7 for reliability of a scale value. Accordingly, the reliability of the Resources and Services scale is indicated.

In the analysis of the individual items in the scale, removal of three of the four questions would result in the Alpha value decreasing slightly, in the worst case to .690. For the other question, its removal would leave the Alpha value unchanged at .776.

Final Survey: The Alpha score of .804 exceeds the recommended threshold of .7 for reliability of a scale value. Accordingly, the reliability of the Resources and Services scale is indicated.

In the analysis of the individual items in the scale, removal of three of the four questions would result in the Alpha value decreasing slightly, in the worst case to .678. For the other question, its removal would leave the Alpha value increasing slightly to .850.

Skills Development

Pilot Survey: The Alpha score of .859 exceeds the recommended threshold of .7 for reliability of a scale value. Accordingly, the reliability of the Skills Development scale is indicated.

In the analysis of the individual items in the scale, removal of any of the six questions would result in the Alpha value decreasing slightly, in the worst case to .840.

Final Survey: The Alpha score of .923 exceeds the recommended threshold of .7 for reliability of a scale value. Accordingly, the reliability of the Skills Development scale is indicated.

In the analysis of the individual items in the scale, removal of one of the questions would result in a marginal increase in the Alpha value, to .930. Removal of any of the remaining five questions would result in the Alpha value decreasing slightly, in the worst case to .897.

Tutor Interview Schedule

Do you think the course online material is suited to online learners? Why, or why not?

How do you approach instructional design? Is it left to the student to work their way through the material? Do you think it is an important issue?

From your perspective, does the SRL nature of the students influence your approach to tutoring?

Do you think students have enough scope for self-assessing, outside of formal assignment? Do you see this as an issue?

How do you approach tutorials and what do you see as their function?

Outside of tutorials, what level of interaction do you have with students?

On the forums, do you take a proactive approach to generating discussions? Why, or why not?

What is your approach to providing feedback on assignments? Substantive and presentational issues. Use of the rubric.

Do you interact much with fellow tutors (a) on modules where you share the marking of an assignment (b) outside of that, and (c) do you think there should be more collaboration among tutors?

Do you have a sense of working to a set of common standards with regards to course material, assignments, marking, feedback etc or is this more of an individual decision?

Do you think that students have a consistent, even experience throughout their course? Why, or why not? Do you think that this is an important aspect?

If applicable, what do you do differently for online learners than for face-to-face learners, or what do you think is different about online learning?

What changes would you make to course design and delivery?

Anything else you would like to raise that you think is germane to the general theme of our discussion?

Appendix I DCU Research Ethics Approval

Oilscoil Chathair Bhaile Átha Cliath
Dublin City University

DCU

Mr. John Byrne
DCU Institute of Education

Dr. Zita Lysaght
School of Policy and Practice

Dr. Darina Scully
School of Human Development

17th December 2020

REC Reference: DCUREC/2020/231

Proposal Title: Meeting the needs of postgraduate self-regulated learners:
a case study of online programmes in ▬▬▬▬▬

Applicant(s):   Mr. John Byrne, Dr. Zita Lysaght, and Dr. Darina Scully

Dear Colleagues,

This research proposal qualifies under our Notification Procedure, as a low risk social
research project.   Therefore, the DCU Research Ethics Committee approves this
project.

Materials used to recruit participants should state 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,

Geraldine Scanlon

Dr Geraldine Scanlon
Chairperson
DCU Research Ethics Committee

DCU
Research & Innovation

Appendix J SPSS Tests for Demographic Differences on Overall Course Evaluation

Gender

Nonparametric Tests

Notes		
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Hypothesis Test Summary

	Null Hypothesis	Test	Sig.^{a,b}
1	The distribution of Overview: To what extent do you agree or disagree with the following statements about your overall experience on your course? - Overall I am satisfied with the quality of the course is the same across categories of Please enter details of your gender, or click Prefer not to say, as appropriate..	Independent-Samples Mann-Whitney U Test	.121^c

Hypothesis Test Summary

	Decision
1	Retain the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

c. Exact significance is displayed for this test.

Independent-Samples Mann-Whitney U Test

Overview: To what extent do you agree or disagree with the following statements about your overall experience on your course? - Overall I am satisfied with the quality of the course across Please enter details of your gender, or click Prefer not to say, as appropriate.

Independent-Samples Mann-Whitney U Test Summary

Total N	38
Mann-Whitney U	205.500
Wilcoxon W	283.500
Test Statistic	205.500
Standard Error	27.655
Standardized Test Statistic	1.790
Asymptotic Sig.(2-sided test)	.073
Exact Sig.(2-sided test)	.121

Springboard Funded Status

Notes

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Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]
1	The distribution of Overview: To what extent do you agree or disagree with the following statements about your overall experience on your course? - Overall I am satisfied with the quality of the course is the same across categories of Were your studies funded (in whole or in part) under the Springboard programme?.	Independent-Samples Mann-Whitney U Test	.376[c]

Hypothesis Test Summary

	Decision
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a. The significance level is .050.

b. Asymptotic significance is displayed.

c. Exact significance is displayed for this test.

Independent-Samples Mann-Whitney U Test

Overview: To what extent do you agree or disagree with the following statements about your overall experience on your course? - Overall I am satisfied with the quality of the course across Were your studies funded (in whole or in part) under the Springboard programme?

Independent-Samples Mann-Whitney U Test Summary

Total N	38
Mann-Whitney U	127.000
Wilcoxon W	205.000
Test Statistic	127.000
Standard Error	27.655
Standardized Test Statistic	-1.049
Asymptotic Sig.(2-sided test)	.294
Exact Sig.(2-sided test)	.376

Course Attended

Notes

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Hypothesis Test Summary

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1	The distribution of Overview: To what extent do you agree or disagree with the following statements about your overall experience on your course? - Overall I am satisfied with the quality of the course is the same across categories of MSc group.	Independent-Samples Kruskal-Wallis Test	.795

Hypothesis Test Summary

	Decision
1	Retain the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Independent-Samples Kruskal-Wallis Test

Overview: To what extent do you agree or disagree with the following statements about your overall experience on your course? - Overall I am satisfied with the quality of the course across MSc group

Independent-Samples Kruskal-Wallis Test Summary

|	
Total N	38
Test Statistic	1.026[a,b]
Degree Of Freedom	3
Asymptotic Sig.(2-sided test)	.795

a. The test statistic is adjusted for ties.

b. Multiple comparisons are not performed because the

overall test does not show significant differences across

samples.

Independent-Samples Kruskal-Wallis Test

Overview: To what extent do you agree or disagree with the following statements about your overall experience on your course? - Overall I am satisfied with the quality of the course

MSc group
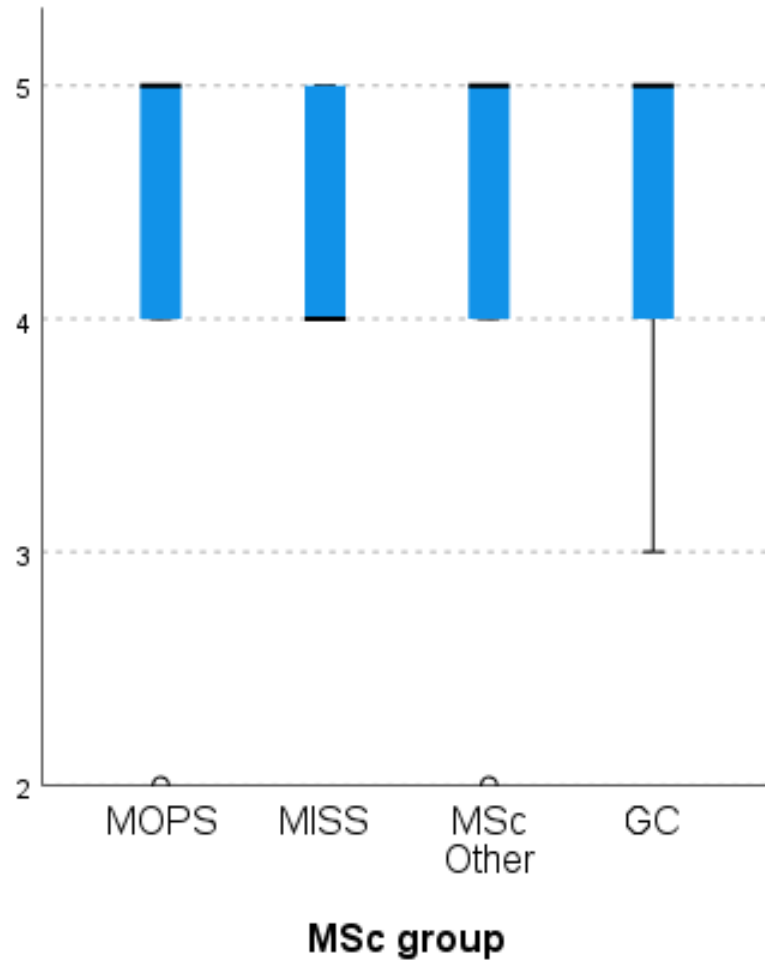
Continuous Field Information Overview: To what extent do you agree or disagree with the following statements about your overall experience on your course? - Overall I am satisfied with the quality of the course

N = 38
Min = 2
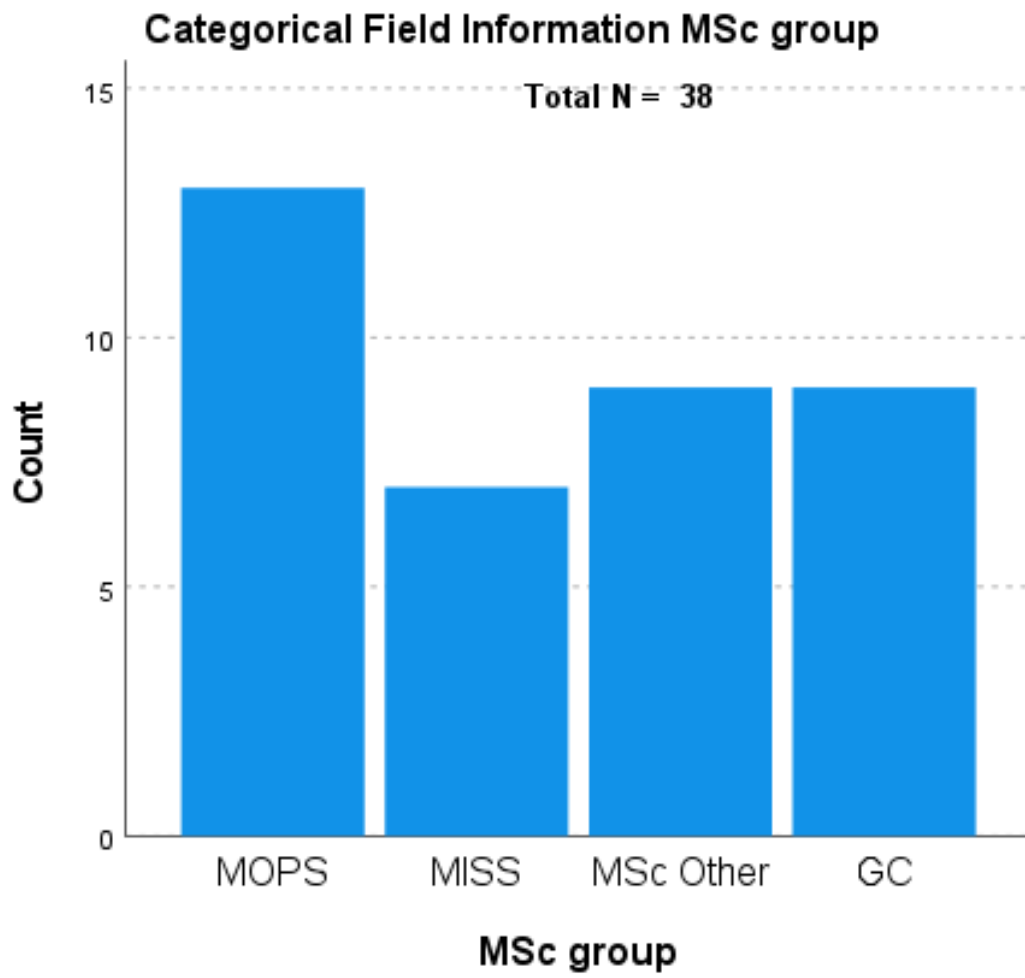Max = 5
Mean = 4.4
Std. Dev. = .83

Overview: To what extent do you agree or disagree with the following statements about your overall experience on your course? - Overall I am satisfied with the quality of the course

Categorical Field Information MSc group
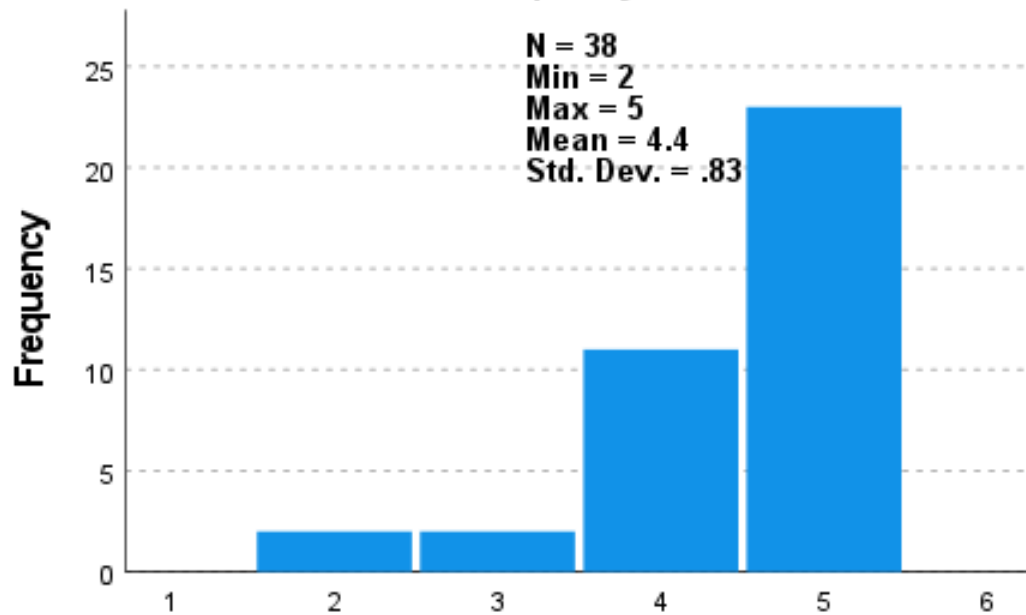
Appendix K Student Interview Schedule

Student Interview Schedule

Students had been advised by email of the following general topics in advance of the interviews:

- Consistency in your experience across modules as regards course material, tutorials, assignments and feedback.

- The support you received for your dissertation.

- Self-assessment opportunities throughout the modules.

- The value of the online forums (outside of assignment postings).

- Group work as part of the assignments.

- The type of instruction (or teaching) you received in your course.

- How the voice of the student was heard in decisions about the courses were run.

- If there was enough opportunity for student to student interaction.

In the introductory comments at the start of the interviews, the results of the student survey were outlined, highlighting the high and low rated items.

It was emphasised to students that they were not being asked about how they themselves had responded to any individual questions in the survey.

The following questions guided the interviews:

What is your view on the issue of consistency of student experience, given that tutor consistency in teaching, marking and feedback were the among the lower-rated items in the survey?

Was the level of instructional design good and was there a common approach among tutors?

What is your view on how well you were able to self-assess as you progressed through your course? How did self-assessment work for you?

How satisfied were you with the support you received for your dissertation? What issues arose for you?

Do you think the voice of the student is heard well enough throughout your course? Is there a need for a different forum (from student representatives on the Programme Board) for this?

What is your view on the usefulness of the student forum in Loop (they seem to be largely underused on most modules)? Are they useful for student to student communication or is this done in another way? Should something else be done?

How do you feel about group work in the assignments, because we had a lot of differing views in the free text comments in the survey?

Is there anything you would like to raise related to your experience in the HEI that wasn't covered in the survey or in our discussion today?

Appendix L Tutor Review Interview Schedule

Tutor review interview schedule

Tutors were advised in advance of the purpose of the review and were supplied with a summary of the initial tutor interviews, a copy of the transcript of their own interview and a summary of the student survey findings. It was indicated that the focus would be on areas of divergence of opinion – among tutors, among students and between both groups.

Areas of divergence in tutor interviews

The degree of uniformity (consistent and defined approach) tutors should have across tutoring activities, including writing course material, setting and marking assignments versus the freedom to devise their own approach.

The need for a more uniform approach to feedback, including the relative importance of referencing and other presentational type issues as against substantive content.

The need for learning outcomes to feature more clearly in course material, teaching and assessment, including the need to cover all learning outcomes in the assignments.

The requirement for more collaboration among tutors in assignment design across the three sub-modules of a typical module?

The usefulness of including group work in assignments.

Balancing how the tutorials concentrate on the assignment or on the wider course concepts.

Areas of divergence in student survey / interviews

Tutor consistency on feedback.

Tutor consistency on marking.

Tutor consistency on teaching.

Sufficient opportunities for discussion with other students.

Encouragement to be involved in decisions about course.

Areas of divergence between students and tutors.

Consistency of tutoring approach to teaching, marking and feedback.

Inclusion of group work in assignments.

Value and purpose of the student forums (not so much an area of divergence as one of what could be done to improve things).

Additional topic.

Consideration of the QQI CINNTE review of the HEI was included as the final agenda item as the findings of this review had particular relevance to the question of the consistency of the student learning experience.

Appendix M Reflexive Thematic Analysis Extracts

Survey free-text entry coding example 1/2

Pressures of time

Again, in the two year program- time is very scarce it's a full-time commitment in my humble opinion; no time for family or friends outside of work and the part-time course. Your family have to be behind you, 100%. (M 35-44 MSc Management of Operations) (Engagement comment) [time is very scarce] [need for family support]

The timetable is made up on how you make it work for yourself. It doesn't fit well if you don't make it fit around your current work / life balance. (M 25-34 MSc Management of Operations) (Organisation and Management comment) [need to make the timetable work for your individual situation]

In the two year MSc of Operations, it was extremely difficult to have time to reflect on learning as the high volume of assignments coupled with a day job - time to reflect happens on course completion in my humble opinion. (M 35-44 MSc Management of Operations) [difficult to find time to reflect] [reflection only happens on course completion]

(From Things to Improve) :

All 4 postgrad modules in one year was tough, it was the right decision to extend that to two years. (M 35-44 MSc Clean Technology) [course demands are high and should be spread out]

Course was intense - would have appreciated more time but could only dedicate so much. Not a reflection of the course itself more a personal experience. (F 35-44 MSc Management of Operations) [course was intense]

Trying to work through the pandemic was difficult, learning how to work with it during your daily life while trying to close out a master proved taxing. (M 35-44 MSc Management of Operations) [difficult to balance life demands with completing a Masters]

I'd take a shorter summer and space out assignments a bit more 9 M 35-44 MOPS (Things to improve) [should the summer be used to spread the workload more?]

Survey free-text entry coding example 2/2

Student sense of community

The discussion forum was very unfriendly and only used when required by the pupils. We all resorted to using alternatives (WhatsApp, etc) as it was so poor. (M 35-44 MSc Information Systems Strategy)

[Discussion forums were unfriendly]   [Resorted to using WhatsApp]

The WhatsApp group was the best way to discuss things with other students. The forums were ok but responses were slow and 1-2 responses only. The WhatsApp allowed discussion. (F 45-54 MSc Management of Operations)

[Forum responses were slow]   [WhatsApp allowed for discussion]

Interacting with the tutors, picking their brains on their topics. Questioning the information. (M 35-44 MSc Internet Enterprise Systems)

[Tutor interaction]

Support from other students, researching the thesis. (F 45-54 MSc Internet Enterprise Systems)

[Support from fellow students]

Interacting with my supervisor was the most interesting thing ever. (F 35-44 MSc Sustainable Development)

[Dissertation supervisor interaction]

Interaction with peers was enjoyable and this should be encouraged more. (M 35-44 MSc Information Systems Strategy)

[Interaction with peers should be encouraged more]

I enjoyed the interactions with my classmates, but this was mostly outside of the confines of the course (e.g. WhatsApp). (F 35-44 MSc Management of Operations)

[Interaction with fellow students]

Interaction with fellow students. Particularly in the WhatsApp group, as this reduced the feeling of being on the course alone due to the nature of remote learning. The induction day was excellent as it set the tone for the course. Visiting the campus provided the context of what I was about to embark on. (M 35-44 MSc Management of Operations)

[Interaction with fellow students]

The topics learned and the support from many sides (teachers, staff, colleagues). (F 35-44 Graduate Certificate)

[Support from students, tutors and HEI staff]

The supports available to students. (M 35-44 MSc Management of Operations)

[Supports available to students]

I completed my BSc fully online with zero support from that (different) university, so the support from (the HEI) was very much appreciated. (M 35-44 MSc Clean Technology)

[Supports available to students]

Student interview coding example 1/2

16:43 And I.

16:45 would feel similar in terms of how the some of the some of the some of the modules or sub modules would really benefit from a second session, whether it be another hour, towards the end of the kind of block.[some modules would benefit from second tutorial]

17:01 or another two hour session dependent on the content; and my own biased opinion is it's a lot easier if you if you were to arrange a second session kind of later on in each block. [need for more online tutorials] ; [second tutorial later in the module]

17:14 And you probably won't have a huge amount of attendees because a lot of people would be comfortable with the content and whatever, but the people that [second tutorial focused for students who need it]

17:22 are concerned about, am I taking the right approach to the assignment, they might be more comfortable speaking about it in a small Zoom call of probably 10 at that late stage in the in the module as opposed to that first session is always a bit bigger.

17:39 yeah, so I think there could be some benefit there and okay

17:44 but also to reinforce maybe some of the more difficult aspects.

17:48 As each module or sub module each has its own - if you were experienced in the area, it was [each module is different]

17:55 Okay, and, but if you weren't, if it was a new area for you hadn't really worked in it before it was a bit tougher to get your head around, and I would, I think a safety net there for people might be helpful. [extra sessions as a safety net for less experienced students in that area]

Student interview coding example 2/2

00:09:16 yeah the notes were got in advance were very consistent across modules and the tutorials were fairly consistent, but what I found was that some tutors added more value to the notes and they [course material was consistent] [tutorials approach was consistent]

00:09:35 seem to spark, well I won't say debate, but encourage attendees to have input and.

00:09:44 take some of that input and you know expand on that so, for example, real life examples of companies were used and how companies.

00:09:56 developed their way of working, or their processes, and I think examples like that help to get the overall concept of the of the particular subject cross. [some tutors brought material to life better than others]

00:10:09 And yeah in terms of consistency in the marking approach and to feedback yeah I found the marks I got were very fair and yeah in some instances. [marks were fair]

00:10:24 I thought I had done bad but the you know the marks were better than expected and.

00:10:32 The.

00:10:34 Feedback piece.

00:10:36 yeah as [name] said there.

00:10:39 There was a bit of inconsistency in that, as you know some of it was very short but some of it explained. [there was inconsistency in the feedback]

00:10:46 And some of it was able to understand what I have been trying to get across and explain what I could have done better but others, it was very black and white and saying, for example, you forgot to touch this particular topic and end of story, there was no more said and. [some feedback was helpful but some was very black and white]

00:11:06 yeah I think that that sums it up for me.

Student interview theme codes example 1/2

Attitude to Group Work

well able to work in groups at this stage

hated group assignment

same as undergrad experience with bad group work cases

never had an easy group work experience across seven years of studying

group work is luck of the draw and therefore bad

good group work experiences don't happen often

even good groupwork experiences don't always get the expected grade

so rare for group work to go well is why it's a bad idea

team working is essential to holding down a job

undergrads preparing for the workplace need group work experience

group work was useful in absence of student contact

difficulties in organising group was a drawback

group I was in worked well but can see that it might not and could drag someone down

group dynamic was good in my case

group mark was my lowest

not a positive experience with group

group mark affecting overall mark I had been hoping for

group assignment was hard work

ended up with two of four doing all the work so as not to be a victim of the situation

Student interview theme codes example 2/2

Student sense of community

Instantaneous and up to date responses on WhatsApp

Relied on WhatsApp

WhatsApp group still going a year later

WhatsApp useful as a group behind the front men who will contact tutors

Would have liked opportunity to get to know classmates

Didn't make good connections on Masters; wouldn't recognise any of them on the street

Undergrad group developed enduring social and professional bonds missing in Masters experience

Social aspect missing that can have professional benefits

Difficult to balance desire for flexibility with contact and social aspect

Some sort of block release element would be good

Could combine the group work idea with an on-campus element

WhatsApp group helped with advice from other students

[HEI] forum was only used for very basic questions to tutors

Getting into the WhatsApp group was a game changer

Got extra impetus from others' opinions and helped develop own thinking]

WhatsApp discussion should have been on Loop

Danger of WhatsApp spreading misinformation so tutor oversight would be good

Tutor interview coding example 1/2

07:02 I think. [**Standards in course material**]¶

07:05 The answer is complicated, I don't think [there] is a formal set of house rules and maybe it's not necessarily a good thing to have it too formalized. [**good thing not to be too formalised with house rules**]¶

07:14 But I think what tends to happen is that course material when it's been written it's unusual for it to be written from scratch, with just a blank sheet of paper, we tend to take existing course material and rework it and update it. [**course material is organic, based on earlier versions**]¶

07:31 And so it really depends on the, I suppose, as the quality of the original material, like, for example, it might be a job of combining two courses into one and, obviously, the primary function of writing course material is to keep it up to date and bring it up to date. [**material needs to be kept up to date**]¶

07:48 So I don't think there is a set of house rules, and I would have, I suppose, as a writer I'd have my own standards, but there also tends to be a course leader as well, someone who's a full time academic who tend to [**no house standard**] [**has own standard**] [**subject leader has a role in material standards**]¶

08:06 define the scope, the course material, so I suppose that in itself is an anchor point as well, without codifying things too much.¶

08:18 Okay, and because the other problem, as well, is that different courses¶

08:23 would require whether they're technical or more managerial they would require¶

08:29 a different style to the material and so on, so I don't think that being prescriptive about how it's written and so on, might be particularly useful for writers. [**different styles needed for different type of material**] [**single standard might not suit**]¶

08:40 I would tend towards being more comprehensive, give them plenty of references and so on, to give them a lot of material and¶

08:46 pull it together.¶

08:49 But that mightn't be everyone's views, some would view it it's really just here's the topic here's a one-on-one primer to them and off you go into you know you need you're post-graduate you need to find out about it. [**different tutors take different approach to depth of material**]¶

Tutor interview coding example 2/2

13:34 And I don't think we we've spent enough time and understanding well best practice for online delivery is the following, you know even and say, if you want to deliver a video you mentioned about say.

13:45Creating you know prepared videos you know, there should be a methodology and undertaking that you know, in terms of you know terms of length duration objectives and stuff like that so there's some level of consistency. [consistency in video presentation]

13:57Across the packages across the modules per se so again that's another opportunity because attention span is a big issue now in this, best practice is now saying you know video should only be X amount of minutes long. [attention span issue]

14:09And what you should try to achieve is the following. [presentation consistency and standards]

14:11You know so you're doing it more micro segments, as opposed to a video for an hour, you know so forth, but we don't have a set of guidelines, you know I think what's what would benefit us is. [need a set of guidelines and best practice]

14:23What are our guidelines and best practices that we should be utilizing and someone now that's a collective exercise across the tutors and then, therefore, we have a way of making sure that's updated in a more updated to take on board the challenges I mean, for example. [collective exercise for tutors]

14:41[Unit] has been involved with delivery of online material before Covid, that's fine Okay, but I would like to see more kind of.

14:50You know let's say what's our in house style or standards for doing that, so if a new tutor comes on comes on board. [inhouse standards]

14:56How did they know you know that material that they're using and delivering is relevant to that in house standard or guidelines which are best practice.

15:05So I think there's another opportunity there as well, and if it's best practice then you'll have more engagement, you know so by default we're we're scratching our head and saying well. [best practice will result in more engagement]

15:15Why didn't students read the following material without understanding.

Tutor interview theme codes example 1/2

Pressure to do everything in limited time

Challenge to deliver extra tutorials requested by students] [student expectation of extra classes]　Attendance at tutorial versus demand for more　need for extra classes to go beyond assignment　Can't cover full course in tutorials]　limiting assignment coverage in tutorials]

Teaching time challenges; remarkable what students achieve]

Lecture time comparison with other parts of HEI　[Lecture time comparison with undergrad

Paucity of contact time　HEI postgraduate students at a disadvantage

[lack of teaching time] benchmark amount of teaching time?] limited teaching time compared to other courses]　[challenge of teaching time

students overwhelmed in first few weeks　need for a socialising module　forum clogged with off-topic questions due to non-orientation] Student orientation　Student orientation is critical　overwhelming for students at early stages]　value of startup skills programme

low level of teaching time in HEI　limited number of tutorials　challenging to cover material in tutorials　student feedback on too few tutorials　more or longer tutorials to cover material and assignments　fast pace on HEI courses　too much material for students to cover　Course material covered key points] [

Students are under time pressure] [demands on students]　Students are strategic due to their time pressure]

novelty of many issues for new students　High digital skills demand on students students don't know library and other services　difficulty of navigating libraries as a student

prerecording material for static information

short introductory videos are good　include YouTube videos in course material　use of videos is good　videos are a relief from reading]　videos introduce style of tutor

Tutor interview theme codes example 2/2

Associated with but not part of DCU

Not sure of OE plan or mission statement

Value of some on-campus activity for sense of belonging

No formal tutor training

In at the deep end

Tutor training needed

Preference for blended learning

Imbalance in [Unit] contact time resources

Students being pushed to Google response

Online offering and danger to [HEI] of more online offerings

Danger of losing students due to low contact time

Better linkage with [name] and other publishers

Need to reuse material from within [Unit]

Better library integration

Tutor review coding example

00:23:48 Just from that point they're like that's a good idea, because I often find that you get an assignment and

00:23:55 I'm not 100% sure what the person who wrote the assignment is looking for either. If you take something like cultural change I suppose there's 10 different [**not always clear what assignment is looking for**]

00:24:05 Models or whatever in that chapter of the lesson and some student might just do three or four and it's very well written and another student might do all 10 but just tap on them.

00:24:16 And then others might do six. They're all good in their own way, but

00:24:21 I prefer like if we all agreed at the start that really the way this question is worded, we want them to hit A B and C, as a minimum, and the rest are you know bonus points or whatever. [**tutors should agree key elements of assignment answers**]

00:24:31 So be good to just align people that way and the consistency thing OK, and …. I find [**need for agreement in advance on what a good assignment answer looks like**]

00:24:40 you end up with a lot of students hitting in and around the 60 odd just because the way the rubric is,

00:24:46 You know, it gives a lot of marks for structure and whatever so if they are any way good in covering the detail [**rubric gives a lot of marks for structure**]

00:24:53 They kind of get the marks, but you can tell the other students really do a good job of presenting it or wording it ….

00:25:07 Just in feedback versus grades, when I give students feedback I'm very much of the mind that if they leave the course they should know how to build a report so things like headers, index tables, citing things properly and I give a lot of feedback on that, but [**believes students should be able to format good business reports but got pushback from students**]

00:25:25 This year, like a lot of students coming back in

00:25:29 saying you're docking me marks because of these issues around formatting and I'm losing loads of marks and I'm trying to say to them no it's only feedback versus, like the rubric has driven your marks where's This is just [**need to clarify helpful feedback from issues that affect marks**]

Tutor review theme codes example 1/2

Dealing with student self-awareness and strategies:

Students don't usually bring serious issues to Programme Board

Only graded activities get student attention

Very little engagement from students

Students are time poor and are experienced adults for whom group work is an issue

Is there really a community of learning?

No students responded to student questions on forum

Understand the need for more engagement but struggling with how to do it

Encourage a learning community by getting students to answer each others questions

Leave non-critical questions hang on forums until some student answers

Usage of WhatsApp unknown

Danger of issues getting amplified or exaggerated on WhatsApp

WhatsApp may lead to aggression

Students may be doing their networking on WhatsApp]

Past students warning of dangers of WhatsApp

Some students left WhatsApp because it was too much

WhatsApp also has benefits

Better presence on forum than before Covid

All student questions in tutorials are assignment-related

Good to have a mix of people from outside academia involved in courses

Tutor review theme code example 2/2

Consistency of the student experience

Consistency is a challenge

Issue of consistency is natural because of human nature

Rubric is helping consistency

Different tutors will mark differently, harder or easier

Monitor is there as a fallback

Average mark is telling for consistency

Easy enough to share marks in advance

Tutor monitor gives helpful feedback

Consistency issue across grading and feedback is the highlight

Need norming of marks for assignments

Monitor role is too late – marks checking needs to be done in advance

Norming session to align tutors' individual bell charts

Could collaboratively check the high mark and low mark cases

Need for agreement in advance on what a good assignment answer looks like

Tutor monitoring process

No two students are the same so no two tutors will be the same

Even very competent tutors will have differences

It's not AI marking, so there will be variations

Will always be some differences due to human factor