A case study exploring the factors that influence academics and their use of technology enhanced learning (TEL) to support pedagogical practice in a post 1992 Higher Education Institute in the North of England.

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ABSTRACT

Higher education and health policy is driving a digital agenda. Reference is made to the need for the workforce to have well developed digital skills to enable them to compete in a global market (Chatterton and Rebbeck 2015, Conservative party manifesto 2017, Ingleby 2015). To achieve this aim there is an expectation that TEL (Technology Enabled Learning) activities are embedded within the students' learning experience to support their digital development.

There is limited published research that focuses on academics' experiences of integrating TEL into their pedagogy and their professional development needs. Within this interpretive phenomenological case study, I aim to contribute to the body of knowledge that outlines the factors which influence academics' use of TEL in their pedagogy. The research is based on semi-structured interviews and an analysis of the use of a VLE (Virtual Learning Environment) in health and social care.

The findings reveal that although policy-makers talk about TEL in its entirety, the integration of TEL in pedagogy is altogether more complex. A range of interconnecting, professional, personal and social factors are evident, which influence academics' engagement with TEL. I also argue that the current provision of CPD (Continuing Professional Development) does not appear to meet the pedagogical and professional development needs of these academics. Professional development which focuses on TEL, currently does not take into account the complex factors influencing its delivery.

The study has implications for the provision of professional development, which needs to be tailored to individual needs. I argue that CPD needs to support academics' understanding and integration of TEL within their pedagogy, by facilitating the time and space to engage with CPD activities. The wider implications of the research include the need for greater clarity and guidance in policies about TEL.

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ACRONYMS

BDA	British Dental Association
CPD	Continuing Professional Development
DfEE	Department for Education and Employment
DBIS	Department for Business, Innovation and Skills
DH	Department of Health
GDC	General Dental Council
HCPC	Health and Care Professions Council
HE	Higher Education
HEA	Higher Education Academy
HEFCE	Higher Education Funding Council England
HEI	Higher Education Institutions
HSCIC	Health and Social Care Information Centre
ICT	Information and Communications Technology
IR	Insider Researcher
IRAS	Integrated Research Application System
IT	Information Technology
JISC	Joint Information Systems Committee
LMS	Learning Management System
MA	Master of Arts
NCET	National Council for Educational Technology
NSF	National Service Framework
NMC	Nursing and Midwifery council
NQF	National Qualifications Framework
PBL	Problem Based Learning
PC	Personal Computer
PD	Professional Development
QAA	Quality Assurance Agency
SHA	Strategic Health Authorities
SPSS	Statistical Package for the Social Sciences
SoR	Society of Radiographers
TEF	Teaching Excellence Framework
TEL	Technology Enabled Learning
TQS	Threshold Quality Standard

UCISA	Universities and Colleges Information Systems Association
UoO	University of Oxford
VLE	Virtual Learning Environment

CHAPTER 1 INTRODUCTION

This research study arises from my experience as an academic working in Higher Education (HE). My career commenced in a discipline specific subject group, but latterly moved to a broader learning and teaching position with specific responsibility for the development of e-learning within the faculty. The research utilises a case study approach to explore academics' experiences of engagement with technology-enabled learning (TEL) in their pedagogical practices. The academics operating in this research are driven by health and social care and higher education agendas; both of which advocate the use of technology, with a drive focusing on the use of digital technologies. I present a complex picture of working practice and professional development that highlights the key factors influencing these academics' engagement with TEL.

This chapter introduces the concept of technology enabled learning and how it is being used in health and social care education in a post 1992 Higher Education establishment. The content sets the scene for health and social care educational requirements in a turbulent political landscape. I introduce myself by explaining my background and ontological approach before outlining the reasons for selecting a case study approach. In this first chapter, key concepts are introduced in my overview of the research.

1.1 Introduction.

This research explores the complex range of personal, social and professional factors that influence selected practitioners' pedagogy with technology in a post 1992

Higher Education Institution (HEI). I reflect on the challenges for professional development when technology is used for pedagogy. The practice and experiences of using technology-enabled learning (TEL) has changed over recent years (HEFCE 2005a, HEFCE 2009b, JISC 2014) and my awareness of these changes has heightened since I began my role as a faculty e-learning coordinator. My initial observations suggested to me that there were across the faculty both confident innovators and early adopters of TEL; academics who take pedagogical risks and challenge themselves and their students, and others that appear to be more reticent in using TEL, citing time, curricular constraints, and a lack of knowledge as barriers to engaging with TEL in their pedagogy. These initial reflections shaped my interest in this area of pedagogy. This research gives an insight into the experiences and use of TEL in the pedagogical practice of 23 academic members of staff working across a range of health and social care disciplines. The topic is of interest to academics who use TEL in their everyday practice and those who support the professional development of academics and their pedagogical practice.

Digital technologies pervade our everyday lives and many students have an expectation that their learning will be supported by the latest technologies that will enable them to access resources and facilitate their learning anywhere, anytime, anyplace (Suki and Suki 2011). Recent government policy agendas refer to the need for the workforce to have well developed digital skills to enable them to compete in a global market (Chatterton and Rebbeck 2015, DH 2012). The pre-election Conservative Party Manifesto (2015) made 17 references to 'technology'. 'Technology' is usually referred to in favourable terms and this was reiterated in the 2017 manifesto with a focus on the prosperity that a digital economy can bring. Technology is equated with 'jobs and enterprise, getting people into work and

boosting apprenticeships' (Ingleby 2015). Nevertheless, it must be acknowledged that students do not enter HE with the same level of digital skills and competencies (Beetham *et al.* 2013). In addition, it is evident too that academics demonstrate a wide spectrum of ability (Schneckenberg 2009) regarding integrating TEL into pedagogical practice. The consideration of how we support the professional development of both students and academics has become an important aspect of academic life (Beetham and White 2013, HEFCE 2009a, Schneckenberg 2009).

The challenges for professional development in education that are identified by Harland and Kinder (2014) and Macfarlane and Cartmel (2012) are revealed by the participants in this research sample. I argue that pedagogical technology skills need to be met through professional development, based on research, to provide evidence based practice (Leask and Younie 2013). Those teaching students with technology in higher education need professional development that takes into consideration the personal, social and professional factors influencing their pedagogy.

Much of the wider discourse focuses on the impact of TEL on students and their learning, their attributes, practices, skills and access, with fewer studies focusing on staff and how they may develop their skills and practice. Franklin (2012) recognises that learners are often ahead of educators and this may undermine the established systems and may challenge currently accepted student-lecturer dynamics. This study seeks to contribute to the body of knowledge of TEL in pedagogical practice, exploring academic acceptance, motivation and competency, and building on the work undertaken by Bennett (2012).

This thesis makes an original contribution to knowledge by exploring the perspectives of health and social care academics, providing new insights into their

engagement with technologies, their pedagogical practice, their perception of their digital literacy and their professional development needs. Through exploring the narratives of the research population, the use of TEL is explored and the findings reveal how the academics in the study come to work as they do by exploring their experiences of applying TEL to pedagogy.

The literature exploring academic experiences and the application of technology in pedagogical practice in HE is limited. Bennett's (2012) doctoral thesis explores the pedagogical practices of academics by focusing specifically on the application of web 2.0 technologies. The research concludes that early adopters have similar characteristics and are mainly driven by understanding the radical pedagogical possibilities of using TEL. Although Attwell and Hughes (2010) undertook a literature review to explore pedagogical approaches to using technology for learning in initial teaching training there are no specific studies on academics who work within the fields of health and social care. Mishra and Koehler (2006) explore the interrelationships that exist between technology and pedagogy and my research also explores the context in which the academics operate and the potential implications for their professional development. Using the lens of socio-cultural theory to explore the experiences of these academics, I have developed a reflexive approach in analysing pedagogical practice (Morrison 2012) and the associated implications for professional development. The stories that are told by the research participants portray a complex picture in which many factors govern the use of TEL in pedagogical practice.

1.2 Terminology.

1.2.1 Technology Enabled Learning.

The terms used to express the digital agenda are contested and there is no universally agreed definition of technology enabled learning, or whether, for example, "enhanced" or "enabled" should be used as the key descriptor. For the purpose of this research the following definition of technology-enabled learning (TEL) as defined by the Kirkwood and Price (2014), is used

> "*Technology enabled learning refers to the application of information and communication technologies to teaching and learning.*"

However, 'enhancing learning and teaching through the use of technology' is the term employed by the Higher Education Funding Council for England (HEFCE) in their revised e-learning strategy (2009b). Though HEFCE are not clear about what exactly enhancement means, the document does identify three levels of potential benefits that TEL might bring (HEFCE 2009b):

- Efficiency – existing processes carried out in a more cost-effective, time-effective, sustainable or scalable manner.

- Enhancement – improving existing processes and the outcomes (I argue that this is vague).

- Transformation – radical, positive change in existing processes or introducing new processes.

Noticeably all the above are characteristics that would need experimental data to convincingly evidence, something that is notoriously difficult to come by in educational research.

1.2.2. Pedagogy.

For this thesis, the term pedagogy is used. The Collins English dictionary defines pedagogy as the

"the principles, practice or profession of teaching"

1.2.3 Professional development and continuing professional development.

Professional development and continuing professional development are often used interchangeably in the literature. The focus of this research is on the professional development of pedagogy as opposed to considering the academics' continuing professional development required to maintain professional registration.

1.3 The national context.

Academics and learners are immersed in a digital revolution pervading education and health and social care (DH 2011, DH 2012, UCISA 2012, UCISA 2014, UCISA 2016). I argue that the ubiquitous use of information and communication technologies (ICT) in everyday life, and the increased emphasis on the use of TEL in pedagogical practice (DH 2011, UCISA, 2012, UCISA 2014, UCISA 2016) is destabilising the educational fields in which these academics are working. It is considered that core competencies for HE students in the 21st Century are digital literacy and the ability to use technology effectively (JISC 2014). Learners are expected to develop the capability and digital skills to engage with contemporary information technologies, devices, and digital practices and apply them to many different learning contexts and academics are expected to facilitate the development

of these ICT competencies and skills. There is a growing interest in how academics are using TEL in their professional practice and the development of effective professional development has become an important area of interest (Bers 2008, Yelland and Kilderry 2010).

The way academics engage with TEL is influenced by the conventions of ICT use in both social and professional contexts. In consequence, the application of technology to pedagogical practice is shaped by diverse factors that include the language of ICT, the wider political agenda, the professional and subject specialisms and the organisation in which academics' work (UCISA 2016). As an insider researcher, I saw meaningful pedagogical engagement with TEL by some lecturers and not others, yet external drivers are present that require students to develop the digital literacy skills that are necessary to work in today's health and social care professions (Chatterton and Rebbeck 2015). The focus of the research is on the beliefs, experience and background of the academics that enables or encourages (or disables and discourages) them to use TEL in their pedagogical practice.

Higher education has not been backward in recognising the potential of information technologies in education, HEFCE, published its e-learning strategy in 2005b; updated in 2009b, to enable HEIs to accept technological changes and prioritise their technology related investment. HEFCE's 2009 strategy for e-learning accentuates the strategic thinking on TEL by emphasising the need to embed the use of technology in teaching, learning and assessment. The recognition of the transformative potential of technology, suggests that it can enhance the quality of a student's learning and an academic's teaching. It is argued that one of the key reasons why technology should be used to support learning is because this helps to meet student expectations by improving access to learning for students who are 'off

campus' (UCISA 2012, UCISA 2014, UCISA 2016). Additional drivers that are influencing the health and social care sectors can be seen specifically with patient care. The Information Strategy (DH, 2012), for example, aims to harness information and new technologies in order to achieve higher quality care and improve outcomes for patients and service users.

The government's aim of positioning the UK at the front of TEL internationally and to continue to build a 'knowledge based economy' is another significant driver. Students are already using technology to engage with learning (HEFCE 2009a) and it can be argued that the wider digital agenda has gained acceptance by pervading much of everyday life. The imperative is to supposedly equip graduates with the skills that are needed to work in technological contexts.

1.4 The local context.

The setting for the research is a post 1992 HEI in the North East of England. The complexity of this post 92 institution is revealed in the diversity of learners, many of whom are local and generally non-traditional entrants. By non- traditional I mean students who are mature and have non-standard entry qualifications. The research is based on the experiences of a sample of higher education lecturers in England who have taught in universities in England since 2000 (n=23). The research sample has been selected purposively. The sixteen women and seven men in the research sample apply technology to their pedagogy when they teach on nursing, midwifery, and social work degree programmes. The greater number of women in the research sample mirrors what Parker-Rees and Leeson (2004) refer to as 'the overwhelmingly female' (p128) workforce in professions that are allied to medicine 'in the UK and

beyond'. The age of the research participants varies from 25 to 62 years, so this captures a full range of early, mid and later career academics. The vocational nature of the degrees that the research sample work on (nursing, midwifery and social work) was selected as the lead researcher is knowledgeable about this area of higher education and this provided subject expertise within my qualitative research process (Thomas 2011). The academic tutors are associated with the English post 92 university sector that is characterised by academic programmes that are practical in that they equip students with vocational skills for professions such as those allied to medicine (Abbas *et al*. 2012).

1.4.1 The macro context: the wider university.

The university supports five faculties (at the time of data collection). The health and social care faculty is one of the largest, with high staffing levels (due to professional regulatory requirements), and large student numbers. The wider university academic structure for undergraduate programmes consists of year-long modules of multiples of 20 credits commencing in October and completed in May. All the faculties provide a range of foundation degrees, post graduate and Doctoral programmes.

There is a central department for 'learning development' which supports individual and programme teams in curriculum design and lesson planning as well as using technology to support learning. The department has several learning technologists and web developers. The ICT infrastructure of the wider university is supported centrally and this provides help for both students and staff. Each member of staff is allocated their own personal computer (PC), with subject leads and principal lecturers being allocated personal mobile devices. The software provided on each

PC is managed centrally with a range of standard software applications applied to each PC (antivirus, Microsoft Office, Virtual Learning Environment, several other software applications such as Statistical Package for the Social Sciences [SPSS] and NVivo 10 are available on request). In addition, discipline specific software applications are installed and provided on request.

Staff development is aligned to the wider university and faculty performance indicators. Individuals have a performance review each year where achievements, output and professional development is discussed. The university provides all its staff with the opportunity to undertake a post-graduate certificate in learning and teaching in higher education, as well as Master of Arts (MA) and Doctoral programmes in Education (EdD). Alongside this support there is the provision of learning and teaching workshops as well as academic leadership development.

1.4.2 The meso context: the faculty structure.

The faculty is managed by a senior management team consisting of a Dean of Faculty and six Assistant Deans, who have specific portfolios. There are approximately 240 academic staff, divided into eleven subject teams. Each team includes discipline specific academics who are supported by additional subject specialists. The faculty supports approximately fourteen thousand full, part-time and overseas students.   Health Education England is responsible for health care education and training and currently commissions pre-registration programmes.

These professional programmes are delivered at both undergraduate and Master's levels (M). The successful completion of these programmes can lead to eligibility for registration with a range of professional regulatory bodies. Pre-registration student

intakes occur twice a year, in the Autumn and in January. Most of the programmes extend beyond the standard year due to the inclusion of practice placements. Postgraduate programmes traditionally commence in September, but short courses and foundation degree programmes can commence at any time of the year. Some of the postgraduate programmes are required to meet the criteria of the professional regulatory bodies whereas other postgraduate programmes are profession specific and this supports the professional development of the health and social care practitioners.

1.4.3. *The micro context: subject specific teams and operations.*

The number of academics in each subject team varies, as does the portfolio of programmes that are being delivered. Much of the delivery occurs at the main campus and in addition there is block delivery, distance learning and flying faculty (academics travelling to a distant/remote site, often overseas, to deliver programmes) provision. Academics may work in small teams or lead modules on their own or contribute to modules that are delivered by ten or twelve academics. As well as supporting professional theory, academics support practice based learning and undertake several placement visits throughout the academic year.

1.5 The academic workforce.

The landscape in which the academics operate is changing with significant increases in student numbers in the last decade (Fry *et al*. 2015). The professional regulatory bodies require that the programmes that lead to eligibility for professional registration are delivered by appropriately qualified academic staff. The academics delivering the

programmes are either registered health care professionals or relevant subject specialists and they are required to engage in continuing professional development to maintain their registration (HCPC 2012, NMC 2015). These academics operate in a complex environment delivering programmes on campus and at outreach settings from National Qualifications Framework (NQF) levels 4 to 8. The staff have multi-faceted roles which may include being a programme leader, a module leader, a module team member, a researcher, a personal tutor, an academic tutor, an external examiner, a committee member and an administrator.

1.6 My background.

I qualified as a diagnostic radiographer in 1978 and I worked in the National Health Service and the private sector for a period of 20 years. Throughout this period, I worked closely with students developing their clinical skills and competencies. In 1998, I moved into higher education, working with a team delivering Diagnostic Radiography pre-registration programmes at undergraduate and 'M' levels. It was during this period that I started to incorporate the use of digital technologies in my pedagogy, specifically the use of technology to enable and support learning whilst students were undertaking their practice placements in a range of clinical settings. From my early academic career, I was engaged with the university Virtual Learning Environment (VLE) and other software packages, exploring how these tools might be integrated into my own pedagogical practice for the benefit of the students. The student experiences of using the VLE, and how this supports learners whilst on practice placement, was the focus of my previous research which was disseminated locally, nationally and internationally. I became a University Teaching Fellow in 2009

and the portfolio supporting my application was based around the use of digital technologies to support the students learning and their experience. I am a Senior Fellow of the Higher Education Academy.

In 2011, I was appointed as E-Leaning coordinator in the Health and Social care faculty. The portfolio attached to this role included support for curricula design, which considered the integration of digital skills and competencies, staff development, the use of technologies to enable learning and the introduction of a range of digital projects across the faculty that supported the student experience.

1.7 Aims of the study.

The focus of the thesis is the experience of academics using digital technology in their pedagogical practice, how they come to work as they do as HE practitioners, by exploring their reflections on experience. My research has employed thematic analysis using a priori codes and the lens of socio-cultural theory (Trowler 2008) and Kennedy's (2005) professional development framework. The work of Trowler (2008) has provided a complementary insight into the context in which practitioners operate and the work of Kennedy (2005) has been utilised to assist in analysing the intrinsic motivation and attitudes of the research population.

The general aim of the research is to critically assess the use of TEL in the pedagogical practice of health and social care academics.

The study objectives are to:

- Explore the factors that determine academics engagement with TEL in their pedagogical practice

- Examine how the characteristics of academics influence their use of TEL in their pedagogical practice.

- Critically examine the micro, meso and macro context in which the academics operate.

- Explore to what extent the responses confirm what is known about academic integration of TEL in their pedagogic practice.

- Generate original findings and theorise underpinning relations in the data.

The originality of the research rests in the use of case study methodology to investigate the use of technology in the pedagogical practice of health and social care lecturers in a post 1992 HEI.

1.8 Organisation of the thesis.

The study starts with an exploration of the literature that exists on TEL. I also reflect on professional development and pedagogical practice. Theoretical perspectives are explored as I outline how my initial thoughts on applying the work of Vygotsky's socio-cultural theory moved toward the application of Trowler's socio-cultural theory and its application in assessing cultures and change in higher education. The methodology chapter explores the use of 'case study' as a methodology (O'Leary 2014, Sarantakos 2013) and I investigate this contemporary phenomenon within its real-life context by using multiple sources of evidence. The approach adopted evolves from the naturalist and constructivist traditions, which recognise the need to map and explain patterns in the world (Moses and Knutsen 2012). This approach has been selected because I am attempting to explain research contexts (Hartley 2004, Newby 2010).

The study does not manipulate the behaviour of the participants; however, the context impacts on academics' engagement with TEL in their pedagogical practice. This methodology is concerned with the complexity and particular nature of a case and the setting is part of the focus (Bryman 2012). It is an opportunity to investigate the interactions of events, human relationships and other factors in a unique instance (Cohen *et al*. 2011). The research provides an in-depth exposition of the features of this case study by exploring what is happening. The data presented in chapter 4 reveals the narratives of the research participants and presents key themes. The thesis presents these research findings and relates these findings to the literature discussed in the earlier chapters. The final chapter links my findings to the research questions and summarises the conclusions drawn from the data. I suggest key implications for individuals and the wider higher education sector and I end by reflecting on the strengths and weaknesses of the study.

CHAPTER 2 LITERATURE REVIEW

This chapter comprises three parts. In the first section technology enabled learning (TEL) is considered starting with the current political context in which the academics are operating, alongside a discussion relating to the term TEL. A number of critical issues relating to TEL are considered (the political influences of the use of TEL and the requirements of the development of digital capabilities to operate in an increasingly digitised health and social care environment). The use of technology in pedagogy is discussed and the challenges of TEL are considered.

The understanding of the context in which the academics are operating can help us to make sense of the professional development needs of academics and the challenges that they are experiencing. I explore a range of models of professional development and their effectiveness is discussed by proposing a lens through which the participants' approach to PD is analysed. At the end of the chapter, I reflect on the perceived constraints to PD.

The complex nature of the intertwining of pedagogy, technology and professional development presents a challenge for professional development. I argue that a better understanding of the wider context, in other words, the department and sub-departmental influences on learning and teaching for PD is required. This has resulted in the application of Trowler's (2008) socio-cultural understanding of teaching learning and assessment to the thesis by considering 'the social' as opposed to 'the individual context' to enable an awareness of both structure and agency.

2.1 Technology enabled learning (TEL).

The ubiquitous use of information technologies and mobile devices has pervaded many aspects of our lives and appears to be readily accepted socially, as it is argued that a mobile phone is considered to be a necessary device for living (Suki and Suki 2011). Positioning the UK at the front of TEL internationally, and to continue to build a knowledge based economy is a government aim (HEFCE 2009a). HE has not been backward in recognising the potential of information technologies in education. HEFCE (2005b) published its e-learning strategy; updated in 2009a, to technology enhanced learning, enabling Higher Education Institutions (HEIs) to accept technological changes and prioritise their technology related investment. Imbued in these documents is a framework focusing on pedagogy, curriculum design and development, encouraging enhancement of learning, teaching and assessment through the use of TEL (HEFCE 2005a, HEFCE 2009b).

2.1.1 The Political agenda in educational and health and social care.

This research is framed by the policy landscape of TEL in England. The current Conservative government's commitment to technology in pedagogy is evident. 'World class public services' are equated with 'technology' (Conservative Party Manifesto 2017, 4). The research is carried out at a time when 'for the sake of our economy, and our society, we need to harness the power of fast-changing technology' (Conservative Party Manifesto 2017, 7). This makes the research highly relevant to the pedagogy that is occurring In Higher Education in England currently. There have been years of continuous support for applying technology to pedagogy, Jones (1980, 33, cited in Ingleby 2016) draws attention to the 30 years of sustained government investment in educational technology that occurred from 1950-1980 in

England. This development of TEL in this country continued through the Conservative administrations from 1979 onwards. The Conservative administrations in England from 1979-1997 provided a consistent series of policies to increase the use of technology within the education sector. The importance of TEL is evident through establishment of the *National Council for Educational Technology* by the end of the 1980s. Despite some fluctuations in policy approaches, there has been consistent support for using technology in pedagogy in England (Wild and King 1999, cited in Ingleby 2016). The work of the Conservative administrations in supporting TEL was further developed by the New Labour administrations from 1997-2010. In David Blunkett's 'Greenwich speech', technology is referred to as a 'seismic' component of globalisation' (DfEE 2000). The New Labour administrations in the UK developed sustained educationally focused programmes aimed at developing the application of technology to pedagogy (Ingleby 2016, Selwyn 2011). The digital agenda in the health and social care sector has also gained momentum over the past decade, The Information and Technology for Better Care Strategy (HSCIC 2015), which builds on The Information Strategy (DH 2012), emphasises the need to use technology, data and information to support better care for patients, carers and users of services (HSCIC 2015). Patient information, patient data, the use of apps and technology to support care are becoming the norm in health and social care practice, and this is the environment in which current students are undertaking their practice placements. The publication 'A Framework for Technology Enabled learning' (DH 2011) sets out a clear agenda to ensure that the workforce has the necessary skills and capabilities to ensure safe and effective patient and client care. The framework highlights the need to use simulation, e-learning and

portable media to support their learning experiences. As Laurillard (2008) highlights, as the workplace diversifies graduates need to refine their high-level skills for

> *"information-handling, independent learning, critical thinking, reflective innovation, project management, resource modelling, knowledge management, communication, networking, interpersonal negotiation, design, creativity, time management, and enterprise, and they need ICT skills to support all these." (2008, 525).*

Curricula should reflect the changes in practice and provide opportunities for students to explore the challenges and benefits of increasing technology in care as well as exposure to digital skills development (Bartholomew 2011). The challenge that has emerged from these policies appears to be meeting the professional development needs of the practitioners who are applying technology to pedagogy. According to the University of Oxford's (2015) report 'International Trends in Higher Education', technology is becoming increasingly central to education worldwide and central to the processes of learning and teaching. The importance of IT (Information Technology) is highlighted; suggesting that as we move towards knowledge based information and economies, IT is a key driver for both economic and social development. The report goes on to emphasise the need for students to be able to demonstrate fluent IT skills to prepare them for the global job markets (JISC 2014, UoO 2015). It has become an integral component of campus life, implicitly in how information is shared and explicitly in influencing traditional campus based learning with the VLE (Virtual Learning Environment), flipped classroom approaches and blended learning activities that are now part of the classroom lexicon (UoO 2015). With the expectation that the use of digital technologies will be utilised in the delivery of programmes in HE, the current reference is to utilise the term TEL and I argue that this needs further exploration.

2.1.2 Technology enhanced or enabled learning?

The term TEL (Technology Enhanced Learning) has been widely accepted in the UK and Europe for the interface between technology and HE and has taken the place of other terminologies such as 'e-learning', 'learning technology' and 'computer-based learning' (Bayne 2015). The term TEL refers to the application of information and communication technologies to teaching and learning (Price and Kirkwood 2014), and is regarded in general as preferable because of the emphasis that is placed on "enhanced learning" through technology (Guri-Rosenblit and Gros 2011). The term "enhancement" is important because of its association with increasing and improving quality. However, the body of literature debating the application of TEL, and the policy documents, have given scant attention to the terminology of TEL and it has been readily integrated into the pedagogical lexicon with little consideration of the complex interplay of the social, technological and educational changes. An explicit definition of what is understood by the term is rare (Kirkwood and Price 2014, Bayne 2015). It can be argued that the term implies a value judgement and there is an assumption that technologies can enhance learning (Kirkwood and Price 2014). In their 2014 paper Price and Kirkwood analysed interventions involving technology for teaching and learning and identified those that replicated existing teaching practices (n9), those which supplemented existing teaching practices (n23) and those that transformed the learning experience (n15). Price and Kirkwood (2014) explore the complexity of the term 'enhancement' in pedagogical practices. The authors identify a range of perceived enhancements which include increased flexibility, improved retention, improved engagement, more favourable perceptions or attitudes, improvements in assessment scores, deeper learning, greater critical awareness and improved students' interactions in online discussion. They highlight how the term is

used without consideration of the nature of the TEL intervention and Bayne (2015, 5) advocates that "we need to be more careful with, and more critical of, the terminology we adopt to describe and determine the field". Consequently, the boarder term technology enabled learning has been adopted in this thesis, as a more inclusive term that includes those pedagogical practices which replicate, supplement and transform learning.

2.1.3 The Virtual Learning Environment.

The virtual learning environment or learning management system (LMS) have been part of the universities architecture for the past 15-20 years, they are in 95% of UK Universities (Alharbi and Drew 2014). The term VLE is used as the preferred term adopted by the case study organisation. Though these systems vary from manufacturer to manufacturer they all provide similar tools which include; access control, performance management, communication facilities, assessment activities, study schedules and the provision of learning content (Alharbi and Drew 2014). Literature relating to lecturer use of the VLE is limited (Katsifili 2010) and focuses on numbers of lecturers using VLE's primarily for programme administration (Griffiths and Graham 2009 and West *et al*. 2007). The literature goes on to suggest access to learning materials accounts for the greatest usage of the VLE. The provision of learning materials can lead to a more passive teacher centred approach to learning as JISC (2007) and West *et al*. (2007) indicate. Another predominant feature, utilised extensively, is 'announcements' and with its associated production of emails, this makes sending information to the students via this mechanism relatively straightforward (West *et al*. 2007).

2.1.4 Pedagogy with technology.

This research is informed by literature about pedagogy with technology (Bayne 2015, Bennett 2012, Bers 2008, Cignan and Davis 2008, Conole and Dyke 2004, Donnelly and O'Rourke 2007, Gordon 2014, Guri-Rosenblit and Gros 2011, Plowman and Stephen 2005, Yelland and Kilderry 2010). Complex issues associated with pedagogy and technology in education have been revealed in this body of literature. In today's learning context, digital technologies are ubiquitous, particularly mobile technologies, which have the capability to provide curricula that are contextualised, personalised and unrestricted by spatial and temporal restraints and are generally regarded as an essential element of education quality (Crompton *et al*. 2016, Habib and Johannesen 2014). However, despite the availability of new technologies and recognition among some of the potential for TEL, this is not widely embedded (King and Boyatt 2014). Although there is interest in applying technology to pedagogy, there is little helpful guidance from the policymakers in England as to how this can be achieved. When applying technology to pedagogy the literature reveals that pedagogical processes need to be considered if learning and teaching in this area is to be successful (Bers 2008, Goldberg *et al*. 2003, Yelland and Kilberry 2010). For academics to subsume effective TEL in pedagogical practice they need to commence with an analysis of what it takes to learn (Laurillard 2008). It is advocated by Laurillard (2008) that without this understanding of pedagogy, the future of learning and teaching will tend to be driven by what the technology makes possible, rather than what learners need. Over many years the concept of what it takes to learn has been widely discussed and this has become the common thread shared by learning theorists

> *"From John Dewey onwards, through Piaget, Vygotsky, Freire, Bruner, Papert, Marton, Lave, it is argued that learning is active. Therefore, the role of the teacher is not to transmit knowledge to a passive recipient, but to structure the learner's engagement with the knowledge, practising the high-level cognitive skills that enable them to make that knowledge their own…. The collective analysis of what it takes to learn, sees learning not as something that happens to the learner, but as an activity they do." Lauillard (2008, 527)*

This should be the starting point for any academic considering embedding or using TEL to support the students learning experience. There is a broad spectrum of technologies used in pedagogical practice, and these digital technologies have many capabilities (Crompton *et al*. 2016). This does not mean however, that they will be used effectively in learning and teaching environments, as their use and integration into practice require development and support to be successful. Moreover, there is a lack of robust research into TEL and this can affect the uptake of TEL by academics, as many TEL projects are small scale and context specific (Kirkwood and Price (2014). The limited use of evidence to support pedagogical change is identified in Kirkwood and Price's research (2014, 561), highlighting

> *"a possible dissonance between beliefs and intentions in their use of technology for learning and teaching."*

Technology will continue to provide new and different opportunities for teaching and learning, but as Laurillard (2008) highlights, HE will find it challenging to keep up with the changes in technologies. As technology has developed it has afforded opportunities to learn complex and difficult entities in ways that are more engaging and supportive than the traditional transmission 'model' of teaching, but the focus should be on how the technology can support that learning rather than the technology leading the pedagogy (Laurillard 2008). In addition, teachers' pedagogical beliefs are critical to technology integration according to Ertmer (2005). Ertmer (2005, 28) defines teachers' beliefs as

"teachers' educational beliefs about teaching and learning…and the beliefs they have about how technology enables them to translate those beliefs into classroom practice"

The characteristics of individual lecturers or teachers and the perception of environmental factors are key to the integration of technology into their practice (Inan and Lowther 2010). Inan and Lowther (2010) reveal how the working environment has a strong influence on teachers' computer proficiency as well their belief in and readiness for technology integration. The inclusion of technology in pedagogy should be purposeful for deep learning to occur (Yelland and Kilderry 2010). This notion of applying technology to pedagogy in creative and profound ways is recommended by Bers (2008), and King and Boyatt (2014) also argue that technology should be used in supportive ways during pedagogy in Higher Education. Bers (2008), Goldberg *et al*. (2003), and Yelland and Kilderry (2010), question the educational benefits of using TEL (Ingleby 2015). This links to the work of Drotner (2008), who explores how dominant discourses about technology combine with the educators' personal and professional backgrounds in influencing pedagogical practices. This literature suggests that a complex range of factors influence the application of technology to pedagogy (Drotner 2008, Ingleby 2015, Inan and Lowther 2009, Tummons *et al*. 2016). Not least, the effect of the organisational infrastructure on the integration of TEL in pedagogy, (King and Boyatt 2014), highlights the need for a supportive infrastructure which provides direction and guidance as well as sufficient resources and time to develop and subsume TEL into pedagogical practice. However, there may be competing tensions between individuals and the wider organisations they are working in and this may mitigate against the TEL agenda (Schneckenberg 2009). Other factors influencing the institutional drive towards increased engagement with TEL include 'student satisfaction' and 'student expectations' (Herckis *et al*. 2017,

King and Boyatt 2014). Students anticipate access to resources anytime, anywhere and they are increasingly reducing their use of hard copy resources (King and Boyatt 2014).

> *"Web 2.0 also encourages significantly more interaction between users, a feature that many theorists argue is vital in e-learning. Interaction encourages deeper and more active learning engagement, builds communities of learning, and enables feedback from tutors to students". Boulos and Wheeler (2007, 4).*

This move towards a more collaborative pedagogy requires the integration of web 2.0 tools into practice and challenges the learning and teaching thinking of academics (Archambault *et al*. 2010). How academics apply and integrate TEL can have a negative impact on students, if they use practices that are perceived as old fashioned (Crompton *et al*. 2016). However, the perception of students' confidence in the use of digital tools is varied, they too need support to develop the skills needed to engage effectively with the opportunities that TEL affords (King and Boyatt 2014). Technology ought to be used in ways that enable and enhance the wider pedagogy that is taking place if teaching and learning with technology is to be successful (Laurillard 2008). This is echoed by Baran and Correia (2014), and King and Boyatt (2014) who focus their discussion of professional development around the requirements for on-line learning, emphasising the need to move away from technology centred development in isolation. This argument reinforces the need to integrate technology and pedagogy in order to facilitate creative learning. However, equally important to the individual development of the lecturer is the need to provide a supportive environment at teaching, community and organisational levels (Baran and Correia 2014). How academics go about developing the necessary knowledge and skills to effectively subsume TEL in their practices is considered during the next section of the chapter.

2.2 Professional development in Higher Education.

In this thesis, professional development (PD) refers to academic engagement with professional development of learning and teaching practice as opposed to professional development in the field of health and social care. The terms professional development, teacher professional development, scholarship of teaching and learning and continuing professional development are often used interchangeably in the literature with no clear differentiation between the terms (Cameron and Woods 2016, D'Andrea and Gosling 2005, Pedrosa de Jesus and Da Silva Lopes 2012). Professional development (PD) is the preferred term used in this study. The body of literature relating to learning and teaching professional development includes early years, primary, secondary and tertiary education (Archambault 2010, Baran and Correia 2014, Brooks and Gibson 2012, Crawford 2010, Dogan *et al*. 2016, Kennedy 2005, Fraser *et al*. 2007, Gomez *et al*. 2015, Ingleby 2015, Knight *et al*. 2006). A significant proportion of professional development research and discussion focuses on the early years, primary and secondary sectors of education (D'Andrea *et al*. 2005, Dogan 2016, Drago-Severson 2012, Elliott 2006, Kennedy 2015, Mitchell 2013, Pitsoe and Maila 2012) with a smaller body of research relating to professional development in HE (Crawford 2010, Kreber 2002, King and Boyatt 2014, Knight *et al*. 2006). This literature review includes research undertaken in the compulsory sector of education as well as the tertiary sector, as all sectors of education are informed by a number of related pedagogical theories (Laurillard 2008). The research on PD that has been undertaken in compulsory education has also been reviewed to gain insights into the similarities and differences in the professional development of educators (Kennedy 2005, 2011, 2015, Fraser *et al*. 2007). Subsumed in the discussion is the reference

to the policy drivers and key performance indicators that are relevant to the tertiary sector.

2.2.1 Professional development.

The literature emphasises the need for PD to continue beyond the initial pedagogical training and compulsory in-service training and it should continue in different contexts and at different times (Cameron and Woods 2016, Fraser *et al.* 2007, Kennedy 2014, Stevenson *et al.* 2016). There is a clear indication from the HEA (2011, 5) that members should evidence what is referred to as:

> *"successful engagement in continuing professional development in relation to teaching, learning, assessment and, where appropriate, related professional practices".*

It is argued that the process of continuous professional learning and development is an essential component of any profession (Hadley *et al.* 2015), and in the education sector there are benefits for both the learner and educator (Elliott 2006, Snell *et al.* 2013). The purpose of professional development is to bring the practicing professional into contact with new knowledge and ideas (Eraut 1994) and OECD (2009) describes professional pedagogical training and development as those activities that:

> *"develop an individual's skill, knowledge and expertise and other characteristics as a teacher".*

PD can be described as a process:

> *"whereby an individual acquires or chances skills, knowledge and /or attitudes for improved practice" Mitchell (2013, 290).*

Throughout their HE careers, academics are expected to pursue academic growth, described as an activity which promotes university teachers' knowledge relating to learning, assessment and feedback practices and should include the use of TEL (Pedrosa de Jesus *et al*. 2017, Wilson and Berne 1999). This implies both the agency of the educator in their professional development and the need for the learning they provide to be responsive to change (Stevenson *et al*. 2016). Academics changing their pedagogical practices to embed or include the use of TEL, need to give thought to their own learning and development needs to facilitate these changes. Skills development requires practice informed by critical reflection and theory, as experience on its own does not guarantee teaching quality, nor the emergence of a professional approach to teaching, and through this process, alternative approaches and personal development can be considered (Beaty 1998). This systematic approach to learning involving reflection, conceptualisation and planning enables learning from experience, and consequently a new experience will be informed by learning from the past and from the experience of others (Beaty 1998). It is argued that individual investment in PD is essential in enhancing credibility, job security and employment prospects (MacKay 2017a). In addition, there is a need to acknowledge the economic reasons for PD at individual, organisational and societal levels (Mackay 2017a, 141). Mackay (2017a) goes on to discuss how individuals need to invest in their PD to "enhance job satisfaction, professionalism and job security". At the organisational level, there is an expectation that academics demonstrate evidence of proactive PD and at a wider societal level, society needs to see adults continually learning to equip themselves with the skills to meet the changing work place requirements. The way in which academics acquire these skills can be formal or informal, with conscious critical reflective inquiry into

teaching and learning, promoting the important interests of students (Kreber 2002). Teaching scholarship involves both the systematic study of teaching and learning, but also the sharing and review of that work (McKinney 2006).

2.2.2 The context of professional development in Higher Education.

The current climate for professional development for academics participating in this study is complex. Each of the participants in the case study institution are required, on employment, to provide evidence of a teaching certificate or are required to undertake a post-graduate certificate in learning and teaching in higher education programme. This leads to registration with the Higher Education Academy (HEA). The HEA is a national body championing teaching excellence; working with individuals and HEIs in supporting student success and teaching through continuing professional development. Their focus is on improving approaches to teaching and individual teaching practice, to work with academic staff to motivate and keep developing their pedagogic knowledge and careers (HEA 2017). In addition, these academics must meet the professional regulatory requirements of their respective regulatory bodies, namely the Health and Care Professions Council (HCPC) Nursing and Midwifery council (NMC) and General Dental Council (GDC). The health and social care professionals need to maintain their inclusion on their respective professional registers to teach in that discipline. They are required to evidence the continuing professional development (CPD) relevant to their role. This premise enables practitioners to undertake development in their specific area of expertise and is congruent with their role (HCPC 2017). In consequence, this facilitates both

the development in their professional field and ensures credibility as subject knowledge specialists.

In recent times, there has been an increase in the programmes which seek to professionalise the practice of being a university lecturer. This moves away from a previous occurrence of academics learning to teach 'on the job' by drawing on their own higher educational experiences (Knight *et al*. 2006). In 2010, The Browne Review (DBIS 2010), focused on the development of academics' learning and teaching practices, with a requirement being made for universities to acknowledge formally that their academics are in possession of a teaching qualification. A series of pedagogical professional development programmes are present in universities that are designed to develop pedagogy, support students' learning, and develop awareness of academic assessment and feedback (Turner *et al*. 2016). The content of these professional development programmes tends to deal with generic pedagogical issues common to all subjects, but there is a growing interest in discipline specific teaching practice in HE (Wood *et al*. 2011). Implicit in the move towards a professional qualification in learning and teaching is the assumption that aligning academics' knowledge of learning and teaching to the UK Professional Standards Framework (HEA 2011) will enhance the quality of teaching and learning, though this assumption is contentious (Turner *et al*. 2016). It is generally assumed that effective teaching contributes to effective learning (Wood *et al*. 2011). As teaching and learning has become more politicised in recent years with changes in funding and the diversification of the student population (Gibbs 2010), enhancing teaching quality has become a priority for many universities (Teras 2016). It can be argued that the introduction of the TEF (Teaching Excellence Framework) by the Department for Education in 2016, and updated in 2017 to "teaching excellence and

student outcomes framework" adds to the professional development tensions of academics in universities. The TEF aims to recognise and reward excellence in teaching, with the associated aims of helping student choice and meeting the needs of employers, business, industry and the professions. The TEF operates alongside the QAA (Quality Assurance Agency), and its purpose is to incentivise excellent teaching. Though the TEF refers to teaching quality and cites a range of pedagogies and effective course design, it pays little, if no heed, to the need for staff development in the field of pedagogy to achieve the aims of the TEF. In addition, the professional regulatory bodies' emphasis is primarily on fitness to practice in the registrants' discipline areas, and the focus is not necessarily placed on learning and teaching practices.

Nonetheless, Seldon (2017) argues that the TEF will do more than any single step in history to change the landscape of teaching in British universities. It is argued that good teaching cannot be assumed to simply happen of its own accord, and an emphasis is placed on training staff to develop the skills that are necessary for quality tutorials, seminars, lectures and research supervision. Seldon (2017) challenges Vice Chancellors in universities to think about the lack of emphasis that has been placed on the development of learning and teaching. With greater emphasis being placed on student recruitment and retention, there is a shifting of the focus towards students engaging in active learning (Teras 2016). This includes the application of TEL to support student learning, and in the case of Health and Social care students, support for the growing need for digital competence to operate in today's NHS. Professional development is taking place in an environment where there is great change and the role of the university teacher is changing with the introduction of education technology and the emergence of online courses.

Academics are undertaking their pedagogical professional development in a context where teaching is not the only role, but where there are several other responsibilities such as research, managerial and administrative responsibilities. University academics are operating in environments that are characterised by complex and competing challenges as the role of an academic evolves alongside budgetary constraints and drivers. However, the tendency remains to give a priority to disciplinary research that does not always link directly to teaching practices (Trigwell and Shale 2004).

2.2.3 Models of professional development.

The debates and tensions over the scope and form of PD continues, as teachers and academics are expected to perform to new and changing standards of pedagogy (Margolis *et al*. 2017), alongside being expected to make changes to their teaching practice throughout their careers (Lofthouse and Thomas 2017). Effective leadership is required to support PD, by leading teaching from the front and emphasising that pedagogical excellence requires a supportive culture of PD from within universities (Seldon 2017). There is a need for organisations to adopt a strategic approach to ensure the improvement of teaching and learning practices and to support the professional development of educators who are at different stages of their careers (Hadley 2012). All HEI's should run their own initial teacher training programmes, with regular refresher courses (Seldon 2017). In the UK successful in-service Post Graduate Certificates in academic practice have become an expected standard of successful academic probation (Weller 2009). One of the critical success factors for professional development is the existence of a supportive pedagogical

environment (Crawford 2010). Eraut (2007) argues that contextual factors influence learning and that this affects the commitment and motivation of the 'learner' and the 'teacher'. For an academic to become effective in their pedagogical practice, as well as in their other academic roles, transformative PD is essential. A range of supportive opportunities are necessary to facilitate the needs of individuals so that pedagogical learning can be related to individual contexts and subject specialisms (Dobbs *et al*. 2017).

Both the organisation and individual have responsibilities within the remit of PD, the former to facilitate this initial training and the latter to proactively engage in their own development. However, it is argued that mid-career academics are less likely to participate in teacher related PD activities, as pedagogical PD is a complex area (Weller 2009). To be effective, PD needs to be ongoing and sustained to ensure changes in practice and to overcome and change longstanding beliefs (Dobbs *et al*. 2017). Though teachers report they most frequently attend workshops and conferences (Dobbs *et al*. 2017), professional development activities can be structured and organised in several different ways and for a number of different reasons (Kennedy 2005, Kennedy and Clinton 2009). However, identifying the most appropriate models for facilitation of PD is a challenge (Stevenson *et al*. 2016). The body of literature presents a wide range of different models of PD. Dogan *et al*. (2016) identify job embeddedness, developing teacher leaders (Killion and Kennedy 2012), reviewing learning and teaching strategies, coaching (Kennedy 2005, Mackay 2017b) and collaborative change as models of PD. Traditional forms of professional development for teachers are however, being challenged (Dobbs *et al*. 2017, Webster-Wright 2009). It is argued that there may be the provision of superficial content that can seem disconnected from learning and teaching, which therefore

results in ineffective PD (Harris and Jones 2010). This can result in a lack of the transformation and reflection that is necessary for change and Teras (2016) argues that teachers' attitudes may remain the same. Teras (2016) cites Mezirow (1997, 261) who claims that

> "transformative learning involves promoting critical awareness of one's and other's assumptions, practice in recognising frames of reference and multiple perspectives and effective participation in discourse".

Dobbs *et al*. (2017) advocate the need for a reform orientated approach to PD in which long term improvement projects can change perspectives, as well as enabling institutional change so that individuals feel less isolated. Alongside reflecting on models of PD, it is also important to enable opportunities for informal learning (Kennedy 2011). Turner (2006, 308) argues this informal learning can be "implicit, intuitive and incidental".

In 2005 Kennedy presented a framework of PD that identifies nine typical models of CPD: see Table 1.

Models of CPD	Purpose of model	
Training models Award bearing models Deficit model Cascade model	Transmission	Increasing capacity for professional autonomy
Competency/standards model Coaching/mentoring model Community of practice model	Transitional	
Action research model Transformative model	Transformative	
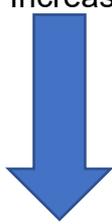
Table 1: Spectrum of CPD Model, Kennedy (2005).

The amplification of Kennedy's (2005) work results in a significant awareness of the models of PD that are generally available to us. In Table 2 an explanation of the models of PD is presented.

1.Training - Professional development activity frequently consists of short workshops in which the participant is taught a skill or activity. These are often undertaken on a regular basis that enables the participant to demonstrate competence. They are often used for the delivery of new knowledge by an expert in that field. This type of training is frequently use in the Health and Social Care sector as well as in Higher Education, and according to Kennedy (2005) it appears to be the most frequently provided in teacher development too. However, Kennedy (2005) points out that some of these activities fail to make connections to the context, thus diminishing its effectiveness and this use of standardised education and training activities overshadows the need for academics to ascertain their own professional development desires and needs (Kennedy 2005).

2. Award bearing - As highlighted earlier in this chapter section 2.1.2, academics new to Higher Education, in England, are generally expected to undertake a Post-Graduate Certificate in Learning and Teaching leading to eligibility to apply for membership of the HEA. The general consensus is that a professional qualification equates to good quality and professional teaching practices and provides an element of quality assurance and continuity (Kennedy 2005).

3. Deficit - Professional development is designed specifically to address a perceived deficit (Kennedy 2005). This model of professional development relies on performance management which requires an evaluation of an individual's performance and subsequent change in their practice, ameliorating perceived weaknesses in individual performance. However, this model is not without its critics as notions of competence differ among individuals (Rhodes and Beneicke 2002).

4. Cascade - This model of professional development requires an individual or team of individuals to attend the development event and then disseminate the information to colleagues. The drawback of this model is that it is frequently skills and sometimes knowledge which is passed on, with very little attention paid to values (Solomon and Tresman 1999).

5. Competence / Standards-based - these are externally imposed forms of accountability and inspection and can be used to scaffold professional development and to provide a common language. However, as Kennedy (2005) argues, the imposition of standards may potentially narrow conceptions of teaching thereby rendering it unnecessary to undertake PD unless it is stipulated by the standards.

6. Coaching/mentoring - this involves one to one relationships between academics and is designed to support PD. This can vary from the novice and expert relationship to the collegiate peer relationships. The former facilitates the initiation of a new academic into their role and the latter is more concerned with engagement in discussion and debate about the individual's PD. The initial mentoring process is an integral aspect of the induction process in the case study institution, however it can only be effective if participants engage and the mentors

are effective. This model of PD can, depend on the nature of the relationship if it is to enable transformative PD (Kennedy 2005).
7. Community of practice - based on Wenger's social theory of learning this PD model involves more than two people usually, in which learning and development evolves from the community and its interactions, and these interactions can be active or passive. The collective knowledge of individuals contributes to the learning of the participants (Wenger 1998).
8. Action research - the individual or community of practitioners enables changes with the aim to improve the practice, thus empowering the individual practitioners and limiting the dependence on externally produced research. This model of PD can facilitate critical reflection on practice.
9. Transformative - this form of PD involves a range of processes and conditions, and draws on other models of PD. Its central premise is that the combination of practices and conditions support a transformative agenda (Kennedy 2005). This model of PD recognises that different conditions are required for change and transformation to professional practice.

Table 2: A detailed explanation of the models of PD described by Kennedy (2005).

This framework is employed to analyse the academics' learning and teaching PD. The use of this framework enables the researcher to critique the participants' PD in the field of TEL to gain insights into how the participants actualise their learning and its effectiveness in changing their pedagogical practices. Further information on how this model has been applied to the data is also detailed in the methodology chapter.

2.2.4 Challenges to professional development in Higher Education.

Professional development is an integral part of every academic's life, but there are also competing priorities, which include development in their discipline area, wider academic development, pedagogical development and the maintenance of professional registration. There are many challenges to PD for academics, not least the range of models of PD discussed previously and their perceived effectiveness.

Currently PD often appears fragmented and disconnected from the recurring problems of improving practice, in which case, the benefits of that particular PD may be elusive or meaningless to academics (Dogan *et al*. 2016). This argument is supported by Drago-Severson (2012) who contests that PD activities which do not consider how the participants, undertaking PD, make sense of their experiences, are not as effective as they could be. Effective PD should provide teachers with support over a sustained period (Lawless and Pellergrino 2007), however this is often not provided (Margolis *et al*. 2017), due to lack of funding for sufficient release of time, together with structure and policy related changes, which are also seen to impede PD (Margolis *et al*. 2017). Educators talk about feeling overwhelmed by workload and the inclusion of PD in their working lives has been cited as adding to teacher stress (Margolis *et al*. 2017, Stoll *et al*. 2003). It is likely that academics see the demands of pedagogical PD as adding to their already complex professional lives. However, it is often difficult for academic development to take place due to teachers' resistance to change (Bamber 2008). It is argued that change is challenging and the comfort gained from existing habits tends to outweigh the discomfort of new practices (Dobbs 2017). As Herckis *et al*. (2017) highlight in their research, the failure to embrace new teaching techniques is not just about feeling embarrassed (Matthews 2017), it is more to do with a range of factors that are present behind the resistance to change. These factors can include the institutional barriers that are encountered by academics who are adopting evidence based practices in pedagogy, particularly when technology is involved. Strategic direction to support the organisational infrastructure and staff development are important factors in institutions in adopting TEL (King and Boyatt 2014), and further organisational

infrastructure may be required to facilitate the widespread adoption of TEL (Santagata and Bray 2016).

One of the main barriers to the effective use of TEL in an individual's pedagogy is the lack of training in this area (Cheon *et al*. 2012, Crow *et al*. 2010). There can, however, be a tendency to look at the actual technology as opposed to reflecting on how technology can be used in a particular context (Mishra and Koehler 2006). It is clear that professional development opportunities to assist academics in developing their ability to utilise technology to support pedagogy is important, but this requires ongoing guidance and support (King and Boyatt 2014). Other competing priorities may take precedence over the adoption of TEL activities as articulated by Harris *et al*. (2009, 402):

> *"typical approaches to technology-related professional development are based on the assumptions that it may be enough to just expose teachers to particular educational technologies and possible curriculum-based uses of those tools and resources. Approaches that teach only skills (technology or otherwise) are insufficient. Learning about technology is different than learning what to do with it instructionally."*

However, without effective digital skills themselves, academics will be unable to capitalise on the benefits of digital tools (Mishra & Koehler, 2006). The extent to which they are exposed to digital technologies, rather than whether they were brought up exposed to these technologies appears to have a bearing on whether they engage with these technologies (Brown and Czerniewicz 2010, Hargittai 2010, Margaryan *et al*. 2011, Prensky 2001a). Prensky (2001a and b) coined the term 'digital native' to describe a Net generation born between 1980 and 1994, and proposed that those exposed to digital technologies, throughout their lives, instinctively know how to use them, can apply them appropriately, thereby exhibiting inherent capability. Prensky (2001a and b) describes digital immigrants, on the other

hand, as those exposed to technologies later in their lives, as having to learn the digital language and therefore not being digitally fluent. However, the native/ immigrant debate is contested as there is no empirical basis to this widely accepted assertion and it is argued that the focus should be on how, why and when people started using computers (Brown and Czerniewicz 2010, Margaryan *et al.* 2011). Jones *et al.* (2010) argue that variations exist within and between age groups, illustrating that age is less important than exposure to technology, as the key limitation to capability is brevity of access and not knowing how to use technology (Waycott *et al.* 2010). Margaryan *et al.* (2011) and Bennett *et al.* (2008) conclude that there is a complex relationship between age, socioeconomic status and the extent of technology use (Hargittai 2010). A significant minority of the Net age do not have sophisticated skills, and greater influences appear to be based on the subject area and the extent of technology use within the degree programme (Suki and Suki 2011). The barriers to developing the digital skills necessary to engage with TEL are complex. Facilitating access and exposure to technology does not automatically increase perceived digital abilities, there needs to be a readiness to change and rectify any digital deficits, to facilitate engagement with TEL. Educators need to see the potential that engagement with TEL can afford and be willing to engage with new technologies and embrace change in their practices.

Advances in technology have provided a wide range of professional development opportunities for professional preparation and development (Gomez *et al.* 2015). For example, social networking affords a positive impact on both academics and their students (Archambault *et al.* 2010). The work of Howland and Wedman (2004) reveals that it is important to have an awareness of what technology can offer to learning and Owen (2017) highlights the importance of using online communities of

practice as an avenue to enable academics to participate in conversations around learning and teaching. It is argued that this approach to pedagogy has been very effective in the Health and Social Care sector through the development of a range of discussion forums (Brooks and Gibson 2012). The evolution of technology, therefore, does offer the potential for changes in pedagogical practice (Marshall 2014). However, the potential benefits of embracing TEL to support PD are hindered if the digital competencies of academics are insufficient to enable access.

2.3 Socio-cultural theory.

To fully appreciate how effective PD can be facilitated to support and sustain effective TEL practices, an exploration of the agency of the academics within the structural constraints of HE and their professional regulatory requirements is considered. The lens of Trowler's (2008) adoption of socio-cultural theory is used to gain understanding of learning teaching and assessment. As practitioners working in the complex organisation of a University, academics are members of several communities, but the faculty and subject teams are usually the most significant as this is the place of the locus of cultural enactment (Knight and Trowler 2000). This has a profound influence on academics' ways of working.

Scott and Palincsar (2013) argue that much of the original sociocultural theory is associated with the work of Lev Vygotsky. In his writings Vygotsky explains how individual mental functioning is related to cultural, institutional and historical contexts (Scott and Palincsar 2013). Through the process of social interaction, learners acquire new strategies and knowledge of the world and culture. Scott and Palincsar (2013) draw on the work of Wertsch (1991) to argue that Vygotsky is correct to draw

attention to the importance of individual and social processes in human development. Wertsch (1991) argues that socio-cultural theory provides a helpful understanding of individuals and contexts,

> *"A sociocultural theorist, when interpreting a learning situation, might attend to the broader social system in which the learning is happening and will draw interpretations about an individual's thinking and development based on his or her participation in culturally organized activities." (Cobb, 1994 cited in Scott and Palincsar 2013).*

The premise of socio-cultural theory is that what might be 'true' in one place may not be true in another context. The 'place' has a direct impact on the actions, inactions, learning and development of individuals operating in that context. Eraut (2000) argues that if we are to understand a situation, we need to understand the situation from two perspectives. The first is the situation itself; its history, how the situation is located in its wider context and the ongoing interactions in the local environment. In conjunction, Eraut (2000) goes on to reiterate the significance of the context on the learning of individuals,

> *"from a situational perspective knowledge is already present in established activities and cultural norms and imported through contributions of new participants. From an individual perspective, some of the knowledge is resituated in the new setting and integrated with other knowledge acquired through participation. According to the magnitude of the impact of the 'visit' their knowledge can be described as being expanded, modified or even transformed." Eraut 2000 131-132*

In this thesis, I apply Trowler's (2008) lens of sociocultural theory by considering the boarder social system in which change, pedagogical and TEL learning and development is happening. Trowler's (2008) approach suggests there is a need to look at learning and teaching in HE from a perspective that is different to disciplines like psychology, which may focus on the individual as a central focus of the academic analysis. In consequence, Trowler (2008) argues that individuals may be

seen out of context as the institutional or organisational influences on that individual are hidden.

In this research context, the wider higher education agenda, the university, the department and the subject group teams in which the individual is operating are important. Interpretations of an individual's thinking and development are considered, by reflecting on that individual's participation in the culture of the organisation and the activities in which they engage. To utilise this lens Trowler (2008) sets out a number of propositions.

1. As workgroups engage in common projects over the medium to long term they develop sets of ways of behaving (recurrent practices), ways of understanding their world (taken for granted knowledge), and ideas about what is good and bad (values). P17

Table 3: Trowler's first social cultural theory proposition.

In other words, where there is common engagement, such as in modular teaching, subject team work, department work and wider university work, individuals are involved in the social construction of the reality in which they operate. The individuals are continually weaving the fabric of their working practices, changing and developing, drawing on past practice and subsuming new knowledge and evolving. Trowler (2008) cites Bowker and Star (1999) in developing this argument about shared professional practices.

2. This states that interaction with objects (artefacts, tools, technologies, devices) is socially mediated.

Table 4: Trowler's second social cultural theory proposition.

It is the objects themselves, policy drivers, curricula guidance, professional regulation and digital technologies that "influence the nature of social reality in significant ways, while their use is at the same time socially conditioned" (Trowler 2008, 17). The nature of the artefacts and how they are operationalised in the

individual's specific context, their own views and past experiences have particular

meaning and significance to the individual who profiles their use.

3. This third proposition is that workgroups develop sets of discursive repertoires, which both express social realities and operate to constrain and delimit them. P 17

Table 5: Trowler's third social cultural theory proposition.

Trowler (2008, 17) expresses this as "the production of text in discourse and the

construction of reality work side by side, mirroring the operation of structure and

agency in social interaction". The subject and module teams create their own way of

working within the confines of the faculty, university and wider political context in

which they operate. The discourses are influenced by the people working in that

team, their pasts and their current thinking and practices.

4. Workgroups develop unique ways of using the tools available to them and a context specific understanding of aspects of projects.. P 17

Table 6: Trowler's fourth social cultural theory proposition.

As module and subject teams work together in the day-to-day delivery of curricula

and on specific projects, they operate in ways that are original and they develop

understandings that are unique to them. This occurs as a result of the construction

and negotiation of knowledge and meaning as it is applied to tasks. As this is a

group process the intertwining of relationships needs to be considered.

5. In this proposition Trowler states that individual identities or subjectivities are similarly mediated and conditioned by social contexts. Our conditions of self are partly the product of social contexts and social contexts and social relations within the institutions we inhabit. P 17

Table 7: Trowler's fifth social cultural theory proposition.

The identities of academics working in this context are mediated not only by their

subject teams, but by their health and social care professional backgrounds.

6. The significance of historical background, or narratives about the past constructed by participants, have very significant influences on the social life in the present. P18

Table 8: Trowler's sixth social cultural theory proposition.

The historical experiences from the research participants' professional working practices in health and social care are influencing the way they are practicing their current pedagogy. By looking at learning and teaching practices from a social perspective and applying the lens of socio-cultural theory, I am able to see the impact of both structure and agency in the everyday lives of academics. This theoretical approach offers a way of exploring how individuals exhibit agency as individuals alongside operating as members of groups.

2.4 Conclusion.

In the first section of this literature review, the development of TEL in pedagogy is outlined by highlighting the centrality of the digital development to students in all sectors of education by successive government agendas. The chapter has then outlined the nature of TEL. The term enhanced in the acronym TEL has been explored and as Price and Kirkwood (2014) argue, when TEL is incorporated into pedagogy it can appear to replicate traditional teaching methods (Laurillard 2008). I have argued that if there is to be an effective implementation of TEL there is need for appropriate PD to support the skills development and knowledge acquisition of academics. In the second section of the literature review, I have reflected on the nature of professional development. This section of the chapter draws on a range of empirical sources to argue that education is in a constant state of flux, with policy changes and student expectations, driving change in the sector. There is a move toward greater use of digital technologies and TEL as students' expectations of learning present new challenges for academics. To meet these changes, academics

need to ensure that they have the knowledge and skills to meet these new demands through the process of PD. Professional development is considered to be an integral part of being an academic and there is an expectation it will occur over time (Cameron and Woods 2016, Fraser *et al.* 2007, Stevenson *et al.* 2016). To ensure the effective use of TEL in their professional practice, academics need to give thought to their own developmental needs. The nature of professional development implies both the agency of the educator in their professional development and the need for the learning to be responsive to change (Stevenson *et al.* 2016). There is, however, evidence of academics' resistance to change, as change is challenging (Bamber 2008, Dobbs 2017). There are also institutional barriers to change, such as the technology infrastructure, the readiness for the institution to change and inadequate staff development in the area of TEL (Cheon *et al*. 2012, Crow *et al*. 2010, King and Boyatt 2014). This process of professional development can take many forms, as illustrated by Kennedy (2005). However, the predominance of PD still appears to be the use of short courses, workshops and conferences whereas the more meaningful transformative approaches require greater effort, time and resources.

To facilitate the exploration of the PD needs of academics, Trowler's (2008) application of socio-cultural theory, as a way of understanding of teaching learning and assessment, has been considered. Derived from Vygotsky's socio-cultural theory, Trowler (2008) presents a number of propositions to facilitate the exploration of academics working in the department of health and social, by giving an insight into their histories, current practices and structures. I have argued that this theoretical approach is helpful in understanding the role of structure and agency in negotiating PD in TEL.

2.5 The relevance of this study.

Consecutive recent governments have highlighted the need for the development of digital skills for all those in education, in order to ensure that they have the necessary skills for today's workplace. Technology enabled learning has been highlighted as a significant opportunity to facilitate digital skills development and to provide different ways of learning for students, using digital tools to collaborate, communicate and create. My interest lies in the academics supporting the tertiary sector of education and specifically those working with health and social care students. The curricula for health and social care programmes is governed by the QAA (Quality Assurance Agency) benchmarks and the professions' regulatory bodies. This curriculum is delivered in a complex context of academic study and practice placements. My area of research focuses on how academics go about integrating the use TEL in their pedagogy and how their professional development needs operate on their practice. This reflection is based on the theoretical lens of Trowler's (2008) socio-cultural theory. In the next chapter I explain my methodological thinking and present my research questions.

CHAPTER 3 METHODOLOGY AND METHODS

In chapter 1, I outlined that I am interested in understanding why some academics and not others use TEL in their pedagogical practice. Generating a case study in educational research is a helpful way of exploring the "how and why" of academic practice. In my case study I have reflected on how my research sample experience professional development. In this chapter I set out the qualitative case study approach used and justify the methods selected by showing how they provide an effective approach to answering my main research questions. I discuss the use of narrative interviews and the analysis of the Virtual Learning Environment module sites within my study. I also outline how the data was collected and discuss the iterative process of analysis used to generate the explanatory themes that form the basis of the findings. In the chapter, I also show how the ethical considerations of the study have been identified and addressed.

3.1 Introduction.

My professional background (Diagnostic Radiography) is dominated by ontological assumptions that are associated with naturalist approaches to research. These positivist empirical approaches to knowledge creation are prevalent within the Diagnostic Radiography literature. Within 'realist ontology' there is an assumption of empiricist epistemology founded on quantitative methodology (Murphy and Yielder 2010). The application of interpretive approaches to research within the body of radiography literature is present and thus my research approach has been informed by these texts (Murphy 2001, Murphy 2009, Murphy and Yielder 2010, Munn and

Jordon 2011). Nonetheless, within the field of healthcare, the emphasis is frequently

placed on Evidence-Based Practice (EBP) defined as,

> *"the conscientious, explicit and judicious use of current best evidence in making decisions about the care of the individual patient. It means integrating individual clinical expertise with the best available external clinical evidence from systematic research." (Sackett 1996).*

Sackett and Haynes (2002) go on to argue that the best research evidence is usually

found in studies that can demonstrate the application of a sound methodology, with

attention being paid to ensuring a scientific basis to the research process (Evans

2003). As Roberts *et al*. (2006) emphasise "the hallmark of science is the pursuit of

truth and limitation of error". This positivist approach utilises experimentation in which

quantitatively measured variables are manipulated to identify the relationships that

exist within sets of data (Hammersley and Atkinson 2007). Control is exercised over

the variables and it is argued that causal relationships can only be cited if this is the

case. Within healthcare, the evaluation of research findings is often ranked, with an

emphasis being placed on the effectiveness of treatments and interventions (Evans

2003). Randomised Controlled Trails (RCT) are viewed as providing the best level of

evidence. This classic research design establishes two groups, an experimental

group and a control group and the participants are randomly allocated to these

groups. The experimental group has a health case intervention applied, the

independent variable, and a control group is established to which nothing is done.

Both groups have the same criteria of age and gender, for example. The dependent

variable, the patient's condition, is measured before and after the experimental

manipulation. Following the random assignment to the experimental and control

groups, the researchers are confident that the only difference between the two

groups is due to the intervention. RCT's are also used in education, with the

allocation of participants, often students, to control and experimental groups. The researchers apply pedagogical interventions and students' outcomes are measured before and after the interventions.   However, the scientific approach is not necessarily as refined as its methodological image suggests, due to complex, material, social and intellectual conditions that enable some forms of scientific enquiry to appear transparent and others obscure (Feyerabend 2010). On the other hand, qualitative research does not follow the positivist model of research, as positivist approaches do not consider the feelings and experiences of patients, carers and practitioners. This exploration of perceptions is at the centre of interpretive methodological approaches.

On reflection, I argue that an objective reductionist approach to this study, would not capture the complexity of the application of TEL to pedagogy in higher education. A positivist approach assumes that there is a causal relationship existing between the variables that are under investigation (Bowling 2014). If, however, we attempt to objectify the experiences of academics engaging with TEL in their pedagogical practice, we can lose the opportunity to explore the multiplicity of experiences and relationships that individual academics have with TEL.

In contrast to positivism, a constructivist ontology asserts that social phenomena and their meanings are a consequence of the social action that is undertaken by social actors. This implies that social phenomena are in a state of flux, changing and being revised regularly (Bryman 2012). As Moses and Knutson (2012) suggest, in the field of social science, it is not the patterns of nature that are of interest but the patterns that are of our own making. As Charmaz (2006) argues,

"constructivism assumes that the meaning of experiences and events are constructed by individuals and therefore people construct the realities in which they participate."

My professional role within the Faculty, in which this study is based, was as a learning and teaching lead and the focus of my portfolio was on technology enabled learning. I was conscious of individuals and subject group teams who were actively using technology to support students in their learning and their pedagogical practice. However, I also became aware of other academic staff who were resistant to applying technology to pedagogical practice. Some of my colleagues appeared self-confident and positive about the benefits of applying technology to pedagogy whilst others expressed negative views about this area and often actively avoided engaging with its use.

With a more recent emphasis being placed on developing the digital competence of students (JISC 2014, Murray and Perez 2014) and the increased use of digital technologies to support health and social care delivery (DH 2011, DH 2012), I was intrigued to explore this diverse approach to engaging with and using technology to enable teaching and learning. In my research approach, the subjects' experiences became central to my enquiry. I based my research approach on an interpretive philosophy as I considered this appropriate for exploring the experiences of the academics who were teaching the health and social care students. The next section of this chapter considers interpretive research approaches.

3.2 Interpretive research approaches.

Even within the same cultural milieu it is expected that there will be a wide range of perspectives on any aspect of practice because of differing interactions between

individuals and their social and contextual environments (Moses and Knutson 2012).

Schwandt (2007) describes the interpretivist perspective of social action as being the

ability of the inquirer to understand the meanings that constitute the action of the

individual and this is dependent on the context and the intentions of the individual. I

considered several research models for my study. These included grounded theory,

ethnography, and phenomenology. I finally selected a case study approach that is

informed by phenomenology and the next section of the chapter summarises the

characteristics of the models of research I considered in my emerging ontology

ahead of an explanation for why I selected a phenomenological case study approach.

3.2.1 Grounded theory.

Grounded theory was developed in the 1960's by Glaser and Strauss (1967) and

further developed by Strauss (1987), Corbin and Strauss (1990) and Corbin and

Strauss (2008). The model of research is highly influential in health research (Newby

2010). It is inductive in its approach as the premise is that theory should be derived

from the data collected and the subsequent analysis (Newby 2010). It is argued that

theories should emerge or be grounded in the data (Flick 2014). Theoretical

sampling is a fundamental aspect of grounded theory, it is the process of data

collection for the generation of theory, the collection, coding and analysis of data

occurs concurrently. Data analysis influences the collection of subsequent data and

this data collection is controlled by the emerging theory. This is an ongoing process

rather than a single stage of the research process. Sampling is determined by the

theory development rather than the use of a purposive sample size. 'Theoretical

saturation' is a key aspect of the grounded theory process, and in analysing the data,

researchers need to adopt an 'open' approach. Theory is not the starting point of this research approach, as instead the emergence of theory at the end of the research process is the ultimate goal. It is argued that the emergent theory can be further tested through subsequent research (Newby 2010). Grounded theory is not without criticism, it is questionable whether the research results in theory, but rather provides a rigorous approach to 'concept' or 'categories generation' (Bryman 2012). Whether or not researchers can exclude their knowledge and understanding of existing theory whilst undertaking data collection and analysis into consideration, is also a moot point. Today it is generally accepted that when grounded research is conducted, researchers are sensitive to existing concepts in their field (Bryman 2012).

My research process is one that is evolving and developing, and the exclusion of grounded theory as an approach to this study became clear to me. To gain ethical approval, as a researcher, I needed to 'spell out' in detail the possible implications of the planned investigation and this contradicts the very nature of grounded theory. It can be argued that the time restrictions of this research have also compromised a genuine grounded theory analysis.

3.2.2 Ethnography.

Ethnography is well established as a method in educational research (Newby 2010) and appears in several forms (Sarantakos 2013). It is often thought of as being both a methodology and the written output of research (Bryman 2012). In an educational context it can be used, for example, to write about the culture of an environment and the relationships within it, leading to the identification of structures and processes (Newby 2010). The ethnographic research process consists of assembling material

that can be used to identify themes followed by the categorisation of the data by the

researcher. The evidence is used to create an interpretation of the social world

(Newby 2010). Ethnography comes from the Greek words for 'people' and 'writing'

(Newby 2010) and was pioneered by Gerhard Muller in the middle of the 18th

Century. It developed as social anthropological research whereby researchers

gained access to social groups by spending considerable amounts of time in the

field, observing, either overtly or covertly, and noting their cultural practices

(Sarantakos 2013). The objective is not to change behaviour but to act as an

observer of that behaviour (Newby 2010), through being mindful of the potential

Hawthorne effect (also referred to as the observer effect), where individuals modify or

improve an aspect of their behaviour in response to their awareness of being

observed. Ethnography does not have a fixed meaning (Hammersley and Atkinson

2007) and the researcher is immersed in the research process by observing

behaviour and asking questions to the research participants (Bryman 2012). Bryman

(2012) argues that ethnography became the preferred term for 'participant

observation' around the 1970s as participant observation seemed to imply just

observation, however both ethnographers and participant observers gather more

data than just their observations, through interviews and the exploration of

documents. Ethnography is taken to mean a research process where the researcher

is:

- "immersed in a social setting for a period of time,
- makes regular observations,
- listens to and engages in conversations,
- interviews informants,
- collects documents about the group,
- develops an understanding about the culture of the group,
- writes a detailed account of the setting."

Bryman (2012 p432)

Ethnography can be a complicated research process according to Bryman (2012) due to the traditional longevity of ethnographic studies and the subsequent publication of data. The time commitment within traditional ethnographic studies, is typically intense even when the research process is conducted over shorter periods of time (Zickar and Carter 2010, Van Maanen 2010). Although I am a part of the research setting and I have listened to and participated in conversations, from which the research process is derived, I have not been a participant observer specifically collecting data relating to the culture and practices of the use of TEL in the pedagogical practices of my peers. Though this approach could have been adopted, it requires an extended period immersed in the research setting, the time frame being inhibited by the duration of my studies. In addition, I felt an ethnographic approach could be considered too intrusive as I needed to be mindful of the relationships with my research participants in order to generate trust. A conflict of interest was also key in my decision to exclude an ethnographic study, in which the focus is observation of what is happening in a specific context at a given time. My role is to influence the use of TEL in pedagogical practice and make changes to the overall learning and teaching approaches and I think this would have influenced the impartial nature of the research.

3.2.3 Phenomenology.

This research approach, introduced in the 1930's, is attributed to Alfred Schutz (1899-1959) who was heavily influenced by Weber as well as Edmund Husserl (Howitt and Cramer 2014). This research approach accepts that the experiences of the individual are central to the enquiry and it focuses on the need to understand the

meaning of the individuals' behaviour (Bogdan and Taylor 1975 cited in Bryman 2012). Phenomenology underpins several interpretive approaches including grounded theory and narrative approaches to research:

> *"Phenomenology is one of the main intellectual traditions; it is a philosophy concerned with the question of how individuals make sense of the world around them."* Bryman (2012, p.30)

 A phenomenological approach sets out to create an understanding of particular social phenomena, from the perceptions of a group of individuals and their interpretations of their world (O'Leary 2014). This research approach entails an exploration of the understandings that exist of the environmental context (Newby 2010). In this approach, the researcher explores these 'phenomena' primarily through speech and text to access what the subject is experiencing and how they make meaning of this experience (Newby 2010). In consequence, as my research study is exploring the perceptions of my research participants about TEL, I have adopted a phenomenological approach in the design of my case study.

3.3 Case study research.

After due consideration of several research paradigms, I decided that a case study methodology, informed by an interpretivist/phenomenological paradigm (Sarantakos 2013) was the most appropriate ontology to capture academics' experiences of TEL. This research approach provides me with the opportunity to explore academics' histories, their understanding of TEL and their current practices in the context in which they operate. Its purpose is to generate an in-depth understanding of a specific topic to generate knowledge or inform policy development or professional practice (Thomas 2011).

This case study has two parts, in other words, 'the subject' (the academics within the health and social care faculty) and an analytical frame or 'object '(Thomas 2011), (the analysis of the academic use of TEL within pedagogical practice). The case study explores the how and why of what has happened (Thomas 2011). Case study research is a valid methodological approach (O'Leary 2014; Sarantakos 2013), which investigates a contemporary phenomenon within its real-life context using multiple sources of evidence. The research approach explores how and why things happen by enabling an investigation of contextual realities (Anderson 1998). This research approach enables an exploration of a contemporary phenomenon in depth and detail (Yin 2009). As Lauckner *et al.* (2012, 13) argue:

> *"it is appropriate for examining a contemporary phenomenon within its real-life context, especially when the boundaries between the phenomenon and context are not clearly evident."*

The focus is a socially constructed environment that affords the opportunity to appreciate the different meanings that people place on their experiences with social phenomena (Baharein Mohd Noor 2008). In addition, a case study provides the opportunity to explore in more detail, the use of the Virtual Learning Environment (VLE) and the tools embedded within that environment. A detailed description of the faculty, wider university and the health and social care professional context in which the research participants operate is also central to capturing a holistic picture of the participants' realities.

This methodological approach enables a rich description of the context and it involves individuals and seeks to understand their perception of key events (Cohen *et al*. 2011). The research approach allows for a holistic view of phenomena and is useful in capturing emergent properties (Gummerson 1991, cited in Baharein Mohd

Noor 2008). This research approach is often used in educational contexts (Moses and Knutsen 2012) exemplified in the work of Bennett (2012), Lauckner *et al.* (2012), Cameron and Campbell (2013) and Vissak (2010) and adopts two main forms that are described as being didactical and analytical. The 'analytical' content within a case study refers to theory that interprets 'didactical' (or spoken) accounts of the research topic that is under consideration. The analysis is informed by *a priori* themes derived from the literature and socio-cultural theory. This approach is used in this study.

A 'case', or area of interest, is selected because it is 'typical' of the area that is under investigation (Newby 2010). Hartley (2004) argues that case study research is about understanding the context in which particular social processes are taking place. As Sarantakos (2013) says, a case study approach enables the exploration of complex situations. The context in which this research was conducted is complex; a large busy faculty, providing a wide range of diverse professional programmes, which do not follow the traditional academic year. In addition, a case study approach enables the gathering of data from a range of perspectives and sources. Baxter and Jack (2008, 545) discuss when a case study should be employed, citing Yin (2003) and arguing that it is appropriate to use this research approach when:

> *"(a) The focus of the study is to answer "how" and "why" questions;*
>
> *(b) manipulation of the behaviour of those involved in the study cannot be undertaken;*
>
> *(c) the contextual conditions of the study are important because they are relevant to the phenomena that are under study."*

These criteria align with the aims and objectives of this study. I want to find out why some academics use technology in their pedagogical practice and others do not. I am also exploring how TEL is incorporated within pedagogical practice. There is no intention to manipulate the behaviour of the participants. By using the lens of

sociocultural theory (Trowler 2008), the context in which the academics operate may be explored in detail in order to help in ascertaining whether the context has an impact on academics' engagement with TEL in their pedagogical practice.

This methodology is concerned with the complexity and nature of a case study and the setting is part of the research focus (Bryman 2012). The research process provides me with an opportunity to investigate the occurrence of events, human relationships and other factors in a unique instance (Cohen *et al.* 2011). The research will provide an in-depth exposition of the features of this case study, by finding out what is going on and exploring why TEL is happening in the way that it is. This methodology allows for an in-depth and socially constructed understanding, capturing the essence of what is happening and why, as opposed to being in any way reductionist (Cohen *et al*. 2011). The methodology provides opportunities to establish understanding in order to appreciate the organisational culture of the context (Newby 2010). The research setting enables discrete boundaries to be drawn around the case (Cohen *et al*. 2011) and this method provides a means of exploring how and why academics use TEL in their practice by focusing on their direct and variable life experiences and current practices. The research process encourages familiarity and close contact with informants, in this instance, my peers. Flick (2014) suggests that a case study generally adopts purposive sampling, narrative interview, phenomenology and analytical data analysis. Bryman (2012) argues that a typical form of case study is via phenomenology and qualitative interviews.

Lauckner *et al.* (2012, 5) argue that:

> *"case studies explicitly seek out the multiple perspectives of those involved in the case, aiming to gather collectively agreed upon diverse notions of what occurred"*

In choosing a case study methodology I will be contributing to the critical debate surrounding its use. Case studies should not be treated as unproblematic and case studies are not without their critics (Tight 2010, Stevenson, 2004). There is lack of agreement on what is a case study. In research textbooks case studies are frequently listed as a methodology, a method and an approach (Dillon and Reid 2004). However, in educational research, this is one of the most widely referred to approaches and it is a reliable and respectable procedure of social analysis (Cohen *et al*. 2011). Kyburz-Grager (2004) argues that there is a tendency to use case study research to describe a complex situation and draw conclusions that lack rigour. Blaze-Corcoran *et al*. (2004) reviewed a number of case studies and argue that one of the main criticisms of case studies is the lack of theorizing about the methodology or lack of evidence of an understanding about the methodology. However, they argue that even when case studies do not problematize practice, they still have transformative potential. Blaze-Corcoran *et al*. (2004) also argue that although many studies can adopt an introspective case study approach, focusing on one defined context or activity or group, still enables transferability through rich description which enables the reader to ascertain the transferability of the research. I argue that although this methodology has been used in education settings, its use in the field of health and social care education is limited and that this study will, therefore, contribute to widening the scope of case study research through my work.

3.4 Thematic analysis.

Qualitative approaches to research are diverse, complex and nuanced (Holloway and Todres 2003) and they are characterised by having a range of analytical approaches. Analysis is roughly divided into two main camps, those tied to an epistemological or theoretical position, for example, conversation analysis or interpretive

phenomenological analysis, and other methods of analysis that are essentially supposedly independent of theory and can be applied across a range of theoretical approaches. It is argued that thematic analysis lies within the second approach (Braun and Clarke 2006). In this research, a set of *a priori* themes informed by the literature review and Trowler's (2008) sociocultural theory have been applied to the thematic analysis. In this section of the chapter, I give a rationale for adopting this approach and consider the benefits and challenges of its application.

Braun and Clarke (2006) argue that thematic analysis can be seen as a fundamental method for inductive analysis, though it has often been poorly defined, rarely acknowledged and yet widely used. It is argued that there is no clear agreement about what thematic analysis is or how you go about doing it. The benefits of adopting thematic analysis rest in its flexibility (Boyatzis 1998, Ryan and Bernard 2000). This provides a flexible and useful research tool which can provide a rich and detailed, yet complex account of data. It is a method for identifying and analysing and reporting themes within data. It is a way of describing my data set in rich detail, however it is a minimally organised approach.

Though thematic analysis is widely used, one of the challenges of its use is that there is no clear agreement as to how to undertake this analysis (Tuckett 2005). Another potential challenge in adopting this approach is that insufficient detail is given to the reporting process and detail of the analysis (Braun and Clarke 2006). Thematic analysis can be thought of as having several approaches; an inductive approach where the themes are strongly linked to the data themselves via accounts that outline the experiences of the participants (Braun and Clarke 2006). Alternatively, there are constructionist methods which examine the ways in which events, realities, meanings and experiences are operating within social groups (Taylor and Usshers 2001). This

constructionist perspective acknowledges that the meaning and experience of the participants is socially reproduced so thematic analysis theorises about the soci-cultural context and structural conditions within the social group (Taylor and Usshers (2001).

To ameliorate the potential issue of under-reporting of the process and to ensure in-depth analysis, a hybrid approach of thematic analysis described by Fereday and Muir-Cochrane (2006) has been employed. This approach incorporates a data driven inductive research approach as described by Boyatsiz (1998) and a deductive *a priori* template of codes (a research approach outlined by Harding 2013). This methodological strategy complements the research questions and provides the opportunity to present an objective viewpoint of academics' experiences of using TEL through identifying the factors which may impact on the experiences of the research participants.

As the researcher, I play an active role in the identification of patterns in the data and selecting what is interesting, in other words, themes reside in my thinking about the data (Ely *et al*. 1997). Using my background knowledge and understanding of the research context, I have selected key research themes (Newby 2010). This methodological approach affords me the flexibility to generate my own research themes that emerge from the data. The deductive element, where *a priori* codes are used, is informed by literature and the lens of socio-cultural theory (Trowler 2008). Interviews, and focus groups have been analysed using template analysis by a number of researchers (Bassey and Melluish 2012; Ray 2009, Kenny and Briner 2010, Howard *et al*. 2008). Template analysis is a style of thematic analysis that employs a degree of structure in the process of data analysis (King 2012). An initial template is applied using these *a priori* codes and this deductive approach reflects

categories of interest that are derived from the literature or theory. During review, any additional coding that emerges is incorporated in the template revised and reapplied. It is a technique rather than a methodology, which can be used from varying philosophical positions and it lends itself to be applied from contextual constructivist positions where a broadly phenomenological approach is employed (King 2012).

3.5 Research questions.

The overall aims of the study are to:

- Explore factors that determine academics' engagement with TEL in their pedagogical practice.

- Examine how the characteristics of academics influence their use of TEL in their pedagogical practice.

- Critically examine the micro, meso and macro context in which academics operate.

- Explore to what extent the responses confirm what is known about academic integration of TEL in their pedagogical practice.

- Generate original findings and theorise underpinning relations in the data.

The research questions are

- What factors influence individuals use of TEL in their pedagogical practice?

- Why do academics choose to use TEL in their pedagogical practice (or not as the case may be)?

- How do academics go about learning the skills required to use TEL in their pedagogical practice?

3.6 Methods.

The data collection adopted two strategies. The primary source of data emerged during semi-structured interviews alongside the analysis of a selection of VLE sites.

3.6.1 Semi-structured interviews.

The interview is the most widely used method in qualitative research (Bryman 2012), and the narrative approach is a way of communicating personal experiences (Flick 2014). A semi structured style of interview was employed as it is flexible and questions are presented in a general form, but also provide opportunities to ask further or additional questions. This has allowed the interviewees to explore and express what is important to them. The narrative interview enabled the participants to

> *"reflect their thinking processes, cultural patterns and determinants that guide their life choices" (Sarantakos 2013: 290),*

enabling the participants to express how they regard their situation from their own point of view (Cohen *et al.* 2011). This approach enabled an exploration of the motivations for the use of TEL. The research approach facilitated the extraction of personal stories by exploring how the academics have made decisions (Hennink *et al.* 2011). An interview guide was used and this ensured the questions were asked of all participants. This acted as an 'aid' memoire', as conversation could meander and

the interview guide enabled the participants to say what they thought was relevant, alongside enabling me to ask the questions I was interested in (Cohen *et al.* 2011). The interview focused on constructing meaning together with the interviewees, with them very much in the leading role. This is achieved using loosely structured open questions, probing around their use of language, their experiences and factors they perceived influenced their use of TEL.

3.6.2 Analysis of VLE module sites.

An analysis of the University virtual learning environment (VLE) was undertaken. The VLE has been supported by the university more than 15 years. It supports a range of tools that facilitate communication, such as blogs, discussion boards, twitter feeds, email, and chat functions; assessment and grading tools; media library for video and audio files as well as the facility to integrate into other wider university software, such as student records. The VLE allocates sites for each module delivered across the academic year. The purpose of this was to ascertain to what extent the VLE tools were employed by academics to support student learning. The University has a set of quality standards which aim to ensure the setting and maintenance of academic standards, the quality of students' learning opportunities and continuous enhancement. These quality processes are mapped to the Quality Assurance Agency's (QAA) UK Quality code for Higher education and other relevant external reference points, such as professional bodies. The university applies a number of threshold quality standards, these are detailed processes relating to specific aspects of the students' learning experience, the standards set out the minimum good practice for on-line support and delivery of all modules. The modules were reviewed

using the University Threshold Quality standard template (TQS) (Appendix 1) for electronic module sites.

The data collection was carried out in spring 2016. The module sites selected were from the previous academic year 2014-5 to ensure an accurate evaluation as no further changes would be made to the sites. All the module sites were still available to students enrolled on existing programmes and stand-alone modules. At the beginning of each academic year, each module planned to be delivered in the academic year, is allocated a module site and is assigned to the module leader. Students studying the individual modules are automatically allocated to the module site once they have enrolled on their programme or standalone module. Each of these VLE module sites are allocated a module code.

In addition to the individual module sites, VLE support sites are generated. These sites are used generally for whole programmes whereby all the students across each of the year of study are enrolled on the site. The programme leader is generally allocated responsibility for the site and all the programme team are generally attached to the site and can access the VLE site resources.

3.6.3 Exploration of the context.

The context in which the academics operate is a key element of the case study. A description of the operational organisation of the faculty in which these academics operate is given in chapter 1 and referred to throughout the text. The academics' sphere of influence is not limited to the academics' settings; their curricula and academic practice is influenced by professional regulatory bodies and the changing needs of the National Health Service. By providing this detailed description of the

context (Newby 2010) in which these lecturers operate; I have explored the interaction between the individual and the institution within my research study.

3.7 Ethical considerations.

Ethical issues associated with research need to be considered. Ethical principles from the British Educational Research Association (BERA) 2011, my professional code of conduct (SoR 2013) and regulatory body standards of conduct performance and ethics (HCPC 2012) inform the conduct of this research. I have a moral responsibility to ensure a rigorous approach to research; the study maintains trustworthiness and complies with research governance (Teesside University 2014). The issue of power was a consideration, I may be perceived as an expert in this field by the participants, seeking to catch them out, similar to the issues Bryan and Burstow (2018) comment on. The very essence of the interview process raises awareness of the topic and sufficient time needs to be available for discussion (Bryan and Burstow 2018). The study should be of some benefit; for the wider academic community and recognise the past work that has inspired and influenced it, I have specifically built on work carried out by Bennett (2012) and Attwell and Hughes (2010). For the organisation and faculty there is the potential for the work to influence strategy and give insight into how staff work and use TEL in this context. For the participants there is the opportunity for their voices to be heard. For myself there are internal motivations, a higher qualification and better understanding of motivations for behaviour and how people make decisions about adopting TEL in their practice.

Prior to the study commencing, permission was sought from the Dean of Faculty and the Assistant Dean (AD) Research. In line with the faculty research strategy at the

time, the AD Research needed to be informed of any independent research to ensure it did not compromise or interfere with any research the research institute was conducting.

Ethical approval was sought through the ethics committee of the Faculty in which I am studying. The ethics application ensured that any potential risks were minimised and appropriate information was sent to the potential participants to enable them to make an informed decision as to whether to participate. A copy of the ethical approval was sent to the chair of the ethics committee of the faculty I work in to inform them of the study and the nature of the data collection.

3.7.1 Consent and confidentiality.

Each of the research participants was given a pseudonym following the recommendations of the research ethics panel. To ensure the anonymity of the research sample. In the participant information sheet and consent form (Appendix 2 and 3) it was stated that the information disclosed would be treated confidentially and the participants were advised that If anything unexpected was disclosed or discovered during the research process they would be kept informed. Throughout the research process, I ensured that the voices of the participants appeared in ways that were appropriate so that the integrity of the institution was not compromised.

3.7.2 Insider researcher.

My position within the faculty and as a researcher was considered during the research process. Mercer (2007) argues that educational research based in the

practitioners' place of work poses particular research challenges. My position as an academic health care professional and learning and teaching leader, with a role that encourages academic engagement with TEL is central to the focus of the research. Workman (2007) suggests the insider researcher (IR) has privileged organisational knowledge and access to information, which can aid the understanding of the context, but also provides challenges in relationships with potential participants, and consequently there is the potential for bias or a lack of objectivity. It is argued that there are pragmatic advantages in being an IR (Charmaz 2006). A rapport with the participants already exists and, as such, there is no need to 'acclimatise' to the research context. This facilitated access and insight into the language of pedagogy and health and social care practice. By virtue of my experience in both clinical and academic settings I have knowledge of the rich background of my research study.

To the research, I have brought:

  a) A general understanding of higher education academic learning and teaching practice.

  b) Unique insight in to how the subject teams operate within the faculty.

  c) A wider perspective of the overall faculty and university learning and teaching strategy.

  d) Experience of using TEL in my own practice and faculty responsibility for e learning.

This unique position enabled me to detect participants' behaviours and perceptions as well as an identification of unusual and unfamiliar circumstances (Charmaz 2006). I argue that insider knowledge is overtly positive as it enables the generation of rich knowledge about the research context.

3.7.3 Reflexivity.

Reflexivity in research involves a reflection on self, process and representation, with critical examination of the power relations within the research context (Sultana 2007). The debate has moved away from minimising subjectivity to thinking about reflexivity, thereby acknowledging the researcher's own knowledge of the subject area and the wider world (Drotins 2002, Finlay and Gough 2003, Sultana 2007). I acknowledge that I have interpreted the data in a particular way by using the language that is associated with health and social care and TEL (Drotins 2002). The situated nature of the research that I have conducted requires a thoughtful self-aware analysis of the inter-dynamics between myself as the researcher, my position within the organisation and the interviewees (Finlay and Gough 2003). As Flick (2014) argues, the subjectivity of the researcher is a key part of the research process. Acknowledgment of the views I have developed of the data and the research process are influenced by my social position and my position at the time of data collection within the organisation. May and Perry (2014) argue that being reflexive requires an examination of the nature of the research process in personal and reflective ways. McCabe and Holmes (2009), Le Gallais (2008) and Forbes (2008) argue that reflexivity in research provides the researcher with the opportunity to think differently about research projects. The research process can be transformative but it is also important to reflect on the nature and function of power within research relationships (McCabe and Holmes 2009). A reflexive approach is essential if we are to ensure that the dynamics between the research subjects and the data that is gathered and the theories that are employed work in positive ways (Finlay and Gough 2003, Sultana 2007). Being reflexive can strengthen the commitment to conduct quality

research that evidence good relationships of mutual respect. Through the adoption of a reflexive approach to this research project, I have acknowledged my own positionality and recognised how I am affected by my own position as a multifaceted practitioner and the power relations that are associated with these roles. I acknowledge and recognise what I can and cannot do in relation to the faculty, wider organisation and the context of institutional, social and political realities. The issue of the trustworthiness of the study has also been considered by reflecting on the work of Weber (1949 cited in May and Perry 2014). In developing the research process, I have published research blog accounts that reflect on my thoughts, my progress and my research focus (Appendix 4).

3.8 Ensuring the trustworthiness of the study.

Within any research process, it is important to make sure that errors are limited and that rigour, validity and reliability is applied to the research processes. However, the use of these terms in qualitative research is questionable (Murphy and Yielder 2010). Within qualitative research, the notion of rigour is approached in two main ways (Merriam 1995). There is an acceptance of the traditional views of validity and reliability alongside developing an awareness of trustworthiness (Murphy and Yielder 2010). There are four elements to addressing rigour in qualitative research (Murphy and Yielder 2010, Newby 2010). The transferability (external validity) of this study is determined by the thick description of the setting as appropriate to a case study methodology. Unlike research undertaken in the positivist paradigm, I am not seeking to generalise from the research findings. By providing a thick description of the setting and participants I am enabling others to judge the transferability of my

research process (Tuckett 2005). The credibility (internal validity) of my research is bolstered through the process of reading, re-reading and listening to the interviews of my research participants, so that there is an appropriate representation of my respondents' views and my representation of them. This is an integral aspect of the reflexive process as I am exploring meaning within my research process and ensuring that there is a counterbalance in the power that I exert as a researcher and as a member of the faculty. This intra subjective reflection has assisted in developing mutual meanings within the research relationship (Finlay and Gough 2003). Credibility is further enhanced by prolonged engagement in the setting (by virtue of my position) and through the research interviews. The presentation of findings to other audiences has also helped in defining my area of research focus (a conference presentation at the International Professional Development Association conference 2016 and three research seminars within my University). Openness to challenge has been strived for through a reflexive stance within the research process. The establishment of an inter-subjective research perspective has been central to establishing trustworthiness (Murphy and Yielder 2010). An online blog was used throughout the research process and I had regular meetings with my supervisory team to further a reflexive stance. The use of an interview schedule and Threshold Quality Standard (TQS) tool were employed to increase the dependability (or reliability) of the data and the research process was supported with an analysis based on a clear audit trail. This provided my research process with 'dependability' (Koch 2006).

3.9 Development of the data collection tool.

Initial interviews were conducted with two participants to enable the development of the interview schedule (O'Leary 2014). These participants were purposively selected

as I knew both and both had shown an interest in using TEL in their pedagogical

practice. One had extensive research experience in a positivist paradigm, the other

had less research experience, but was within the interpretive paradigm. At the

commencement of the interviews, the purpose and aims of the study were explained.

The participants were asked to read and sign a consent form. Following the

interviews and their initial transcription, I gathered feedback about the interview

process and the questions that had been asked. The participants commented on the

relaxed interview approach, and neither thought any changes needed to be made to

the interview structure as it enabled the gathering of their substantial views and

opinions about TEL. This data was included in the final analysis.

3.10 Recruitment.

In general, qualitative research approaches adopt a non-probability form of sampling

and purposive sampling is typical of case study methodology (Bryman 2012, Hood

2007). In this study, the appropriateness of the research sample was considered

(O'Leary 2014). The sample of participants provided reflections into their experiences

of using TEL in their pedagogical practice. The sample was drawn from the School

of Health and Social Care and the participants were all able to answer the interview

questions. All the sample were introduced to the research process via an email

(Appendix 5) and a participant information sheet (Appendix 2) inviting them to contact

me if they were interested in participating in the study. Initially 36 participants

responded to the request. Of these, nine said they would participate, but would prefer

to be held in reserve as they had a number of other professional commitments. A

further 27 agreed to be interviewed. Of these, two respondents consented to

participate in the pilot study and give verbal feedback on the clarity of the questions

in the interview. Interviews were scheduled for the remaining 25 but four participants

subsequently withdrew. This resulted in a further 21 interviews occurring at mutually

convenient times. All the interviews were conducted in private tutorial rooms located

in the school buildings, to minimise the disruption to the participants. There is much

debate regarding the ideal numbers of participants for a qualitative study. Bryman

(2012) cites Warren (2002) who suggests between 20 and 30. Gerson and Horowitz

(2002) argue that if the research sample is less than 60 participants, the study cannot

generate convincing conclusions. Mason (2002) recommends having between one

and 95 participants, the mean number of participants being 31 and the median 28.

There was no consensus among the authors about the appropriate numbers of

interviews to conduct and the rationale for the numbers of participants presented by

the authors also differed, leaving me confused and unsettled. Therefore, for practical

reasons 2 participants were recruited for the data collection development tool and a

further 21 were interviewed following advice from my experienced supervisory team

of educational researchers. I argue that this number is large enough to give thick

description (Geertz 1973), but not too big to give data overload (Saraktokas 2013).

The participant criteria for inclusion in the study is presented in Table 9, as well as

the exclusion criteria.

Participant Inclusion criteria	Participant exclusion criteria
Health or social care professional or subject specialist.	Senior management responsibility
Has teaching commitment as part of their role.	No teaching commitment as part of their role.
Has experience of using technology in their pedagogical practice.	Primary role is research rather than teaching.

Table 9: Inclusion and exclusion criteria for the interview sample.

3.11 Data collection.

The data was collected over a period of 12 months upon obtaining ethical approval. The interviews were conducted over a period of five months, commencing with the pilot studies in February and the remaining interviews were conducted over the next four months (the final interview was conducted in June 2015). The VLE data collection commenced in January 2016 and was completed in March 2016.

3.11.1 The process of data collection.

Each of the interviews was digitally recorded using a password protected iPad and an MP3 player, which were kept in a locked room following each interview. Once the recording was checked the MP3 file was downloaded to a password protected computer and the file deleted from the MP3 player. At the beginning of each of the interviews I welcomed the interviewee and thanked them for agreeing to participate and ascertained they had read the information sheet that had been sent to them, providing a further copy if necessary. Each of the participants was asked to read and sign a consent form (Appendix 3). Using a semi-structured interview template (Appendix 6), the interviews commenced with demographic questions and I then asked the participants to tell me about their careers prior to working in HE and what had motivated them to move from the clinical sector to education. Where I felt, further clarification was required I asked the participants to explain in more detail to facilitate my understanding of their clinical and academic practice. The flow of the interviews enabled good discussions about the research area and when the participants reflected on their pedagogical practice I asked how they facilitated the students learning. The interviews explored the context of the participants' professional practice by reflecting on how TEL supported the students' learning. In addition, I explored how

the professional background of the participants influenced their pedagogical practice. Some, though not all of the participants, commented on the digital competence of the students they interacted with. Each of the participants was asked if they used technology within their pedagogical practice, some giving details of the tools and techniques which they employed. The participants were asked to comment on their digital competence and how they went about developing these skills. The participants were asked about the focus of personal and professional development and how they went about this development. As the sequence of interviews progressed I listened to the interviews and reflected on the way the interviews had been conducted. Consequently, adjustments to the questions were made and included questions regarding their perceived opinion of the students' digital skills and additional emphasis was placed on the exploration of their professional development. In some of the initial interviews I noticed some engagement in conversation about the topics under discussion and my opinion was solicited. In later interviews a conscious decision to avoid engagement in debate was made as I did not want to potentially influence any responses.   Throughout the interviews I positively reinforced the participants' responses, I considered whether this could influence responses and attempted to adopt a more active listening approach which reduced the positive reinforcement.

3.11.2 Transcription of the data.

Analysis of the data needs to be critical, reflexive and iterative. Though initially my preference was to consider transcription myself, a professional transcriber was employed and the data was presented in full. The transcriber was not associated with

the university and did not, to my knowledge, know any of the participants. The transcriber was made aware of the potentially sensitive nature of the data and the need for confidentiality. The files were transferred to the transcriber using an encrypted file. The file was transferred via the university secure e-document transfer system. Each audio file sent had a unique password. The audio file and passwords for the file were sent separately.

The professional transcribed the interviews fully and this included all the nuances of the conversations, (the' ums and errs', the laughter, coughing, the talking over each other, pauses and external sounds, such as fire alarms and sirens, which I have termed interview "background noise"). At the end of each transcription there were notes that reiterated any points in the transcript where the transcriber could not identify a part of the conversation. When each completed transcription was returned, the audio file was listened to once more and the transcription was checked for accuracy. Notes were then considered and amendments were made where necessary. The presence of "background noise" in the transcription made the analysis difficult and this interrupted the essence of what the participants were saying. This was a problem when coding the data in the qualitative data analysis tool NVivo 10 and subsequently reviewing the codes and the data allocated to those codes. The original transcriptions were kept as virgin copies with the digital audio files and a subsequent transcription was made. The omission of the background noise gave greater clarity to what the participants were saying and this was helpful in developing the study's published outputs.

3.12 Data analysis.

Qualitative data analysis is based on interpreting linguistic and/or visual material in order to generate key research themes (Flick 2014).

3.12.1 NVivo 10.

The use of qualitative data analysis tools is widespread and the tools enable coding, indexing, mapping enumeration, exploration and comparison, (O'Leary 2014). NVivo 10 software is essentially an organisational support mechanism for data analysis (Gibbs 2013, Tummons 2014) that makes the construction of codes relatively easy, and it allows for the comparison of data throughout the data analysis process. NVivo 10 facilitates the retrieval of material in order to develop similar themes by sophisticated text searching. This can help in supporting the dependability of the study.

3.12.2 Thematic analysis.

The process of data analysis followed a framework developed by Fereday and Muir-Cochrane (2006) seen in Table 10.

| a) Summarising and identifying initial codes. |
| b) Developing the initial codes. |
| c) Testing the reliability of codes. |
| d) Applying template of codes and additional coding. |
| e) Connecting codes and identifying themes. |
| f) Corroborating and legitimising coded themes. |

Table 10: Framework of the process of thematic analysis (Fereday and Muir-Cochrane 2006).

a) Summarising and identifying initial themes.

To begin, I read through and listened to the 'raw data'. I used this as a first step to analysing each interview, summarising the transcriptions separately and any key points made by the participants were identified.

b) Developing the code template.

Initially the interview data was carefully read and re-read to aid in the formation of pattern recognition within the data. By reading, re-reading, listening and immersion in the transcriptions, I could ensure that the transcriptions reflected the original data and by undertaking this process this also enhanced the credibility of the research (Harding 2013). The coding involved recognising key pieces of information that could be used to develop research themes ("a good code captures the qualitative richness of the phenomenon" Boyatsiz 1998). These initial codes were developed from the literature, the research questions and interview summaries. The initial coding served as a data management tool for organising segments of similar or related text to assist in interpretations (Crabtree and Miller 1999). A benefit of developing this initial coding template provides evidence for the credibility of the study.

c) Following the initial template.

The initial coding template was tested by myself. It could be argued that ideally this should have been carried out by another researcher, however, as this data set is specifically for the attainment of a doctorate, I did not have access to a paid research assistant. The research template was discussed with my supervisory team and this template was entered into NVivo using nodes for each code. Each interview was reviewed and coded against these initial nodes with additional codes added to this template. Following additions to the template, previous interviews were reviewed to

ensure that the data was considered for the additional codes. This is an example of the constant comparative process that characterised my study.

d) Applying template of codes and additional coding.

At this point in the research process, the data was reviewed once again this time coding the data using six propositions of socio-cultural theory identified by Trowler (2008). The six propositions were entered as nodes in NVivo 10 and appropriate items from the interview date allocated to the nodes.

e) Connecting codes and identifying themes.

This iterative process involved review of the codes and identification of initial themes. The initial codes allocated to the raw data were then grouped into themes. The data allocated to each code was checked to ensure it fitted with the initial coding and subsequent theme. Those codes that fitted across themes were reviewed to ensure they met the criteria of themes.

f) Corroborating and legitimising coded themes.

Normally this process would involve a group of researchers reviewing the data and coming to consensus regarding the key themes emerging from the data, however as the sole researcher and the nature of this research being for assessment purposes this could not occur. Nevertheless, continuous discussion occurred with my supervisory team, this gave me the opportunity to highlight emerging ideas and themes and facilitated critical reflection of my analysis.

3.12.3 Constant comparison.

My research process was characterised by a constant comparative analysis. The research process enabled data immersion and data analysis, and as anticipated further inductive codes emerged and the template was updated and reapplied to all the interview data. Harding (2013, 75) argues that

> *"comparison is the engine through which we can generate insights, by examination of commonality and difference".*

Staying close to the data from the initial collection to the final analysis also assists in the reflexive process (O'Leary 2014), by keeping in mind the aims, objectives, theoretical underpinning and methodological constraints within the research process.

3.12.4 Analysis of VLE sites.

As e-learning co-ordinator I have privileged user access to the VLE module sites, which enabled me to review module sites and support sites, ascertaining to what extent these sites were used, mapped against the TQS to interrogate of the use of the VLE tools. These tools included links to generic school facilities such as a placement web site and sickness reporting and academic skills development. It is incumbent on the academic to disable these facilities if they were not relevant to their module. In addition, the VLE supports a number web 2.0 tools such as blogs, discussion boards, pod casting, facilities to embed twitter feeds, links to You Tube and other web sites. I anticipated that an insight into how academics utilise the VLE as a means of supporting students' learning, would increase the understanding of how this aspect of technology is being used in pedagogical practice. Once the module sites had been selected, I facilitated access to each of the sites. The data collected is nominal and each site was assessed using the template criteria. The data

categories were either meeting the criteria or not and data was then inserted into an MS Excel spreadsheet. Additional comments were inserted to differentiate between those sites that met the minimum criteria and those that had used the tools extensively.

The total number of module sites in the School of Health and Social Care for the academic year 2014 -15 available to students was 548. The percentage of sites used at each level was ascertained to ensure proportional representation at each level of study that was being selected for review. For practical purposes 10% of the module sites at each level were reviewed. A total of 57 module sites were reviewed. The breakdown of modules sites selected at each level of study is presented in Table 11.

Descriptive statistics were used to analyse the data because the data set was not large enough to develop inferential statistics. There is no attempt to infer or predict any parameters of the population, but to enumerate and organise the data.

Level	Numbers of modules active by level for academic year 2014-15	Number of modules at each level selected to review
Support	59	8
Level 4	97	7
Level 5	106	11
Level 6	157	19
Level 7	119	11
Level 8	10	1

Table 11: Number of VLE active module sites utilised in the academic year 2014-15.

3.13 Conclusion.

This chapter has illustrated how my professional background has influenced my research experiences, and explains how my thinking mas moved from a positivist domain to an inductive approach. In selecting a case study as an appropriate way to explore factors influencing health and social care academics' use of TEL in their pedagogic practice, this inductive approach enabled me to gain insights into academics' histories, pedagogical experiences and their experience of TEL. A combination of interviews and analysis of the VLE was designed to explore the academics' past experiences of using technology, the current context in which they operate and their current experiences of using TEL in their pedagogical practice. The VLE sites were evaluated using the university threshold quality standard to gain insight into the extent to which the VLE was utilised to support pedagogical practices. Data were analysed using an iterative process to develop key themes and subordinate themes. The next chapter presents the interview data presented as key themes and the descriptive data derived from the analysis of the VLE module sites.

CHAPTER 4 DATA PRESENTATION

In the first section of this chapter, demographic data relating to the participants is presented. This data reveals the context and background of the interviewees. The chapter presents interview data from 23 research participants and the three main research themes, (the relationship to TEL of personal/ affective; professional and social factors) that has emerged via thematic analysis is presented. The research participants' experiences of professional development are presented in depth and detail. The chapter also provides data relating to the VLE module sites that have been analysed.

4.1 The participants, definitions of TEL and its perceived benefits.

The 23 participants presented a complex picture of their histories and current practice as lecturers. In this first section of the chapter the demographic data of the participants is presented illustrating a wide range of professions, ages and experiences within the higher education setting. An example of a participant summaries can be found in Appendix 7 and professional and subject backgrounds of the participants. Appendix 8.

The 23 participants are from a range of subject specialisms within the field of health and social care, 19 are registered health and social care professionals, the others teach subject specialisms relating to health and social care. Table 12 indicates the range of professions of the participants.

Profession or subject specialism	Participant numbers
Biomedical scientist	1
Dental therapist	1
Diagnostic radiography	3
Nursing – adult	2
Nursing - child	1
Nursing – mental health	4
Nursing – Specialist Community Public Health Nursing	2
Physiotherapy	3
Social work	2
Health and Social care subject specialist	4
Total	23

Table 12: List of professions and subject specialisms.

The interviews followed a semi-structured format and the length of discussion ranged from 26-27 minutes for Helen, Michelle and Elizabeth to 55 minutes for Brian and Tristan, with a total interview time of 982 minutes. The mean interview time was 42 minutes. The lengths of individual interview times are available in Appendix 9. An example of a full transcription of an interview is available in Appendix 10. The ages of the participants were collected, with only one participant not disclosing their age group, Table 13.

Nomenclature	Age range date of birth	Number of participants
Baby boomer	1946-1965	12
Generation X	1966-1976	9
Generation Y	1977-1994	1
None disclosure		1

Table 13: Age category of participants.

First, I will present the academics' definitions of TEL, followed by their perceptions of the benefits of including TEL in the curriculum and its impact on the students learning experience. I argue that these discussions set the scene for the subsequent data presentation; they give insight into their understanding of TEL and why the participants think that TEL is an important feature of the student experience. The

research participants acknowledge the need for students to develop digital skills to operate in the field of health and social care and to live in today's world.

4.1.1 Participant descriptions of what TEL means to them.

The explanations of TEL given by the participants are varied, they hesitate in their articulation of a definition, using examples of digital technologies to assist in their descriptions, and there was a lack of clarity and uncertainty on occasions. The participants appear to be clear what TEL means to them, however, rather than giving a referenced definition, they express subjective interpretations of TEL.

> *"I suppose it'll mean different things to different people. For me… the potential for technology to enhance any kind of learning has always been there…technology's about trying to improve that student experience… in terms of being able to try and get complex things over". Tristan.*

This participant goes on to say:

> *"…it's about trying to make that learning more accessible to the students, outside of the normal academic environment…". Tristan.*

Katie includes 'hardware' in her explanation and Martin uses examples of TEL to explain his definition, whereas Guy includes 'software' and Hero and Tilley allude to 'efficiency',

> *"… I think it's being able to use the available technology, like iPads and iPhones and computers and whiteboards, and those kind of things, to try and develop the learning experience in class". Katie.*

> *"…it's using the technology to help the student learn... in whatever way that might be… it could be simply listening to an audio cast. It could be looking at video….". Martin.*

> *"When I think about technology... I see a broad thing... we can talk about technological devices. We can also talk about new software's...that are coming on board. We can also talk about equipment in classroom...that can also be technology". Guy.*

> *"… one of the biggest things… is the efficiency. VLE sites, I can see their value. There's information there, at the touch of a button". Tilley.*

> *"My interpretation would be, using technology to enhance the experience of the students... to make information more accessible... more usable".* Hero.

Elizabeth and Stephanie, among others, refer to technologies, other than digital, in their definition of TEL, and Stephanie is not wholly comfortable with giving a definition and this mirrors the uncertainty of other participants,

> *"…when you say "technology ", you think of Gadget Show… electronic things to make things quicker, easier, better… I would tend in teaching, if that term is used, to automatically think about those things".* Elizabeth.

> *"TEL – I don't know. It's that thing where you...use some device… something as simple as… maybe not as simple as an iPad. Maybe it's like in our practical classes … using technology that would be in their practice".* Stephanie.

> *"I think it probably means to me exactly what it says on the tin – using anything from a smartphone to a video to a blog, social media; anything at all that might enhance the students' journey – that are helping them to achieve their learning outcomes". Sue.*

> *"…I think it's a difficult question … I suppose a lot of things that might have come under that umbrella are now so commonplace… I suppose anything that uses electronic media is Technology-Enhanced Learning…".* Archie.

> *"I think it's huge... I wouldn't profess to have an in-depth or detailed understanding of it.".* Helen.

It was interesting to note how Verity refers to the academic in her definition of TEL and how the opportunity to engage with TEL can benefit the academic as well as the student,

> *"Using technology to enrich the learning experience, for both the academic and the students...".* Verity.

Elsa refers to educational theory when thinking about her definition of TEL,

supporting the notion that technology can be used to support the learning

experience,

> *"For me… theories, like the pedagogical theories… they're not changing… the technology is changing… but I think the way they enhance learning is through the student experience; and I think we do live in a digital age".* Elsa.

Jacqx, refers to her responsibilities regarding the embedding of TEL in her practice:

> *"… it means to me that you take the opportunity that new technology offers you...to develop the delivery of your learning; to create opportunities for better access… to information and resources, and evidence…".* Jacqx.

But to Jane *"It means – fear! (laughs) Nightmare!"* though she does illustrate some

understanding of TEL and how it is embedded in practice:

> *"… using things like phones, and whatever they're called – tablets, and... using those types of things. In addition to the traditional methods, I would think…it has not to replace it... so that learning can be mobile, rather than you should be in the classroom; you can learn anywhere, really. It means things like that". Jane.*

Jane emphasises her lack of knowledge of much of IT language, software and IT

applications:

> *"It means those strange words like Twitter, and tweet, and... wikis; it means all those things to me. But I couldn't say much more than that, 'cos I don't understand them. They're beyond me". Jane.*

The participants acknowledge there are benefits to including TEL activities in the

curriculum, their thoughts now follow.

4.1.2 Perceived benefits of TEL on the student experience.

The participants highlight many benefits of including TEL activities in the curriculum

to support students' digital skills development, preparing them for the world of work.

They talk about changes in their practices, leading the way in the use of digital

technologies, but reiterating the need for students to also take responsibility for their

own development,

> *"… we live in a technological age... of course that's important, to move with the times...". Tilley.*

> *"They may not always see the benefits initially... I think there's no gain without pain… students coming in who are novices to Higher Education …I think you should be cautious how you introduce technology to people who haven't grown up with it… I think it's the way you go about it". Verity.*

> *"I think there are times when it is very effective in terms of time management, because you can do lot so things quickly, you can save a lot of time." Lizzie.*

Katie and others relate to the changing nature of the clinical setting, where students need to have digital skills and Lizzie reflects on the use of an e-portfolio to enable students to develop their CPD skills,

> *"…that's what is happening in clinical practice… telemedicine, telecare … we've got e-observations… they have got to get used to it". Katie.*

> *"For (identifies patient group) … its patient's records are on electronic devices now, so it's a key issue… every community (practitioner) has a mobile phone...they all have laptops as well, with a dongle, so they can communicate…check email… type up patients notes". Michelle.*

> *"…most of our students are going to work in health and social care… employers want students to have the skills to work in modern society". Elsa.*

Rachel comments about the conscious change to her pedagogic practice, using technology to support distance delivery of her programme rather than study blocks; she is quite clear about the impact on her students learning experience, Elizabeth and Hero note similar experiences,

> *"I think the benefits to them have been a deeper learning experience…instead of … very intensive week blocks, and then … the VLE…it just became a bit fragmented… they didn't get time to reflect on it and think about their own practice; whereas now they do… now … it's not just people across the country, it's people from different countries, they really like that… learning from their experiences… learning from each other". Rachel.*

> *"… I think also it's helped in terms of retention… cohort identity, and feeling part of that community, they're more likely to stick with it….". Rachel.*

> *"I think it… can engage the students a lot better... using something visual on it as well... creating diagrams and building them up…it can engage them more than just... words on a screen". Hero.*

> *"I think it provides flexibility for students...in terms of people's different ways of learning...and the way they like to learn, or spend their time, or interact directly with people or not, so for each individual...". Elizabeth.*

In contrast, Brian sees the inclusion of TEL in his practice as an unintended outcome,

> *"… it's not about the skills that they use; they're kind of… an unintended learning objective… (Whereas the actual learning objective he talks about is the manipulation of a profession specific piece of software) …". Brian.*

The participants also discuss how the integration of TEL facilitates mobile learning,

> *"… the benefit of recording lectures having podcasts … is that students can learn wherever they are… if you are on public transport you can be learning".* Archie.

> *"...where things are embedded and they can look at them remotely... or look at them from home".* Tilley.

> *"… people with hugely busy lives, with travel issues...it's a huge advantage. If you're able to learn from your own home, not having to travel…".* Elizabeth.

Millie, Verity and Tristan talk about leading the way, illustrating through their own practice the benefits of using digital technologies,

> *"It shows that you're willing to engage with new technologies... and keep up to date with things".* Millie.

> *"… the students like the result… they like the fact that someone's gone to a lot of effort to do something for them".* Tristan.

> *"… the benefits for me, as an academic – sometimes I wonder what those benefits are, because I do think... it takes a lot of preparation".* Verity.

The participants thought students needed to take some responsibility for their own digital development. Archie and Jacqx find students do not always make the most of the TEL opportunities. Jane expresses concern for older students, possibly not recognising the need to expose these students to technologies to develop their repertoire of skills,

> *"… what I have found that a few students will open an account (Twitter), and then they won't do anything with it …".* Archie.

> *"… it's very much up to the students… are you going to use it and engage with those things? … the resources are there, are very useful to me as a tutor, to be able to signpost people to them … to integrate them…".* Jacqx.

> *"I think the older ones(students) maybe a little bit scared of it like I am… I don't think it's the only way to teach".* Jane.

The three major themes emerging from the data are now presented. Professional, personal/affective and social factors, each of which has a range of subcategories, impacting on academics' engagement with TEL. Starting with professional factors, the interviewees discuss the macro, meso and micro context and how the internal

and external structures influence the way they practice and engage with TEL. They allude to opportunities and constraints in their pedagogy; considering student numbers, their subject team and their pedagogical preferences.

4.2 Major theme 1 - Professional factors in determining the use of TEL in academics pedagogical practice.

I have called this first major theme 'professional factors and TEL'. The participants' understanding of TEL are determined by their current academic practices. The research participants illustrate how student diversity and complex delivery patterns influence the way they operate from day to day. They discuss the significance of the wider university, faculty and subject team. Their current pedagogical practice presents a multifaceted tapestry of factors as they consider their agency and compliance with programme requirements. They articulate constraints in their ability to integrate TEL in their pedagogy.

> *4.2.1 The diversity of learners.*

The faculty supports approximately fourteen thousand students, predominantly female. There is a strong body of traditional entry students accessing the programmes aged 18 or 19, but there is also a significant number of non-traditional entrants,

> *"There's a sense of widening participation in the University… we have a lot of non-traditional students... a lot of our students have… done an Access course, or... come for a Foundation programme". Sue.*

Helen talks about students on her pre-registration programme,

> *"…most of them start from 18, so a lot of the pre-reg students… come through college… with limited life experience…". Helen.*

A wide portfolio of is provided for CPD. Many of these students have not studied for many years, are mature, have learning needs, are working fulltime, or are international and distance learners. These programmes may be theoretical or are focused on developing additional specialist practice skills,

> *"… post-reg, it's a very non-traditional student … there tends to be an older… they're more likely to want to study part-time… and not be conversant with University life". Sue.*
>
> *"The MSc's are all graduates. They're multi-professional... working professionally...within health and social care… they are quite diverse". Lizzie.*
>
> *"…they're actually doing a foundation degree, when they're possibly… late fifties… when they first came into Higher Education at that age... And some them found it quite difficult, and still do". Martin.*
>
> *"They're all in full-time working jobs as well, and might have families… so there's a lot of extra stuff going on with them... as well as doing postgraduate study". Rachel.*

Millie, Martin and Verity talk about their students as having diverse skills and abilities in addition to learning needs. They recognise these students often had poor compulsory educational experiences,

> *"… they've probably not had a particularly good academic experience at school, and a lot them are very mature…". Millie.*
>
> *"… because they've had, perhaps, bad experiences of education in the past, they're quite frightened… when they come to Higher Education". Verity.*
>
> *"Some of the students that we get haven't even turned a computer on… we're expecting them… to be able to word-process documents, use electronic portfolios… it's a major uphill struggle". Martin.*
>
> *"… we have a fair number of students...all needy. A lot of them have got dyslexia". Millie.*

The students' motivation for undertaking study can be varied too,

> *"I think the flexibility... is appealing to most of the students... it's the only one that's offered as distance learning, therefore I've chosen it… because I don't want to come into the University". Sue.*

"...they seem varied in their motivation as well, I think, (identifies student group) ... I think they can be difficult to engage at a distance. You get students who kind of...badger you all of the time, which I would much rather, then a student who doesn't particularly want... to sort of engage...". Brian.

The participants also discuss the range of students' digital skills. Martin suggests the widespread use of mobile technologies as the biggest factor for this change but acknowledges some students lack confidence. Guy, Katie and Verity also talk about the digital skills of the younger students,

"I think the younger group are coming through with more skills now than they've ever had... but I think it's mobile technology that's brought about that change". Martin.

"I think the group I'm teaching would actually embrace technology easily". Guy.

"... for example, thinking about the age of the learners... the students who I'm trying to attract are... they're not digital natives, they're digital immigrants". Sue.

"... the students in the classroom are far more IT competent than I'll ever be...and yet, they don't access the right resources". Katie.

"I think the younger students, seem to be savvier with technology... so they seem to grasp it...because it seems to be that they've been educated, or brought up... so it's more familiar to them. The mature students may not... have that skill-set, and that is new to them". Verity.

The participants recognise the importance of being open minded and acknowledge the lack of confidence in some students,

"...I think we, need to guard against the assumption that every student is completely familiar with all these things...and is going to sail through it, 'cos I don't think all of them do. And that includes some who are in the 18 to 21-year-old age bracket as well". James.

"I'm sometimes amazed at how un-computer-literate they are...". Archie.

"And others... may be a bit older... they're using the technology that's available to them, but they don't feel comfortable, they don't feel confident". Jacqx.

"Anecdotally I noticed... 20, 21, being equally as "Well, I don't know how to use it" ... as some of the older students. I don't think it's a demographic thing, I think it's more of an exposure thing". Brian.

They also talk about their responsibility to support the development of digital skills,

"Life's electronic, isn't it?... we're uploading assignments electronically; we're giving feedback electronically... I think we've got to ensure students have got the skills to deal with that". Elsa.

"… people have a lot to learn… there's still some barriers there. I think there's still fear about it. I do still have to do a lot of support with students in that initial phase, even just to make sure that they're online… I've had to support them quite a lot, really, given that they do have a technological background, supposedly". Rachel.

It is interesting to note criticism of the students by Katie, however at other points in the discussion she talks about her lack of confidence and inability to learn digital skills. Deia also illustrates her own knowledge of digital language and skills requires development,

"… you know, they don't use the IT as much as they could… it would be quite easy just to go through an IRAS (integrated research application system) application, and highlight… the bits that they want...to relay to the rest of the committee… but they don't do that". Katie.

"… it is shortly to have its first chatter session… she's going to show me how to stalk, or whatever you call it. Watch. Quietly. Lurk. Lurk… I'm going to be a lurker. And I think that will be good, because I'm sure the students are probably a lot more advanced in social media... than I am". Deia.

Inappropriate use of technology in the learning environment is a concern for some. Katie acknowledges students are on a professional journey and need to learn when it is appropriate to communicate with family and friends. Lizzie comments about students accessing Facebook and Twitter, without recognising they may be accessing professional tweeters,

"… one of the issues… with smartphones...is if one group finishes a bit earlier... they receive texts very quickly, and then you begin to see them pretending to be tired… then you start to hear noises... "They've gone, they have finished". Guy.

"… I can't believe I'm the only person who said this; I do have this issue with, sometimes you wonder if they are actually looking at the learning materials, or whether they're actually Facebooking their friends…". James.

"… you introduce this idea that technology should be used in the classroom...and it's welcomed… but the students haven't developed their

*professional identity enough to be able to acknowledge unprofessional use…".
Katie.*

*"I don't like it when you notice that they're on Twitter or Facebook, or
something". Lizzie.*

Millie and Michelle highlight the setting of ground rules for the use of digital

technologies in the classroom,

*"I trust them… I kind of give them permission to use the devices; and I'm
observant within the classroom... so I do know when people are probably not
listening, and not listening to each other… and I'll maybe focus a question to
them, and say "Oh, so are you looking at that on..." – you know, to make them
aware that I want them to use it for purposes of learning". Michelle.*

*"… we set ground rules, and say, you know, mobiles only to be used for
searching... and not for texting…". Millie.*

The operational environment is now considered.

4.2.2 The academics working lives – the context of their pedagogical practice.

These academics operate in a complex setting delivering pre-registration at both

degree and postgraduate levels. The programmes do not follow the traditional

academic year, often starting early, with additional intakes in January and February.

Many programmes extend over the summer, to facilitate the students' practice

placement experience. They deliver post registration or postgraduate professional

development programmes, which consist of short courses, degrees and Masters

programmes and Doctoral studies. They are providing learning opportunities through

evening classes, eLearning programmes, distance learning, block delivery, off

campus delivery and overseas flying faculty. The participants acknowledge the

structure, in which they operate, influences their practice as they talk about the wider

organisation, the faculty and their subject teams and how these levels support and

hinder their engagement with TEL and the PD opportunities. Initially, I present the research participants' thoughts about the wider organisation.

4.2.2.a The wider university.

When the participants talk about the wider organisation and the physical infrastructure, they highlight the provision of hardware, software and PD opportunities on one hand, and on the other they talk about the paucity of facilities and the lack of support. They comment on the opportunities to develop pedagogical, digital and TEL skills, but conversely, how the constraints of their workload impede their opportunities. Sue commences her discussion of the wider organisation feeling that TEL and digital development does, not in her mind, feature strongly in the organisation agenda,

> *"… it doesn't feel like it's a major aim of the institution to move things forward… there are lots of buildings being created, there's lots of investment in classroom spaces. And yet, the technology … I don't have a video on my PC. I only have one screen - I could do with two". Sue.*

Lizzie also talks about the facilities in her office and Stephanie alludes to classroom accommodation,

> *"Maybe I need a stand-up sit-down desk… two screens would be great… you're squashing everything on to one screen… I've just spent 70 quid on some noise-cancelling headphones… I'm in an office of seven people... we do need environments that you can work in... and I feel really strongly about that". Lizzie.*

> *"I feel like the hindrance is more about an accommodation issue, of maybe not having enough access to get groups into IT labs to just take them through things, when you'd like to, because of timetabling constraints and rooming constraints". Stephanie.*

Tristan discusses how he is using the wider university facilities to help him develop his TEL practice, the benefits of access and their constraints, in addition he highlights how he needs to buy software to enable his TEL development,

> *"… the screen casting facilities … are really fantastic… because there's only one of them, getting access to it can be a little bit of issue. But in terms of being able to do, like, video podcasts… you're relying on using your camera, on your machine; not all the machines here have cameras. They don't have proper audio facilities… having somewhere to be able to do it… where you can just pitch up, talk about whatever you want to talk about... and being able to put backgrounds in… We don't have any of that sort of stuff here, so a lot of it I've had to do... off my own bat… and buy my own equipment". Tristan.*

Rachel's experience echoes of that of Tristan, where some facilities are made available, such as the purchase of software, but no technical support is provided,

> *"... the webinar software… I had a very quick induction… also I was doing them from home… out-of-hours, in the sense that, yes, academics work till 9 o'clock, but actually there was no technological support... after 5". Rachel.*

Sue and Martin have concerns about academic digital development and the future integration of TEL, indicating the paucity of personal allocated to this task as a possible pinch point in the future,

> *"…if everybody was using the key support people the way I was using them… they would just not be able to cope with that demand… I think that there are pockets of innovation; but I think that if those pockets of innovation are going to spread… the university would need to really think about the support required for that". Sue.*

> *"… in terms of technology, we do need a lot of support, and it's not just a case of "Oh, well, get on with it – this is the way it's going." I think we do need environments that you can work in...and do these things in, and I feel really strongly about that". Martin.*

Hero explains her frustrations when she started at the university, simply identifying the purpose of the range of systems would have made life so much simpler,

> *"… when I first came here, it would have been useful to have a crib sheet about the different systems… so that you knew which system you were going in". Hero.*

The interviewees also identify positive ways in which the university supports their

engagement with TEL,

> *"I think they've helped because I've had the freedom to explore… I think a lot of it has had to be in my own time… which I've been prepared to do… I enjoy it…it benefits me, as well as the students and the programme". Rachel.*

> *"I've never thought I can't do something, because...the technology or the know-how isn't there. And I think as long as you're pro-active about it...the help and support is there". Elizabeth.*

> *"I think what the school and the university is trying to take those individuals, and encourage them to... spread the word, be available... to bring more people on board… it's a very nice, gentle...considered approach ...whether that ultimately is sufficient...to achieve the aspirations and ambitions of what HE needs to do these days...I don't know, maybe a more direct approach. But then personally, I don't know that I would sit very comfortable with that… I don't know whether we are good, bad or indifferent...and where we sit with our contemporaries". Jacqx.*

The wider organisation provides opportunities for digital development but a culture

needs to be generated which facilitates the time to access them,

> *"… you see things… saying there's opportunity to do this, to do that, to do the other...and it either came at a time when you're just so busy, you couldn't think about it... then a year later you think "I wish I'd done that now. It would have been really useful". Jane.*

> *"The organisation puts on the workshops, for us to develop, but it doesn't help us find the time to attend the workshops… I think the expectation of the institution, the organisation... is too high, in terms of us trying to keep abreast with technology". Katie.*

> *"… there are courses workshops... and things you can go on… we really need to look at cultural practice… changing the culture… giving people time to develop". Elsa.*

Equally, some academics have negative perceptions of the support available to

them,

> *"I find that I can't rely on IT, you can't use IT, or it breaks down...or something happens; you've still got to be ready to fill in the gaps, and compensate for the IT deficiencies". Katie.*

Tilley who acknowledges her digital skills are poor, suggests the development provided is insufficient to meet her needs,

"If I was being honest - and I'm telling you about feelings now... rather than evidence - ... I believe people like me aren't supported". Tilley.

Next the faculty's role in supporting TEL is considered.

4.2.2.b The faculty.

The interviewees also talk about the role of the faculty and there is a feeling the

faculty is moving forward with the digital agenda with key people leading change,

"I think that there are key individuals who are really moving things forward very successfully within the school" Sue.

"… we've got (identifies key personnel) ... who have a huge role... within the school; and obviously, when I was designing the programme... I met with them… there was a learning technologist I worked with… our own (team) technician, has made sure that, when I have had to use the computers at work, that those are enabled, and will … there's been that kind of support as well...". Rachel.

"… the positive effects is the projects … having the iPads in the school was certainly a great thing, and it was nice to be asked... to have that opportunity to go away and explore what the possibilities were. So, with that at school level, I've certainly felt that, overall, we're encouraged." Stephanie.

"I've had the opportunity to work on a project... with key people… that opportunity, from an interest… nobody made me do it… so the invitation is there... if people want to get involved". Verity.

The academics are encouraged to experiment, Tristan and Martin think they have

freedom to operate in a way they feel comfortable,

"I think I'm in the right kind of environment, to do this sort of stuff… I've never really felt hindered at all… it's probably the best place I've ever worked". Tristan.

"I can't think I've been particularly held back, by lack of funding... and by lack of support. I think we do get supported in our ideas, wherever we can, to deliver them. Certainly, people will listen to any innovation that we put forward; but again, just because we try to adopt things at an early stage, is it right for the students? Are we doing the right things to help the students?". Martin.

Michelle talks about taking a digital leadership role and the benefits to her, however she is feeling pressure to comply with a faculty initiative which is affecting her health,

> *"I think it's supported it in terms of encouraging me to be our team champion, with regards to technology… it's got me working with other people who I probably wouldn't work with previously" Michelle.*

> *"The negative now is I'm finding (the faculty) are putting pressure on me in terms of e-submissions... the problems that that's going to cause me personally. Whilst I would love to encourage and support that, I'm struggling with it now... and struggling morally as well, because I know that we're going that way… and I've got a duty to move on with technology... but really, personally I've also got to think of my health as well". Michelle*

The faculty provides workshops, meetings and journal clubs which the staff are encouraged to attend, in 'a gentle way', according to Helen,

> *"… certainly, I feel nudged (laughs)...gently nudged in that direction… I do come away thinking I need to...get on top of this; I need to be understanding things better...". Helen.*

Hero, experiences difficulties in ascertaining the facilities available to her to support her practice,

> *"… it's about knowing what resources are there... saying "is there any way we can do this?" ...and they said, "yes we've got these resources available... and we can set you up in a room… initially I didn't know those resources were there… maybe that should be part of the induction into the team...about what resources are there… nobody mentions them". Hero.*

Overall the participants felt the faculty was encouraging and supportive in their use of TEL.

4.2.2.c The subject team.

The respondents reflect on a strong network of subject leads, peers and other colleagues who provide encouragement and support. Brian and Tristan are trusted to make their own decisions,

> *"There was no restriction, definitely… I don't know whether it was due to confidence, I think it was... just do what you like... if you think it's going to work". Brian.*

> *"I think I'm very lucky working in (names subject team) particularly with (names colleague), who is fantastic, probably the best boss I've had, because she just lets you get on what with stuff. As long as the work gets done... then you're free to manage your own time". Tristan.*

Lizzie works across subject groups and her experience suggests there is a willingness to try new things,

> *"I work a lot across – across professions as well… I work with members of other teams within the University… we share practice and bring ideas together… I've never noticed a resistance to using anything". Lizzie.*

Millie, Michelle and Sue emphasise the supportive nature of their colleagues and mention the support they provide others.

> *"Yes definitely. I think it's because I know I'm capable of doing it on my own anyway … people would probably be grateful that I'm taking that on and they don't have to. It's only when I do something and we start and roll it out, and then they begin to think "Oh, here she goes again!" Michelle.*

> *"… we're very lucky to have a colleague who is IT clued-in… they are great. You know, if ever I need any help... or suggest something, they're there to offer...their help… we are, in the team, I would say, very well supported". Millie.*

> *"I think having the freedom to try something, I think having key people, that you can go and talk to about ideas, is very useful." Sue.*

Lizzie considers the motivation and skills of her peers and whether they have the capacity to engage with TEL activities,

> *"all individuals are different in terms of their motivation and their desire... to want to look at... technology, but there's enough people in the team who, I think...would be amenable to having discussions and thinking how can we do it differently… I think generally, we have a very open-minded and proactive team… there are some in the team who just don't have the skills… so it's quite a challenge for them. That's not to say they're not open to looking at things differently (laughs)...". Lizzie.*

Jacqx suggests team support would be forthcoming if there was a boarder, collective outcome that might benefit all, which may imply individual endeavour is not encouraged,

> *"it would probably depend what it was… if it was seen to benefit the team as a whole… or is it just a hobby of the individual concerned? And what it's going to cost". Jacqx.*

Next, I consider their boarder academic practice and the research participants' pedagogy, exploring their experiences of using digital technologies and integrating TEL into their teaching.

4.2.3 Pedagogical practices.

The academic role is multifaceted as it includes the roles of team leader, programme and module leaders, external examiners, curriculum design, student support, research and learning and teaching. It is in this milieu they engage with their everyday classroom practices. The focus of the interview discussion is the pedagogy of the practitioners. The participants primarily taught within their professional specialism, with some delivering cross discipline subjects. The degree of agency to develop their pedagogy and integrate TEL in their practice was considered. The interviewees talk about their role as module leaders and module team members, acknowledging the university processes and the quality of the student experience. They talk about the limitations of the technologies available, they comment on how

they have scope to be creative, can influence their team members or decide to

engage or not engage,

> "I felt like I had that freedom, to sort of think "…right, if I'm going to do a distance learning programme... then I want to do it properly." … it was very much the bigger picture. And I guess I've got the luxury that I'm module leader for stuff, and then I'm the programme leader, so actually I had control of the whole thing". Rachel.

> "… we tend to have free rein… we deliver modules in a way that is comfortable for us... but hopefully of use to students as well". Martin.

> "I'm very fortunate… I take it for granted… nobody tells me what I can and can't do, and no-one gives me lesson plans… I do feel I've got absolute freedom to do what I want; you know... within the constraints of what the technology that the university's got has". Stephanie.

> "I'm a bit of a risk-taker, really...". Michelle.

> "… we have the programme outcomes... the module outcomes, and the lesson plans… there is a structure… I do think within the school, and being a module leader, that I have the freedom to be creative in how the students get there". Verity.

> "I think it has to be a two-way process… I think to some extent, in academia you can be very autonomous...choose what you engage with...and what you don't engage with". Elsa.

For some who teach large groups of students they are supplied with lesson plans,

but how they achieve the learning outcomes is up to them,

> "… we have the lesson plans… as long as we get the message across... they've all got access to the same amount of resources on Blackboard - ... the method and the way in which you teach it, is really down to you… there is that flexibility there, it's not rigid". Millie.

> "... because there's a professional body behind the pre-reg programme... a certain number of hours have to be allocated to a certain number of topics… and we have to colour within the lines". Sue.

> "It certainly doesn't...develop our autonomy; and through that, if we're disempowered by what we have to teach, and we can't adapt it... and be creative in the classroom with the students, then I don't feel that we are empowering students to have that kind of mind-set…". Katie.

Others talked about the need to comply with professional regulatory requirements

and how the external bodies influence the module content and delivery, thus

reducing individual autonomy.

> "… we have lots of people, particularly in healthcare, with lots of agendas ... for us to teach, and get various aspects of those agendas into our work... and courses". Tristan.

> "… they do have employers… we are supporting the students to come, and our programme is developed in partnership with them… but that doesn't mean you cannot be creative, and flexible, and adaptable and responsive". Verity.

> "… in the pre-registration courses … you have the requirements to meet those professional bodies… even with those, I do think you can still be creative. I think it is about mind-set, because very often I will hear things like "…well, we can't do that because the (regulatory body) have said." But, if you talk to the (regulatory body), or you really re-look at their requirements...you can do it. You can be creative in, you know, the way that you approach something". Verity.

Some also considered resources as a barrier to agency and suggest workload, time,

numbers of students and rooms as contributory factors.

> "Your constraints are about how much time you've got to spend on that particular topic...within the context of the module; the rooms that you've got...the number of students. Because what worked with a small number of students won't necessarily...work with a larger number of students ...and you don't have the resources to do it". Deia.

> "I suppose, maybe they're my perceived constraints, rather than actual constraints… because I only work two days a week...and I don't have a lot of time for me to embed some of this… social media...or technology more effectively". Elsa.

> "… there's pretty tight time constraints… quite often we're doing things very reactively; that we're given a relatively short amount of time to be able to prepare for something". Sue.

Lizzie talked about her recent experience of re-approval and the short-sighted views

of the panel,

> "when we were going through re-approval… they (the approval panel) wanted a lot of detail about systems - technology that I was going to be using… I wanted to leave it more open...so that I could move with the times... I wanted

that flexibility… but I kept being pushed to say that I was going to do this, or I was going to do that... and actually name things".

The research participants move on to talk about their classroom practice and the majority adopt an active pedagogy to engage students, to draw on their experiences, and to enrich the students learning. They talk about the strategies they employ and models of pedagogy such as experiential learning, flipped classroom, PBL (Problem Based Learning) and distance learning. Sue alludes to the faculty learning and teaching strategy and its vision and Verity, Jacqx, Jane and Stephanie articulate the learning theories which influence their practice and their philosophy of teaching,

"… having creative students… articulate students and confident students… so we were not just teaching them about the subject matter". Sue.

"I do try and think about...adult learning… about how you make learning enjoyable… I do look at theories. Appreciative Enquiry… my mind-set would be, instead of looking for problems with students all the time, it would be trying to get the best out of students as adult learners… that theory talks about focussing very much on strengths, and not seeing things as problems…". Verity.

"… you're asking me very, very appropriate questions about my pedagogical approach…but I'm struggling to… provide…a sound rationale and justification for why I'm doing what I'm doing, other than it fits me and I'm comfortable with it". Jacqx.

"… is it pedagogy, or should we be looking more andragogy, we're dealing with adults. We want them to bring into it their own experiences...their own background…" Jane.

"this is the thing I always struggle with… what's my philosophy, what are my values. My philosophy is; it doesn't matter if somebody only learns one thing… that's fine. I can deal with that… it's a hard question for me… it's Gibbs… it's not what we do with them, really, it's what they do. And if we're not making it that they want to go back and find out about it, then we're not really doing our job". Stephanie.

Martin and Verity's approaches have a pragmatic element when they consider the transferability of the students' learning to their place of work,

"… making it of use to students on a day-to-day level. I don't want to just do something that they can only use in the University. It has to be something that

they can use at home; it has to be something that's of use to them in their workplace". Martin.

"… equip them with the necessary skills they need, to link their practice to theory, and theory to practice". Verity.

The participants focus on the students, their learning experience and adopting interactive approaches to their classroom practice by using role play and group work, and drawing on the students' experiences to help to them construct their own knowledge. The research participants encourage the students to take responsibility for their own learning, as Rachel and others illustrate,

"It's very, student-focussed, it's all about what their experience is". Rachel.

"… I generate a lot of discussion and interaction, so we can draw that experience... those skills out, and get them to share...different perspectives with each other; Jacqx.

"… I like to get the students doing things... working in groups… looking at videos… getting them to do a bit of role-play"., Millie.

"… I like that sort of teaching where I first throw it to the students.... ask them, and then they contribute.... then from that, I build their understanding, by bringing in my expertise...". Guy.

Pedagogical approaches appear to depend on the groups of students who are being supported, for example, many participants are engaged in distance learning, and Sue and Rachel are thinking about the student experience when they reflect that,

"… we try to make things bite-size, so they're not overwhelmed by information". Sue.

"… it's very much centred about them - ... what their needs are… who are they, what are their needs going to be... what extra issues I need to think about". Rachel.

Jane, Brain and Jacqx appear to struggle somewhat with the tools available and how they keep the students engaged when they reflect that,

" … we do have distance students...and I don't think we're quite up to scratch with what we do there. So that's something… again, it's not knowing what I can do, because I don't know what I don't know". Jane.

"… it was interesting to do that, and I could really see the potential…in the VLE, and what you could do with it...to support those students; but I don't feel I got to grips with that completely". Jacqx.

"… the fact that it is at a distance… and there's a different student-teacher dynamic happening there … they're not as captive an audience… they seem to sort of go back into practice and then forget that they've got other work to do as well". Brian.

Experiential learning, PBL and flipped classroom learning are also approaches utilised by these practitioners and they contemplate the interactive nature of these approaches,

"… we tend to do a lot of exercises where the students are responsible for advancing the learning". Archie.

"by using that sort of flipped classroom technique… I found that you got a little bit better engagement...prior to the session". Brian.

"… we've got PBL-type stuff… I think, and give them a wide variety of things, rather than them watching a load of stuff". Tristan.

As the participants talked about their current activities they also consider how elements of their practice had changed.

4.2.4 Thoughts on TEL.

Here the participants talk about their perceptions of TEL and their aspirations, how it needs to be relevant, but also recognising how it can enrich the learning experience,

"I think that we should be building in use of tools, or the software that we use, to support our teaching... thereby the students learning – not just using technology because it's there… only use the technology if it will help and support student learning". Martin.

"… whereas I think technology can bring a little bit of variety… that can only enrich… it has to be fitting and relevant…". Verity.

"… we should be using technology to offer more visual material (vodcasts) I'm sure they would prefer to sit and watch a video cast, rather than going to a lecture… they can use the video at any time, any place, anywhere". Archie.

"… sometimes that can be difficult, with challenges of having professional bodies with certain requirements... but those professional bodies, as well, do expect us to be digital conversant… I think that can be used as an excuse… to not try it". Elsa.

"I think the adoption of any kind of technology, or Technology Enhanced Learning approach, seems to come down to individual interest...and enthusiasm. And I think that's great…because then you get people who are strong advocates for what they're doing, and can therefore really sell that to other people" Jacqx.

"… we're actually going through re-approval now, and we're having curriculum development meetings… people are keen to think differently...to look at different ways of doing things…". Elizabeth.

Those participants who had undertaken TEL activities talk about the preparation required and their successes, the student feedback, as well as the lessons learnt. Illustrating the complexities of planning, operationalisation and ongoing support to embed TEL effectively. They talk about the rationale for using TEL, to reflect an active learning experience or modelling good practice. Those giving examples of embedding TEL and experiments declared their confidence, competence and comfort in using digital technologies. Sue and Rachel reflected on their use of webinars,

"I ran a couple of sessions… of course, it works much better if you've only got smallish numbers... because managing that group, and answering questions, keeping an eye on the... different areas of the screen is quite challenging... The feedback was very good...". Sue.

"I think as a lecturer, we do need to be careful to manage...the expectations of our students... when we're using this kind of technology, that there is a negotiation of what our role is, and how much time we can give to it, because it is time-consuming…". Sue.

"… it was about all that interaction that goes on in the classroom, all that makes learning really good and interesting, I wanted to keep… "Well, how do I do that," to what can be a very static learning interface… there are some tools, but they weren't really going to meet that need to the extent that I wanted it…". Rachel.

The intended outcomes for Stephanie and Brian when using iPads were not what they expected. Brian recognises he made assumptions about the students' abilities

to use the hardware provided, whereas Verity did recognise the way TEL is

introduced can influence how the students respond,

> *"…I must admit, it did tend to end up being a portal to the outside world, really, or just using them for the students to get information. But when we stopped using them, in class, the students did comment that they missed having them, so I think that I can see that as an advantage". Stephanie.*

> *"… what I found difficult when I started using the iPads was… I suppose we have this assumption that "Oh well, iPads are really intuitive; they're dead easy to use… and it'll be great." And you give them to the students, and the ones who don't have a tablet device, or have never used Apple, kind of look at you as if: "What am I supposed to do with this?" … what I found was that the learning started to become about using the iPad, rather than...engaging with the material". Brian.*

> *"I think it's the way you introduce the concept of technology... to the students, and support them". Verity.*

Sue saw the benefit of using software tools to help illustrate complex concepts to her

distance learners and Tristan developed vodcasts to support communication with

students whilst they were on placement. He also developed quizzes, but was very

conscious of the need for these learning and support materials to be of good quality,

> *"I videoed myself drawing it, with a voice-over, in real time… this abstract concept that they're reading about, which is quite dry, suddenly they can make sense of it". Sue.*

> *"I've been in IT… I'm used to being able to pick up things very quickly … why don't I try and look at ways of doing an audio podcast, to try and meet the needs of the students… the first need was, they wanted to see somebody, while they're at placement, so they did not feel isolated". Tristan.*

> *"... if I'm going to spend all this effort to try and do a quiz... I may as well put some effort in and try and do it – what I felt was properly... and try and do some quality learning materials". Tristian.*

Others saw the use of TEL as a way to model good practice, especially via the

appropriate use of social media,

> *"I've got a Twitter feeds embedded … I suppose it's that thing about modelling behaviours. … I think there's still quite lot of fear… it's contextually difficult, because of professional identity... and your digital identity… I think if you're modelling the way… if students follow me, or look at, or just follow, my Twitter*

feed … and see that I'm not posting pictures of things that are inappropriate, then that maybe then makes them reflect on what they do, professionally and practically". Stephanie.

Others utilise software programmes in their teaching activities to develop students' academic skills. Talking about searching databases,

"They don't get the way you should input things...and they see it as very difficult". Jane.

"Facetime and a Skype now… I can see the purpose…I think it would help clarify a lot of things". Lizzie.

"I got them to … use an interactive periodic table of the elements…". Millie.

However, the students also appear to dictate whether TEL is embedded in some instances,

"I've attempted to, but they've not been received so well. Especially because my students are all working people…". Elizabeth.

Some confess they had little experience of TEL, but they did encourage students to use smart phones in their lessons, recognising the benefits of easy access to information and note taking.

"… we let them bring their own smartphones". James.

"I'm quite happy … I don't know that I've actively encouraged it. I don't have a problem with students… bringing in their iPads, or the mobiles, or looking things up". Millie.

"… rightly or wrongly – I don't have a problem – they bring their iPads. They use those, so when I'm referring to something… they will look at their iPad... and share it". Helen.

And those who actively avoid it,

"No, no. Again, no. And I'm saying this in an emphatic way - emphatically no, 'cos I avoid them. I avoid them". Tilley.

Despite the TEL activities alluded to above by the participants, they also identified some difficulties integrating TEL in their practice as highlighted below.

4.2.5 Constraints to using TEL in their pedagogic practice.

The participants discussed how they experience challenges to integrating TEL in their pedagogy, identifying hardware, software and physical infrastructure, as well as personal and professional factors. Stephanie was working with iPads in her teaching practice, but highlighted

> *"I didn't have my own device, so I couldn't try out … quiz systems and things, so I couldn't try the stuff out, to set tasks up in the time I had". Stephanie.*

Sue identifies the paucity of facilities to support the whole University, but also the lack of uptake by academics, commenting,

> *"… the technology I used for the webinar, there's one piece of kit, which serves the whole University... in theory that should be booked out for every hour of every day, but now it's not … it doesn't seem right… that this amazing technology is being used by so few people" Sue.*

On occasions the organisation has introduced technologies in the classroom, however as Katie's experience illustrates, the lack of induction results in the 'poor uptake' that is reiterated by Martin,

> *"I remember going to be taught how to use a whiteboard, and being given a flashy pen… it is still in my drawer, and it's never been used, and I still wouldn't know one end of a whiteboard from another". Katie.*
>
> *"… just using expensive technology... for the sake of it? Interactive whiteboards. Expensive things… not used a lot in this University. I don't use them at all now". Martin.*

Martin and Katie also highlight the problems encountered when using technology in their teaching,

> *"I think there are more benefits (of using TEL) for students than academics, how many times have you gone in, and the technology has let you down?" Martin.*
>
> *"sometimes in class, the IT doesn't work".* (Katie is reflecting on embedded links).

Sue, Lizzie and Elsa all talk about the amount of time spent developing materials and they consider how this preparation time is not considered in their workloads by the wider university.

> *"… it can create time consuming jobs…". Lizzie.*

This reflection is given by Sue: (when talking about developing her eLearning and distance learning materials),

> *"… it took me a long time to prepare the learning materials, and to … set it up... it's about making sure that that's reflected in our… allocated workload". Sue.*

Elsa, who works part-time, reiterates the lack of appropriate workload allocation and she also thinks that the university makes inappropriate assumptions about the academics' technology skills.

> *"…one of the barriers is timing workloads, but also our confidence and skills… I think there's an assumption that we know how to use the technology; I would say that I use technology all the time". Elsa.*

Jane on the other hand considers the student experience, drawing on her own practice of working with a wide range of students studying at undergraduate and post graduate levels. She considers how their reticence could impede the introduction of TEL. While acknowledging the oversimplification of her statement, she observes

> *"the more mature students… they're not so keen on the VLE, never mind any other things" Jane.*

Martin has worked in education for a long time and recognises students' lack of confidence,

> *"… my experience over the years, is that health professionals, who work with highly complex machinery, think nothing of that...but then sit them in front of something as simple as a personal computer, and, all of their knowledge just seems to go out the window". Martin.*

Elsa also considers the students, acknowledging the technological skills they bring

with them, in contrast to herself and how she needs more help to build her

confidence.

> *"I think… with modern society… you've just got to have those skills… I think certainly the younger generation… are just being brought up with it… its part of their everyday life… whereas I think perhaps for those who weren't … in a compulsory education system where technology was around us … it perhaps takes a little longer, we need more help… we need to build our confidence". Elsa.*

Katie was quite vociferous in her assertion that TEL can be detrimental to the

students learning,

> *"we're getting to the point … where IT is becoming detrimental to learning, because we have students in classrooms, who are just drowned in PowerPoints… they expect to be shovel-fed a PowerPoint… there are six (groups of students) and everybody has the same PowerPoint, because the same delivery has to be made to each of the groups… they use all the same links and all get same activities and exercises; and the students just sit there, and expect to be spoon fed… and it's made them extremely lazy in class". Katie.*

Helen also talks about having similar constraints in developing her own pedagogy

whilst working with larger student cohorts and being given the "same script to go into

class and deliver the same session", but goes on to suggest that if the use of TEL

was more widespread it would be more readily accepted by her peers,

> *"… whether I wanted to be using technology or not … if the other 5 teachers that I'm with don't want to, then I can't influence that … it would only take one person out of that team not to be comfortable, not to want to do it, it probably wouldn't happen. It's got to be more widespread… I think that's a definite constraint… if there is nobody leading the way… maybe it comes down to the module leader... if the module leaders got a passion." Helen*

The next major theme I identify relates to how personal factors influence TEL.

4.3 Major theme 2 – Personal factors in determining the use of TEL in academic pedagogical practices.

I have identified a number personal factors as to why people may or may not apply TEL in their pedagogy. The research participants present a rich and complex depiction of their past histories and their experiences of using technologies. They talk about their motivations for working in the HE after successful careers in health and social care. They reflect on their feeling about IT and subsequently their digital development. Personal health was a factor highlighted by two of the participants.

4.3.1 Professional histories and exposure to technologies in their professional practices.

The participants working lives in health and social care revealed a range of roles, undertaken locally, nationally and internationally; working in the community, acute sectors and Strategic Health Authorities (SHAs). Initially their roles were patient/client focused, later they moved into management, leadership and research roles. The time spent in professional practice varied, ranging from 5-6 years to 20 years. Many participants started their careers aged 18, others came into the health and social care sector as second careers or following them taking degrees in other disciplines.

During their health and social care professional practice the participants exposure to technologies was varied, but fell broadly into three groups, those who self-disclosed they used technology extensively in their practice, those whose roles traditionally did not use technology, but who positioned themselves in situations which afforded opportunities to work extensively with digital technologies and those who had no

exposure.   Those academics who declared they had worked with technologies extensively in their practice referred primarily to digital technologies, but not all. Sue talks about the range of technology, but also about her initial anxieties, how she addressed these, becoming desensitised to the changes in technology.

> *"it was full of technology… I remember feeling quite anxious about technology … and thinking the only way I'm going to overcome this, is if I go and work in an area where there is a lot of technology… once I did that, I became desensitised to it".* Sue.

Millie, Brian and Rachel come from a technology dominated profession and Stephanie's background exposes her to a wide range of technologies in her role as a scientific researcher.

> *"… there were so many analysers, and… database interfaces for patient capture of data".* Millie.

> *"It's a very key part… it's all computerised…".* Rachel.

> *"Well, it's quite a technical role, there's a lot of IT, a lot of different systems, as well as kind of the person-to-person interaction".* Brian.

> *"… working in a laboratory setting you have to be technologically aware".* Stephanie.

It can be seen in the later in the data, how these participants demonstrate a comfortable acceptance of TEL in their pedagogy, experimenting with software and hardware tools and frequently identifying their own learning needs and taking responsibility for their own development.

Archie, Michelle, Tilley and Hero's professional practices have not traditionally been considered as occupations which use technology as part of everyday practice (other than for record keeping),

> *"we had a computer system, for recording client details and information; but it was very much cut off from the rest of the world. It wasn't networked… quite a primitive system in some ways".* Archie.

Archie goes on to explain how he took opportunities and the consequence of this engagement, resulted in his more positive attitude towards technology then others in his profession.

"I was part of a working group for implementation of a new computer information system…I didn't think I knew very much about computers, but compared with other people in my profession, I was almost… an expert… and was interested in it, you know, kind of set me apart from other people". Archie.

Michelle, Tilley and Hero put themselves in positions that facilitated access to IT and enabled them to develop their digital skills.

"… when I was working with the crisis team, I was working with a few people who were quite technologically aware...and I just – I suppose I got brought into that then". Michelle.

"I've done a lot of conference work... international work. But...there wasn't a lot of technology used in the profession…". Tilley.

"…I was involved in negotiating access to an information database... I learned a lot there about how databases could be built up, and how you could extract information". Hero.

In contrast others reported that when they were in practice there was little or no exposure to digital technologies.

"I don't think we used any IT technology at all. Everything was handwritten... we had a software programme… It never worked properly… it's not really a technologically driven profession, to be honest". James.

Lizzie reiterates this experience:

"…it was very limited… we used computers as a communication mode, to send email…". Verity

"Yes, we were just getting computers...but we didn't input it. We had clerical staff that would input some data". Deia.

"There was very little technology, because it just wasn't available, everything was paper based". Elizabeth.

"I don't think so particularly at the time; but as I was leaving practice, we were becoming much more aware of technology and how we could use technology to document what we were doing...but also to generate data about what our services were doing". Elsa.

> *"… I was there when we started using the computer for care plans, but most of the – the documentation and things like that were paper and hand-written, very minimal computerised stuff." Helen.*

Next, I move to the participants reasons for changing professions and moving into HE.

4.3.2 Explaining why they chose to work in HE.

The participants gave a range of explanations for why they work in HE. For some it was a very focused career choice and for others it was serendipitous, whilst circumstances determined the change for others. Working in the education sector was always on the agenda for Rachel and as she explains, recognising the move from the clinical to the academic setting was significant, but she extols the challenges and changes that working in HE brings:

> *"I'd always quite fancied teaching… it was always at the back of my mind. I've always wanted to work in a hospital… that had students… to be involved in their learning aspects… I think it just makes it more interesting... keeps you on your toes, and stuff… it's nice to be in that supportive role. The other key decision was that it's a job that's always got challenges. It's not a static job at all… every year has been entirely different, and that's what I like… those different opportunities to get involved in". Rachel.*

> *"… it's something I've always...wanted to do at some point. I remember I didn't want to do it too early… (talking about his first degree) we were supervised a lot by PhD students, there was no… breadth to them… you could always tell those people that had had more life experience. They were much more interesting as lecturers". Tristan.*

> *"I chose to work in HE… although I taught in secondary school… I started to feel...I really wanted to be in the teaching field... within Higher Education, you have the opportunity to do research as well". Guy.*

> *"I was a mentor in practice, and supervised mentors… I always thought that I would end up in education… (I) love being around students, I love the whole learning and teaching environment… and thought it might be something I could be good at". Helen.*

Sue explains how from the onset of her career she was immersed in a culture of supporting students learning in practice and how she reached a point in her career when she was ready for a new challenge and was proactive in her preparation for a lecturer's post.

> *"there was a really super culture about teaching students… we spent a lot of time developing their competencies, and helping them to understand… that followed through, whether it was teaching a patient or teaching a student, it was an integral part of what I did, and it really felt like a natural progression to move over to teach on a more formal basis". Sue.*

> *"I felt it was a time in my career … I was ready for a new venture. I'd already identified a mentor in the university, who was working as a senior lecturer, I kind of was planning towards it all – quietly…". Sue.*

Others expressed similar experiences of teaching in their practice roles, enjoying that role and then making a conscious decision to move in to HE.

> *"… the positive...reason was because I always enjoyed having students on placement, I enjoyed teaching, I thought I was OK at it, and I fancied a change…". James.*

> *"I've always had threads of it… as allied health (practitioner) a lot of your job is teaching anyway, then when I (worked overseas) it was all based around teaching... what I was doing… it seemed a natural progression… you do feel it's time to move on, and challenge yourself in new ways. I think I felt my leaning was more towards education". Lizzie.*

> *"I feel passionately...about (the profession) … I thought the best way I could make a difference was to pass that passion on… I love teaching, I've always done some form of teaching". Deia.*

> *"I think throughout my career… I haven't seen education as separate to practice. I've seen it as being aligned… I knew I needed to do something different… I wanted something that I felt would enrich my life…". Verity.*

For Jane it was not a conscious choice,

> *"...I don't think it was ever a conscious choice. I started as a non-traditional student...doing an Access course, I did a degree, which led me on to the research… then I just loved the whole environment of being in Higher Education...and decided that was it, I wasn't leaving…" Jane.*

Whereas Jacqx was made redundant from her management role and needed to find further employment, she was familiar with faculty personnel and the University through her NHS role and reflects on the change she made. Elizabeth was in a similar position and Stephanie was unhappy in her current role and sought change.

> *"… it wasn't something that was planned, it wasn't...a considered career move. It was a completely opportunistic… I need to get out of this crisis... and in to employment… I don't regret that decision at all!". Jacqx.*

> *"I hated working in a lab; it was really boring and it didn't fulfil me… I always enjoyed when you presented your work… and you think about people who'd inspired you, or people who just switched you off subjects… I just liked the idea of that". Stephanie.*

> *"… it was prompted by the fact that I was being made redundant… I had never thought of leaving the NHS or doing anything other than (names profession) … my sister is in Higher Education ... and she said, "Why don't you look at a career change?" So, I did". Elizabeth.*

Following the participants' disclosure about their previous lives and the technologies that were integral to those lives I thought it was useful to ask the research sample how they felt about IT in general, particularly with those who had little experience of technology in their health and social care practice.

4.3.3 Talking about IT.

The participants talk about how they felt about IT in general, with Tristan reflecting on his childhood and how much IT interests and excites him. Archie also expresses his interest in technology, and this appears to set him apart from his colleagues.

> *"I was programming at 10 years old… I've been involved with technology from very, very early on, and been excited by it… so really from then onwards, it's just, sort of snowballed, really". Tristan.*

> *"The fact that I … was interested in it… set me apart from other people. And I would say now, you know, I have a much more positive view about technology generally than most people in my profession". Archie.*

Jacqx feels she is sitting on the edge and describes herself as an interested observer,

> "I am sitting on the fringes of what Technology Enhanced Learning is, and could be… I'm an interested observer; "I'll see what other people are doing." And then if I think that that's got a use, or applicability, then I might go and explore that a bit further". Jacqx.

Conversely other participants expressed very strong feeling about digital

technologies, particularly relating to the field of social media,

> "… my own personal feelings about it...are quite strong – is that whole notion of using social media… And I think the potential is huge… the impact is significant… But personally, I have such strong feelings about that social world, and feeling very exposed in that social world...personally I think, "Do I want to go there, really?" … I'm battling with that myself". Jacqx.

> "I don't use it personally, I don't...Facebook, I don't use Twitter, I don't use any of those things. I just find them a complete intrusion... in my personal life... and I have no idea how people afford the time to talk about the sorts of "things" (alternative word used) that they talk about on Facebook". Katie.

> "I'm not a tweeter, I don't do Facebook, I think it's the devil's work, really… all I hear is bad stuff... so it's added to my belief... no (to technology)". Tilley.

Next, I consider the participants reflection on their digital development.

4.3.4 Reflecting on their personal digital development.

The participants consider how they have developed their digital skills, reflecting on

their past experiences and how those feature in their digital development. They

discuss the formal and informal opportunities afforded them and how they take

responsibility for their own digital development.   Brian talks about his professional

experience,

> "I suppose it was really when I went to work for (identifies a previous employer) I really got to grips with technology… and then when you're teaching it… I think it's worthwhile remembering the hints and tips you learned, but also it really makes you interrogate how you did it; but then also to articulate how you did it… which I think's the hardest part…". Brian.

While Jacqx and Elizabeth talk about the informality of their development,

> "… probably very informally… having chats to colleagues, "What do you use? How do you use that? What's the benefit? Could I get anything from that?" So, probably very informally, in that sense… just, kind of, teaching yourself...bits and pieces, or – or picking the brains of somebody who uses things…". Jacqx.

> "… in terms of just general IT skills…I've just learned that over the years. No formal teaching to start with… when computers came out, it was really… "How-to" guides, and… just learning as you go". Elizabeth.

Michelle and Millie talk about their digital development as an unintended outcome of

their studies and work,

> "I suppose it was my professional development… doing courses at college… you needed to word-process your assessments. And I guess, you know, once I bought my own computer in that was the start of it… that's when I really got to grips with it... Self-taught, all the way; I've not done any courses or anything, or gone in – or gone to any classes. I've done nothing formal, it's all self-taught". Michelle.

> "I'd used some very basic computer technology when I did my HNC... then I worked for a pharmaceutical company... and my knowledge of IT went through the ceiling… I bought a computer of my own... I've always wanted to keep pushing myself anyway… I like to learn new things, and try different things out…". Millie.

Stephanie, Tristan and Guy talk about teaching themselves, developing their skill set

and their curiosity as motivating their digital development,

> "I'm a geek… I just learned it; taught myself. It's part of the subject, so being technologically competent is important to the subject, and therefore I'm also reasonably competent… and I quite like to learn how things work… I've done it all myself, really…". Stephanie.

> "I'm starting to look at software that I've never used before... and to try and improve my skill-set, really. A beauty about the world that we live in now, with YouTube... the amount of stuff on there that you can learn from... is phenomenal. I haven't gone to any form of courses." Tristan.

> "I've learned out of curiosity... because when I get gadgets, I like to try out … I find myself being able to do things. Maybe another very important resource is YouTube... and they are very helpful… I have not got any formal training for them". Guy.

Sue reflects on the role a mentor plays in her development,

> *"I've been very much supported by colleagues… I have a mentor… I think I've been very much encouraged by like-minded souls. I've aligned myself to people who are interested in this, because I think it's really interesting". Sue.*

James and Lizzie are prepared to utilise digital facilities, but acknowledge their own limitations, with Helen reflecting on her own learning style and how this might not be conductive to learning,

> *"I've got a laptop, I've got an iPad, which I can use. But it's piecemeal, need-to-know. If something doesn't work, and there isn't an obvious button to press… I might work it out, but equally... render it unusable... in my efforts to fix it… I really struggle with any sort of overview of what it's doing... I think that is the biggest thing with this; you don't know what you don't know". James.*

> *"IT think I've got them in speed dial!... if don't understand how to do something...and I fiddle around, and I still don't get it, I don't waste a lot of time, I just contact IT... get them to show me...how to do things. I learned how to make it work for me." Lizzie.*

> *"… I still feel as if I'm way behind… I came here, and I tried to involve myself as much as technology as I want... I'm not probably a very good student. I like to learn... my way". Helen.*

Conversely many participants talk about the challenges of self-development and their fear of technology, how integrating technology in their everyday practice moves them out of their comfort zones. They consider the amount of time and effort they would need to invest to develop their skills and talk about how it can cause stress and consider themselves as laggards,

> *"… some of my resistance … is probably about my own – stepping out of my own comfort zone...and practical issues around how much time am I going to have to invest, in developing my knowledge and understanding...my skills, and my usability of that kind of thing…". Jacqx.*

> *"… it doesn't come naturally; it's not something that, I would normally embrace. Personally, I need to be much more proactive, and I do need to...be more comfortable with it, and lead with it". Helen.*

Jane suggests she needs significant support to develop her skills, but is fearful of engaging with it,

"… I would need a very in-depth course...starting from the beginning "This is a tablet..." And this is the "on" button" … that level is what I need… I think technology things are important… am I the only one who feels like this about it – terrified of it?". Jane.

Jane elaborates further

"I think it's mainly about me. I'm a laggard when it comes to technology... I'm scared of it, basically. I seem to have missed the beginning, where it was maybe quite straightforward, and then suddenly when I'm looking at it, it's this really complicated thing...". Jane.

Katie also has an aversion to digital technologies

"I think, "Well, you know, I'm a technophobe, and if I have to do it..."and I don't work in practice, but I have to teach these people the importance of it in practice. They need to engage with it... and therefore I need to engage with it to help them understand how it can enhance care". Katie.

Although Katie recognises the relevance of the development of digital skills in the

students, her aversion to IT is clearly vocalised,

"I think in my personal life, I'm not IT-literate... it's not something that I relish… that is an obstacle for me... which I do try to overcome, but... just don't manage it somehow… sometimes it's a battle with it... it doesn't complement our pathway through our teaching and learning. And trying to...keep up with the changes in IT, trying to use the IT, is causing so much stress… I don't know it's just the IT that's stressful, it's just the whole – whole package is stressful… it's just another layer of icing on an already exhausted cake" Katie.

Tilley talks about her introduction to the development of IT skills, whilst recognising

the impact her negative experience has on her practice today, she now puts up

barriers to learning digital skills,

"The guy that taught us… I do think… was a very poor educator… he knew what he was doing; but the second you didn't… I felt intimidated, I felt… stupid... there was no support. If you didn't get it straight away, that was it. So very quickly, I put a barrier up and shut off from it. Now I do still – still think, 30 years on, there's an element of that. Well, I don't like that, and if I can avoid it, I will." Tilley.

"I am very insightful... but I'm also aware that then that becomes an addition to my barrier... and so therefore the barrier's grown and grown. And so now I get to the point where I am scared of it". Tilley.

As 'Tilley' comes towards the twilight of her career she hopes she can avoid any further digital development

> *"Why would I bother? If I can hang on for another five years, I'll get away with it!"*

Health concerns were also highlighted and are now presented.

4.3.5 Health concerns about using digital technologies in their everyday work.

Though only two of the participants expressly talked about their own health issues, their concerns for their future roles and their ability to negotiate the use of digital hardware and software, appears to be given little consideration in the TEL agenda.

> *"I do find… as I progress through my career, I am spending more and more time in front of the computer... and I find that really tiring… my eyes seem to be deteriorating rapidly now, which I find a bit worrying… I do get out of my desk, and do a lap... (laughs). ...around the floor, and then go and sit down again, just to – to get my eyes off the screen". Lizzie.*

> *"I do find we are getting more and more attached to our computer… I don't think that's healthy". Lizzie.*

Lizzie makes it clear there are amendments and changes to the office infrastructure which could be made, but does not think that this is currently facilitated by the organisation,

> *"I know there's evidence… just sitting there... isn't that healthy. Maybe I need a stand-up sit-down desk, or two screens would be great. Because a lot of the time, you're trying to squash, especially when you're marking, everything on to one screen". Lizzie.*

Michelle talked about her deteriorating health and how this is impacting on her ability to use computers,

"… because I've got problems with my eyes now, I'm trying to move away from using the computer as much." Michelle.

"… at home now, I've got to make a conscious effort not to use the computer when I get in on a night… my eyes are really deteriorating, and I'm not sleeping either… that's why I'm disengaging from the likes of chats on an evening, and... updating, and if I forget to tweet during the day, it's very unlikely that I'll do it when I get home… I don't use my phone and I avoid the computer". Michelle.

Michelle is making a conscious decision to get support from her family,

"I use my husband now... so if I want to find something…I'll say, "Can you have a look at this for me" ... and he'll do it for me…" Michelle.

4.4 Major theme 3 - Social factors in determining the use of TEL in academics pedagogical practice.

Another key theme which emerges from the participants are social factors and their influence on TEL. The participants talk about social influences in their use of technology. They identify the people they work with, access to support and their families and friends, they talk about the role they play in supporting their colleagues, how influential some colleges were in encouraging their engagement with digital technologies and how they accessed key personnel.

4.4.1 Working together with colleagues.

The participants talk about how they support their colleagues with day to day tips and fixes relating to IT. They emphasise how conversation and debate in their office environments is important; listening to how others use technological tools and their experience encourages them to extend their repertoire of TEL actives. Sharing

practice and accessing colleagues for support is also seen as an important feature of

these academics TEL development,

> *"It's a bit of a standard joke… especially in our office… they call me our office technician... since I resolve all the softer things … "Where do I find this?", or "How do you do this?". Michelle.*

> *"… a colleague within the School was using this technology to great effect... and I met with her, and she encouraged me that that would be a useful tool to use for a group of students that I've got, who are studying at a distance". Sue.*

> *"… we chat a lot in our shared office about things like this and what people's experience is of them… I started using Explain Everything tool, and now a few of them use that as well… they're sharing that experience with each other, and picking stuff up…". Rachel.*

> *"… you've got to be able to engage with technology… I am trying to pick up tips about Twitter...from a colleague of mine… I feel that that's an area for me, where I need to develop...because I'm just not confident at all". Deia.*

> *"… often as a team, we'll sit and develop things. We'll just sit down with each other and say, "Oh, I've discovered this, do you want to come and have a look?". Elizabeth.*

> *"probably very informally having chats to colleagues, "What do you use? How do you use that? What's the benefit? Could I get anything from that?". Jacqx.*

Though James recognises his shortcomings with technology, he still sees the benefit

of the office setting in supporting his endeavours,

> *"I'm not the least IT-savvy person in my office … I would put myself third out of four. The blind leading the blind! (laughs). James.*

Sue talks about the importance of influencing others, she frames this in a positive

light and suggests those leaders needed recognition. Jane is also swayed by the

people she works with but in a more negative and unsupportive way, which may help

to explain her lack of confidence in using TEL in her pedagogy,

> *"I think sharing, influencing others is really important and to actually acknowledge those people". Sue.*

> *"I don't think many of the team are keen for getting on into all these new things… so perhaps there isn't the support in the team… but maybe that's because I haven't looked for it. Maybe we need someone to say "Right, let's get a group together, who's going to do this?", and go for it; and then I would*

get involved in that. But I don't know enough about what I don't know…".
Jane.

Others expressed their thoughts about the benefits of socialising and gaining support

for colleagues to support their development, Tilley suggests she would benefit from

extensive technological support,

"… if there was something where somebody like (names colleague) could be buddied up... where they said "Right, Tilley, I'm going to work with you on this module for this... time. You know, let's get it started, I'm alongside," and then I can run it… I would be more than willing to... you know, jump out of my comfort zone and do that". Tilley.

Next the participants talk about the influence of their families is supporting their

digital development.

4.4.2 Support from family and friends.

When these academics talk about their digital competence and how they learnt their

skills, they emphasise the importance family and friends play in their development,

how they learn from their children and are supported by their partners, and the

satisfaction Michelle gets from reciprocating the support.

"…with my kids growing up… they've known nothing else at school, so we've supported each other and worked with each other, and now they even come and say "Mum, my computer's not working properly, will you have a look at it?", and I can fix relatively straight forward problems on their computers now, and ...pretty… chuffed with myself, really!". Michelle.

"… my son … was using interactive whiteboards anyway within the class… he was teaching me things on the computer about doing PowerPoint presentations, which was quite mind-blowing, considering he was under 11 at the time". Millie.

"I've also learned from my son… technology has been part of his education, through secondary, sixth-form, and University … so I think, you know, from, I suppose, good role models". Verity.

As well as these informal networks supporting their digital development the participants also talk about more formalised exposure.

4.4.3 Socialisation to TEL through workshops.

The importance of workshops is emphasised here, the academics talk about their socialisation into a range of TEL activities through these workshops or external events, opening their eyes to the possibilities of TEL. Though as Tilley points out there can be negative effects too.

> *"I attended a workshop on Crossing Virtual Boundaries, and that really transformed my practice from there on, I engaged with that via webinar interface… actually - that's when the little spark was lit". Rachel.*

> *"… it was the (an external event) … it was just useful to hear what they'd done with their students… and hear some of the tools that they were using… it gave me some ideas for things… I've people that I follow on Twitter, like Sue Beckenham... The LTHE Chat, and Bring Your Own Devices for Learning… there's some nice things in there.". Stephanie.*

> *"I am aware of those e-lunches, and I have been to a couple of them, but not recently". Jacqx.*

> *"I know you put on the EAT – the e-learning lunch things. Again, in the past, I did go to a couple – was disappointed – from that novice thing, to "Well, they're talking about stuff I don't know, so why did I bother?". Tilley.*

In the next section, the academics' experiences of pedagogical professional development are presented.

4.5 Professional development.

The participants talk about their pedagogical professional development as opposed to their professional development to maintain their professional registration with their professional regulatory bodies. All the participants have undertaken a PgC in

learning and teaching, some had extended their studies to an MA in Education and one was studying for an Educational Doctorate.

4.5.1 Post graduate Certificate in Learning and Teaching in Higher education (PgCLTHE).

All the participants had undertaken a PgCLTHE which introduced them to teaching. The majority studied on appointment to the university, and others had undertaken a teaching qualification whilst in their practice setting. Their experiences of undertaking pedagogical professional development was diverse and they discussed the extent to which TEL was considered. Several had undertaken this programme of study several years ago and concept of using digital technologies to enable, support of enhance the students learning has not featured in their curricula as Archie and James illustrate,

> *"… to be fair…it was quite a far bit back. And in those days, we were still doing, overhead projections slides". Archie.*

> *"we were put in groups, and we had to design a module, and... it wasn't a great deal of technology". James.*

Jacqx's experience of the PgCLTHE was more recent when TEL had been considered, but she reflects,

> *"but looking back on that now, that was probably predominantly around using the VLE". Jacqx.*

Whereas Elizabeth reflects that,

> *"We actually had a TEL module within the PGC...and one of the tasks I was given when I first started, was to set up an e-learning module". Elizabeth.*

Verity undertook her studies at a different HEI,

"I think they did talk about... using technology… when I did my PGCE, I did it and I used a portfolio, and submitted everything online... as part of that course. When I joined the University, I did the PgCLTHE; and yet we produced a hard copy... portfolio… and we didn't submit anything electronically…". Verity.

Jane has initially been employed on a temporary basis and the consequence of this was that she taught initially with a limited understanding of educational theory and it was only when she was offered permanent contract she undertook her PgCLTHE

"it was hard to do it...when you didn't have regular teaching… what they were saying...didn't make sense... you had nothing to relate it to… once I got a permanent contract, I did the PGCE… and I got to know a lot more about what I should have been doing". Jane.

The participants also reflect on their pedagogical development in relation to technology.

4.5.2 Reflecting on their pedagogy.

Sue recognises her early engagement with distance learning did not facilitate student learning and for Rachel there were some unexpected and positive outcomes of engaging with TEL to support her distance learning students. Brian comments on the importance of the integration of TEL into learning.

"for some of my distance students, I was so keen that it would be successful, I provided them with everything… then I realised that actually I'm disadvantaging the students by doing that… they need to be adults … thinking more about andragogical practice, that they need to be...responsible for their own learning to some extent... they need to be moving things forward, being proactive, searching for things – reading for their degree, effectively…". Sue.

"I think that's been quite an eye-opener, to see that, actually, you've got better interaction... than you would in your classroom, particularly. Rachel.

And I mean, even if that is just an improvement in digital literacy...it's not a bad thing… But if you're going to tie it in with content, it's got to enhance the content somehow". Brian.

Martin thinks about the ubiquitous use of digital technologies, now he no longer

teaches technology, but reflects on the need for the purposeful integration of TEL.

"I think we are slowly integrating the technology into our teaching practice... but we don't teach technology any more… if the technology's just a tool, it makes life a lot easier for students… but we still need to underpin that with the pedagogy… we shouldn't separate them". Martin.

Verity reflects on her development as a lecturer and how she has moved from a

content driven approach to an interactive approach to supporting students learning.

"I think I came to the University, and I felt I was a novice in my teaching… I worried a lot on the content... whereas now I concentrate more on the activities I want the students to do in the class… you are in a partnership of learning together, that they understand that sometimes you do try things, and they're not right first time. But it doesn't mean, because it doesn't work once… it's about reflection… learning from what did work well? What didn't work well? Why didn't it work well? What are going to do different, the next time, to improve it? I see reflection, and learning from my teaching, as being important". Verity.

Each year the participants meet with their subject leaders and undertake a

professional development review and the purpose of this is to reflect on the past

year's development and achievements and provide an opportunity to set professional

development goals and consider workload planning. Together with their self-

managed activity the research participants consider their professional development.

4.5.3 Professional development.

The participants talk about their approach to PD and the range of PD opportunities

some of which is funded through the university, which includes study at Masters and

Doctoral levels, self-managed independent development and accessing short courses, conferences and workshops.

Archie talks about his 'ad hoc' approach and how he learns from others.

> *"I think it's a bit scattergun. I think that I learn something when I see a benefit in it, or I should use it... I would like to hear somebody's real perspective of how they've used (a tool) …and what value they've got from it, whether it's worked, not worked, or whatever… I think that's a really valuable...way of learning about that". Archie.*

Henrietta reiterates the value of workshops, she takes a cavalier rather than a measured approach to PD, though recently she has used her PDR to discuss working towards HEA Senior Fellow. It is interesting to note her professional development focusses on her role and consideration to pedagogy is limited.

> *"… when I first started here, we had a lot of workshops, but it's difficult to put it into context… I think probably I've learned more through trial and error. The only thing that I've ever really discussed in my PDR, is around my own development linked to my role... and at attaining the senior fellowship in HEA". Henrietta.*

Lizzie talks about how she has accesses short courses but the value of them is diminished by not reinforcing her learning through practice.

> *"… I've been on one or two courses...when I first started… I think I went on an Excel spreadsheet course... most of what I learned". Lizzie.*

Sue, Elsa and Rachel talked predominantly about learning and teaching when asked about PD, how they are self-directed, attend courses and conferences and the benefits of doing so. Sue has undertaken further study in the field of education as well as attending conferences, she talks about how she updates herself,

> *"I've done a variety of courses, and my degree, my Master's in Education… I go to conferences, and I try to keep myself updated. I use social media – Twitter... to keep me up to date with things I wouldn't capture otherwise". Sue.*

Elsa talks about learning through reflection on her practice as well as her taught

experience,

> *"… learning through… experiential learning… reflecting on what you've done… to think about, oh, did that work... did it not". Elsa.*

> *"I think the main thing that came out of that module (Doctorate study) was that, in terms of teaching and learning, it wasn't actually adding any new teaching and learning theory, but it was just enhancing, perhaps, student engagement, enjoyment and perhaps giving skills to deal – to operate in a digital world, really...because that's what we do". Elsa.*

Rachel talks about her experience of the workshops as a stimulus to her further self-development.

> *"… the majority's probably been self-directed… I have gone to some of the "in-house workshops" ... which have been useful… they gave a good spark… when you see somebody who's not just talking about an application… I'll go to the Learning and Teaching Conference… you'll hear people talking, you might not be using it in the same context, but I'll think, "Actually, I could maybe use that. That might be better than what I currently use...". Rachel.*

Brian, Elizabeth and Tristan are relatively new to HE and they talk about their experiences. With Brian reflecting on his difficulties in engaging with theory and his need for practice advice. Elizabeth's reflects on her initial lack of understanding of pedagogy and Tristan acknowledges that he is likely to make mistakes with TEL,

> *"I'm still very new, and there are times when I, sort of, question if I've done the right thing… something usually comes along and goes well, and you think...ah everything's not so bad really. I find...teaching literature quite dense and I think sometimes the more… practically orientated literature doesn't really deal with the nitty-gritty… the practically orientated stuff…". Brain.*

> *"I think that's a little learning lesson for me, I've got to be comfortable with - "Look, I'm going to make a mistake." And I need to be honest about it, and – and just be upfront. But when you're producing something… with my kind of personality, – you want it to be perfect. But the reality is that that's not what the students really want". Tristan.*

> *"... I was spending so much time learning...the topic that I was teaching, as well as learning to be a teacher; it was all so new to me. Honestly, hand on heart, I didn't give that a huge amount of thought at that time… I was doing*

my PGC in Learning and Teaching within the first year… that was all part of a very busy time...in learning a lot of new stuff… but no matter what rationale there is pedagogically… what's available technology-wise…and what skills people have, my experience is that the first choice will always be, "I want to be in a room with other people, and talk to human beings." Elizabeth.

Katie and Archie talked about the PD in relation to their subject specialisms, Katie talks about trial and error and being inquisitive, focusing on professional knowledge and Archie publishing a profession specific textbook,

"Just trial and error … I've got an inquisitive mind… when I go to the practice area … and there's a big poster on the ward… "Right, OK, you'd better tell me about this...because I'm going to have to talk to my students about it." I just ask lots of questions". Katie.

Katie also talks about her profession specific knowledge development being a necessity due to unexpected workload allocation,

"you get… "Oh, can you – can you just cover this module for this term?" … you have to spend an extraordinary amount of time...investing in keeping one page ahead of the students...and you're just thrown from one specialism to the next...and you're expected to know". Katie.

"However, I'm writing a book now about resilience, (names profession) ...". Archie.

In contrast, Guy, Helen and Tilley talk about PD differently. Guy hasn't attended anything he could recall, whereas there are other priorities for Helen and Tilley that they will comply to if this is required,

"I've not gone to any sort of training or workshop...". Guy.

"… we're given choices about how we use that time; and there's just so much to keep up to speed with, and, if this isn't your passion, then you can always find other ways of using that time". Helen.

"… there'd be more chance of me going, if it was a thing that we had to do. That's the problem; when it's mandatory, I know I've got to do it". Tilley.

The participants also reflected on the challenges with CPD and TEL and these reflections are now presented.

4.5.4. Barriers to Professional Development.

The participants identified barriers to their PD, with deficiency of time being mentioned most often. The participants acknowledge that the organisation provides opportunities such as workshops and short courses, but their timing is not convenient for many of the participants.

> *"I think there are barriers, and I think time is one of the biggest barriers… workloads". Elsa.*

> *"I certainly haven't come across any hindrances. I mean, I think there's more support that I could get if I took advantage of it and looked at it, but that's just about finding the time". Archie.*

> *"… but workloads are high… we all seem to be taking on so much more… it's at the detriment of the ability to have time to find out things for yourself, to enhance your lessons… the biggest hindrance towards engaging with some technology in some lunchtime sessions, is the fact that everybody is so busy…". Millie.*

> *"Time. Time. Definitely, finding the time; but in the right environment.". Tilley.*

> *"… but then the other problem is… we're all busy, and... I'll be honest with you; a lot of the work has been done in my own time… and that's just the way I am anyway... I love learning stuff… I can understand that can be very difficult for other people to do". Tristan.*

> *"… due to the workloads… they're hard to access, because we teach four days a week on the team I'm in… the other day's around preparing stuff. So, it's not an excuse, but time is quite a consideration in that. And then, over the summer, people would say you could do them, but really, you're taking holidays that you don't take during term-time… so that can be a challenge". Verity.*

> *"It's about... having the time to develop… your skills. Yes, they have workshops … but the problem is, they're often put on at times that suit the rest of the university, which don't necessarily suit our school. Similarly, they tend*

to not put them on over the summer…which is actually the moment in time when we are marginally less frenetic". Deia.

"… I think it's just that there's so many competing pressures for your time, sometimes these things are easier not to do...than to do...It shouldn't be an excuse, should it?". Elsa.

"PDR's focussed on workload. That's the agenda. I'll go in with what I want to get out from the next year… I will take that to the meeting, but that's not a routine part of the meeting. I feel like I'm putting that on the table, rather than that being on the set agenda... It's all about workload". Helen.

The PD offered is not appropriate to meet everyone's needs (according to Jane, Katie and Tilley). It is acknowledged that it takes additional time for them to develop competence in digital skills, but there is a paucity of time in their workloads to enable them to engage with CPD,

"...there's loads of training, but it always seems to start half-way along, and I want to say, "Sit down and press this button" … that's the level of training I need...for technology... I don't have a clue. Not that I don't want to, but I'm scared of it. And then there's the time; it takes me a long time to get into these things...and I don't think we have that luxury of time all the time". Jane.

"…I've been brought up with traditional methods of teaching... the new technology, I don't relish with open arms… I can't adapt to it very easily, it takes me a lot of time... to adapt. But because of the age that I am, even when I manage to crack something IT wise… the next time I must do it, I can't remember how I did it before… I don't repeat it often enough to become so familiar with it. And I think "Well, what's the point, you know... what you can do." Katie.

"… I do think, for the novices, there should me more… one-to-one's". Tilley

In addition to the research interviews, the VLE module sites were also analysed to triangulate the research findings and this data is now presented in the thesis.

4.6 Analysis of the VLE module sites.

I will now present the findings relating specifically to the VLE module sites. The VLE is an integral part of the student learning experience. Each module is allocated a VLE site and the module leader and students are automatically allocated to the module at the beginning of each year and term. It is the responsibility of the module leader to manage the VLE sites. They have the facility to add additional module team members, who then have the facility to add material to the module site and external examiners who can review the sites and access online submissions.

During the interviews the participants talked about their personal use of the VLE and how they utilised it in their pedagogical practices. In addition to this, an analysis of a range of VLE sites was undertaken and the sites were reviewed against the University VLE threshold quality standards document. The Threshold Quality Standard (TQS) identifies four key aspects of module design, presentation, organisation, communication and construction, the data presented gives an oversite of the extent of the engagement with the VLE. Of the 548 sites operational in the academic year 2014-15, a total of 57 were reviewed across a range of academic levels, Table 14. Appendix 11 illustrates the full data table.

Level	Number of modules at each level selected to review
Support Module	8
Level 4	7
Level 5	11
Level 6	19
Level 7	11
Level 8	1

Table14: The number of modules reviewed at each academic level.

It is interesting to see how Katie viewed the VLE provision, in that she acknowledged that her use of the site is limited. Lizzie, considered the pedagogical limitations of the VLE and Stephanie and Tristan mirror this observation,

> *"it's all on the VLE...which is probably the extent to which I think technology is going to assist me in what I do… I certainly don't use it as optimally as it should be used …". Katie.*

> *"I actually found the VLE quite clunky when I first came here". Lizzie.*

> *"it's just never having enough time to develop some of the things that could go into it, because it just gets looked at as a document dump. And the students use it as a document dump, or a document pickup". Stephanie.*

> *"I started playing around on the VLE, and looking at the quiz… and I just thought "Do you know what? This is just pants." You're spending a lot of time trying to produce a quiz, and in the end of it… it doesn't look very nice, it doesn't feel very nice, it's very clunky". Tristan.*

Firstly, the appearance or presentation of the VLE site is considered.

4.6.1 Appearance/Presentation.

The appearance of the VLE should be professional, this is the first impression the student gets of their module. The minimum requirements are identified in the TQS together with suggestions for enhancement, Table 15.   In this section the menu bar and the banner feature are considered.

Requirement	Enhancements
Programme teams shall work together to agree a common presentation style which may be based on a minimally completed VLE template, with no customisation beyond completing all the module specific areas.	Module teams may customise the arrangement of items based around a carefully edited menu. In doing this, they shall ensure that the design is student-focused. Module teams may use thematic graphics and attractive layout to improve the student experience.

Table 15: TQS minimum requirements and enhancements relating to presentation criteria for a VLE module presentation.

One of the VLE features is a menu bar which facilitates navigation of the module site. The faculty provides a menu bar template which allows modification by module teams. Of the 57 module sites reviewed, 77% (n44) took the opportunity to modify the menu bar, as seen in Table 16.

Modification of menu bar labels = 77% (n44)
No modification of menu bar labels = 10.5% (n6)
Menu bar labels available – but had no content = 3.5% (n2)
Not known = 9% (n5)

Table 16: Menu bar modification.

Academics can customise the VLE sites by using a banner, these can be drawn from a catalogue provided by the VLE or can be created by the individual and imported into the VLE. Only 63% (n36) took the opportunity to use this feature, with 25% making no modification, see Table 17.

Banner included = 63% (n36)
No banner included = 25%
Not known = 12% (n7)

Table 17: Use of banner feature.

Lizzie reflects that while there is good use of the presentation features of the VLE, there is not full compliance, *"I don't find VLE all that intuitive...". Lizzie*

Next the organisation of the module sites is considered.

4.6.2 Organisation.

In this section, the organisation of the learning materials, assessment details, online submission, reading lists and web links are considered. Details of the minimum

standards is seen in Table 18. The organisation of learning materials was evident in

91% (n52) of the module sites, the remaining 9% (n5) are programme support sites

and are not required to hold learning materials. The way the learning materials were

presented varied, generally folders were used, some were labelled and had

descriptions of the content, one used visual cues. The participants used the VLE as

a repository of resources in variety of ways, with Archie and Jane tending to use it on

a more ad hoc basis.

Requirement	Enhancements
Documents shall be organised logically in folders with brief descriptions added to file attachments. Is the responsibility of the module leader to ensure that the module team adheres to this requirement. There shall be an effective mechanism for electronic submission except where that has been an agreed variation before the module begins	Module teams may enhance the use of consistent thematic folders to clearly organise an appropriate range of materials. Student feedback will be sought to ensure that the organisation is clear and logical from the student viewpoint. Module teams may use materials that are created specifically for the module, adopting formats or styles with a broad range of digital interactive media and specially designed and integrated learning activities

Table18: TQS minimum requirements and enhancements relating to organisation criteria for a VLE module.

Helen, Elsa and Guy use the VLE as a repository of resources and they accept that

they do not use the VLE to its full potential,

> *"So, you know, sometimes some of the stuff that I put on the VLE is to offload the fact that I've got less teaching time. You know, I give them extra things to look at". Archie.*

> *"it's a good place… sometimes you can come across things between sessions, and you can put it on and you know the students will see it… But I haven't made enough use of that... I have used it as somewhere to put things". Jane.*

> *"all the resources are put on the VLE... whether it's… giving them links towards journals... and articles that they could read… the PowerPoint presentation... maybe getting them to do some type of online quizzes, or anything that brings a bit of lightness into my lessons". Millie.*

"I think a lot of my work would be just using it as, like, a repository for information, really". Elsa.

"all I know is putting materials on there…I know there are things like the wiki…. I know you can create discussion boards. I've not been able to do that". Guy.

James uses the VLE dynamically to support the repository of learning materials,

"learning materials are it's all done via the VLE, I use it before, during and after each session…". James.

Assessment details and criteria should be made available together with the opportunity for electronic submission of written assignments, (this was a university aim at the time of data collection). The VLE sites reveal the following in Table19, with 56% (n32) presenting assessment details, and of these one included video instructions, one was dated three years previously and one asked for submission via email. One of the module sites listed the assessment details in the learning materials. The programme sites did not need to include assessment details.

Assessment details available - 56% (n32)
Assessment details not available – 36% (n21)
Not applicable – 5% (n3)
Not known – 2% (n1)

Table 19: Availability of assessment details.

Eight of the module sites were programme support sites and therefore did not require online submission and one module assessment was a practical exam. Only 33% (n19) of the sites had on-line submission available see Table 20.

On-line submission available – 33% (n19)
Online submission not available – 51% (n29)
Not required - 2% (n1)
Not applicable – 14% (n8)

Table 20: Availability of online submission feature.

Helen and Deia talk about their experiences of using the VLE for submission,

feedback and marking,

> "… I use the grade centre… online submissions, and things like that… ".
> Helen.

> "I am getting used to electronic marking. The students are getting used to
> electronic submission …I've always used "track changes" ... when I'm doing
> draft feedback... for students… I now use the little bubbles...for some things,
> but that's had its teething problems...' some people can't see it...when you
> send it back to the students…" Deia.

The VLE enables the inclusion of links to module reading lists, access to subject

specific library guides and web links, though not all of the web links functioned at the

time of review. The web links included access to electronic tutorial booking, external

blogs, webinar recordings and You Tube. Details of the use of these features is

available in Table 21.

	Available	Not available	Not applicable	Not known
Reading lists	49% (n28)	44% (n25)	5% (n3)	2% (n1)
Lib guides	21% (n12)	72% (n41)	5% (n3)	2% (n1)
Web links	42% (n24)	53% (n30)		5% (n3)

Table 21: Availability of reading lists, Lib guides and Web link features.

Next the communication features are presented.

4.6.3 Communication.

In this section, communication of the module delivery, module guide and timetable is

included, minimum standards are available in Table 22.

Requirement	Enhancements
Module teams shall use clear announcements or notices. Feedback on assignments shall be provided through the module site or other School supported mechanisms, except where a specific variation has been obtained before the module runs. In such case, it is the responsibility of the module leader to confirm that suitable alternative arrangements have been clearly communicated to all students.	Module teams may feature regular appropriate announcements, many with direct links to module content. Module teams may provide opportunities for peer-to-peer online communication. Module teams may make extensive use of online communication, often including the use of tools such as blogs, wikis, journals, self and peer evaluation. Peer-to-peer online communication and co-operative learning will play an important role in the module's learning strategy.

Table 22. TQS minimum requirements and enhancements relating to communication criteria for a VLE module.

To facilitate communication with the students, the announcement feature is available and contact details of the module team should be made available. Eighty eight percent, 88%, (n50) of the modules used the announcement features, with seven of the modules using them extensively and five being characterised by very limited use. There were typing errors evident. Only 33% (n19) of the modules included module team contact details, one included photographs of the module team. The availability of the module guide and timetable is presented, one was electronic and available for both Mac and PC users, one was tracked and one was incorrect. In addition, module access to the external examiner to facilitate access to assignment submissions is considered.   The details are presented in Table 23.

	Available	Not available	Not applicable	Not known
Announcements	88% (n50)	8% (n5)		4% (n2)
Contact details	33% (n19)	63% (n36)	4% (n2)	
Timetable	38% (n22)	49% (n28)	11% (n6)	2% (n1)
Module guides	75% (n43)	18% (n10)	7% (n4)	
External examiner access	14% (n8)	67% (n38)	14% (n8)	5% (n3)

Table 23. Availability of communication features in the module sites.

Communication features are used in many ways by the research participants, and comments were made on both the benefits and the limitations of this feature,

> *"The VLE is the way I communicate with the students...and they know that. James.*

> *"afterwards... "If you've got questions that you didn't ask at the session, you know, email me". And then rather than just replying to an individual, if it's a question that could apply to the cohort, I'll then put announcements on the VLE… so it's not just a one-to-one… when it could benefit everybody". James.*

> *"…with having the VLE widget on it… it kind of democratises... it lets them know that, even though they're not on Twitter, they can still...access it". Brian.*

4.6.4 Construction.

In this section the use of VLE tools is considered, TQS criteria is presented in Table 24. The tools available included, blog, wiki, journal, Twitter and discussion boards.

Requirement	Enhancements
Module teams shall ensure that all students are provided with some opportunity for active construction. This may be online student discussion, or a forum to construct and share resources, or any online activity that enables students to test or apply the subject. It is recognised that many of these activities are best applied at programme rather than module level, and this standard does not require duplication where construction opportunities relevant to the module aims are provided at programme level.	Module teams may promote more construction of ideas by students through activities online, such as those related to group work. Module teams may stimulate students' use of online features to create and contribute to items using their learning experience to construct new ideas as an integral part of the module's learning strategy. Construction opportunities that develop programme outcomes are particularly encouraged.

Table 24. TQS minimum requirements and enhancements relating to construction criteria for a VLE module.

Only 12% (n7) of the module sites included an activity which enabled students to construct their learning, there were four discussion boards, one blog and two

included journals. The participants reflected on their experiences of using

construction tools where Sue and Katie use blogging in different ways. Sue

recognises her reticence in this area and Katie's skills appear to be more dynamic,

> *"... there are blogs, but I won't be responding to that straight away… the students… would start to discuss things amongst themselves... and contribute to the group blog. And that works better if I'm a little bit reticent, if I hold back a little bit; and I do tell them that I will do that". Sue.*

> *"We do own a blog... they have to read, prepare stuff... they'll do some reports, feedback, their opinions and views… I find the blog… they just find it confusing… we move on to the next prompt question, and there's still people 10 minutes later… answering the one that we'd ask previously, and then it all gets confused and all over the place". Katie.*

Archie, has had experience of using VLE tools when working at another organisation

and this appears to have had an impact on his current VLE engagement,

> *"I haven't used, really, discussion forums in this University since I started… mainly because in my previous University, what I found was… and I don't know if this mirrors other people's experiences, that...to get people engaged on any kind of forum, there needs to be a certain quantum of activity. Archie*

Whereas Jacqx and Elizabeth recognise they are not utilising the tools available,

they reflect on how the features are not user friendly alongside commenting on their

lack of knowledge and on the lack of engagement by their students.

> *"I'm not convinced that I use all of the gadgets… I have tried using things like the discussion boards in the past…and found them clunky, and not user-friendly… I might show my complete ignorance here - the wikis and the blogs and stuff like that...I haven't used them; and that's probably more out of ignorance...than anything else… so I suppose where I've felt comfortable and confident…about using the features in the VLE, I've used them. If I've got no awareness...or I'm completely ignorant of them, I haven't really gone and explored it". Jacqx.*

> *"… they haven't used those tools… whenever I've set up, say, for example, a discussion board (at the request of a student) he found none of his peers were engaging with it at all. I tried to get a wiki going one time...and just, there was nobody contributing to it". Elizabeth*

This chapter has presented my interview data and VLE analysis. In the next chapter I reflect on how these findings link to my theoretical themes.

CHAPTER 5 DISCUSSION

In the previous chapter I presented the research data and in this chapter, I bring together the findings of the study by reflecting on my theoretical perspectives. Current policy emphasizes the need to integrate TEL in pedagogy in the tertiary sector, to support graduates' digital skills development in order to prepare them for today's world of work. I argue that the policy-makers consider TEL in its entirety, whereas my research has revealed its integration into everyday practice is altogether more complex. For example, the policy-makers in general do not provide clear guidance of how this agenda is to be implemented, nor does it take into consideration the professional development needs of the academics implementing this agenda.

I have identified a number of factors which are influential in an academic's engagement with TEL in their pedagogy. In this chapter, I discuss this point in relation to the relevant literature that supports the convergent and divergent themes identified in the data. In discussing my findings, I explore the environment in which this group of academics operate through the socio-cultural lens of Trowler (2008) and I illustrate how emergent experiences are informed by this theoretical perspective. I move on to discuss the implications of the findings on the provision of pedagogical professional development for academics, using Kennedys (2005) framework of CPD to interpret current practice for CPD in this area.

5.1 Introduction.

In the previous chapter I provided thematic analysis of the interview data of the 23 academics in the research sample and gave a descriptive analysis if the VLE sites

that are being used in the research study alongside revealing the interviewees' perceptions of the VLE and how it is utilised. Analysis of the interviews and VLE data reveals a complex picture of interconnected factors which influence academics' engagement with technology in their pedagogy and their professional development. The data presented in chapter 4 shows that academics experiences of integrating TEL in their pedagogy is complex. Their background, their current work load, their support mechanisms, and their motivation all play a part in their engagement with TEL.

Since The Dearing report (1997) set the agenda for the future use of ICT in learning (Thomas and Gornall 2013), there have been several policy documents and briefing papers recommending the integration of TEL into the students' learning experiences to give them the skills to contribute to today's economy (Hefce 2005, Hefce 2009, JISC 2014, UoO 2015). More recently student satisfaction and student expectations are driving the increased engagement with TEL (Herckis *et al.* 2017, King and Boyatt 2014). Phipps and Clay (2018) published a briefing paper, on of behalf of JISC, reinforcing the earlier recommendations, and focusing on digital change, by making suggestions for how organisations should develop institutional strategies to embed digital technologies within pedagogy. The introduction of VLEs into educational settings has resulted in technology becoming common place in tertiary settings, and the changing nature of technology and its rapid development has facilitated ease of access to information and tools by both staff and students (Browne *et al.* 2006). It is, however, argued that scant consideration is given as to how academics develop the skills to access and use these resources in ways that will enable innovative learning and support the wider student experience. Much of the earlier policy pays little attention to the skills development of the academics delivering this agenda. Phipps

and Clay (2018) do give some consideration to staff development, but do not give any details of how this may be delivered. TEL is talked about in policy as an entirety, and my research reveals that TEL is altogether more complex.

As Denzin (1989) argues no self or personal experience or story is ever an individual production, but derives from a larger set of cultural, ideological and historical contexts. The context in which academics' educational practices take place appears to be in a state of flux, as changes are frequently occurring with quality matrices, student funding, and policy imperatives (Phipps and Lanclos 2017). A world of super complexity, (according to Barnett 2000), and the research data in this doctoral study reveals a complex pattern of working lives, where the participants have multiple roles in providing education for a diverse range of students. The academics in this study are operating in an environment where digital technology pervades every part of the institution and several participants actively engage with TEL in their everyday lives alongside their pedagogy. Their reasons for embracing or rejecting TEL in their pedagogy appear to revolve around a triumvirate of major factors which I have termed professional, personal/affective and social factors.

Phipps and Clay (2018) emphasise the need for senior leaders to take responsibility, and integrate the digital infrastructure in a co-ordinated and balanced way that facilitates change, but minimises risk. Phipps and Clay (2018) also reflect on the importance of embedding digital capabilities into recruitment and staff development, as well as linking TEL to professional appraisal, reward and recognition. This argument may encourage some of these participants to continue with their current TEL practices and engage those who are currently reticent to get involved for a range of reasons. However, this doctoral research reveals that current PD provision does not meet the needs of the lecturers, particularly those who have self-declared

limited digital skills. The participants' histories reveal that for some there has been exposure to a broad spectrum of technologies in their professional practice, which has supported their digital development and appears to elicit a degree of confidence in the engagement with and use of digital technologies. However, in contrast, for others who have experienced limited exposure to technologies in their professional practice and have self-declared limited digital skills, there are constraints that relate to external policy and internal operational actives. Agency, in their pedagogy, within an open work environment, can result in innovative and self-determined pedagogical practices for some. The research participants consider key aspects of the organisational infrastructure that contributes to the development of TEL.

I argue that if teaching and learning is to embrace TEL and be successful, it needs to be meaningful if it is to really enable and enhance learning experiences. This argument links to the work of Goldberg (2003) and the reflections of Rachel, Sue, and Tristan in this doctoral study. Rachel, Sue and Tristan talk about the freedom and flexibility they have in pedagogy and how they integrate TEL effectively in supporting student learning, Rachel and Sue use digital tools to support their distance learning students and Tristan reflects on how software tools create 'engaging vodcasts and quizzes'. Though the literal availability of TEL does not necessarily produce successful learning and teaching, (as Drotner 2008 argue), the approach that Rachel has adopted has resulted in greater commitment from her students to TEL and provides an opportunity for a broader student engagement with the TEL agenda.

Constraints to using TEL are evident in the participant interviews with factors including hardware, software and the physical infrastructure being cited. For some participants (for example Stephanie), resource issues are apparent (Stephanie did

not have her own tablet to enable her to set up tasks on the tablets the students were using). A 'centralisation of resources' made access difficult for Tristan and Brian. Sue and Lizzie reflect on the time it takes to develop learning materials for TEL. This links to the findings of King and Boyatt (2014) who talk about time as a major factor influencing academics' ability to engage with and develop TEL activities. For other research participants, (Millie, Sue and Katie), external regulatory body requirements and large, diverse, cohort numbers also impact on their ability to integrate TEL within their pedagogy.

5.2 Understandings of TEL and recognition of the need for digital development.

The participants' experience and understanding of TEL is varied. Like the findings of Kirkwood and Price (2014) these participants struggle to explain what TEL means to them, Tristan talks about it meaning *"different things to different people"*. Where some talk about tools like Katie and Guy, *"it's about available technology, like iPads, computers and white boards"*. Other participants, including Martin and Hero reflect on using technology to "*help the student learn*" and Jacqx refers to the opportunities TEL can provide in creating better access to resources. Elsa refers to pedagogical theory, and she recognises that the underpinning pedagogical theory is not changing, even though TEL is being used. Archie, Tristan and Hero also use the term 'enhancement' in association with TEL, but there is not necessarily a clear understanding of what enhancement actually means. This mirrors the lack of consensus that exists in the literature about the exact nature of TEL. Bayne (2015) and Guri-Rosenblit, and Gros (2011) argue for the importance of needing to be

careful in defining TEL and assuming that technology can inevitably enhance learning. 'Martin' talks about *"using technology to help the students learn",* a more measured explanation and more in line with the term "enabled" that is advocated by Kirkwood and Price (2014). 'Stephanie' and 'Elizabeth' refer to a broader definition of technology, that considers any electronic devices within this general definition. 'Verity' considers both academics and students and how TEL enriches the experience for both the deliverers and the users. However, for 'Jane' *"it means - fear".* These academics are approaching the TEL agenda from very different starting points, with varied understandings of what this means and therein lies a difficulty in the integration of TEL within the curricula. Bayne (2015) argues that the term TEL is:

> *"apparently useful, inoffensive and descriptive shorthand for what is in fact a complex and often problematic constellation of social, technological and educational change"*

There is no doubting that the introduction of new technologies into all aspects of academic practice and working lives is having an impact. Ecclesfield and Garnett (2013) found. That for some this is very positive, 'Archie' reflects that: *"I was interested in it",* For 'Tristan', *"I was programming at 10 years old"* and for 'Jacqx', *"I'm an interested observer".* For others, including 'Katie, Tilley and Jane', the increased use of digital technologies in their academic practice is challenging. There is a wide range of digital skills exhibited by the participants in line with Scheneckeberg's (2009) work, 'Tristan, Stephanie, Brian, Millie and Rachel' have self-declared well-developed skills. However, even for those with well-developed skills, integration of TEL is not straightforward. 'Jane, Tilley and Katie' acknowledge the difficulties they experience using IT, using terms such *as "I'm a laggard", "I'm a technophobe", "I don't like IT, if I can avoid it I will".* These research participants acknowledge that they do not have the necessary digital skills to effectively engage

with the TEL agenda, but as is discussed later, they reveal that the lack of digital skills is not the only constraint that they face. It is significant that the CPD needs of these individuals are not being met by current provision in this context.

The participants recognise the need to develop students' digital skills, to prepare them for work in the health and social care sector, which is becoming increasingly digitised. 'Katie, Martin and Michelle' talk about the increased use of digital tools in the health and social care sector, for record keeping, telecare, telehealth, e-monitoring and supporting patients, in acknowledging and reflecting on the current health drivers (DH 2011, DH 2012). 'Elsa' reflects that *"employers want students to have the skills to work in modern society"*. This mirrors the UoO (2015) assertion that technology is becoming increasingly central to education worldwide. The research participants acknowledge the benefits of this agenda by recognising the need to *"move with the times"* as 'Tilley' advocates.

5.3 Challenges of integrating TEL to a diverse group of learners.

King and Boyatt's (2014) reflection on the varying confidence of students in the use of digital tools, is reflected in these participants' experiences. The students exhibit a range of digital skills as noted by 'Archie and Brian'. 'Brian' comments that '*I suppose we have this assumption that "Oh well, iPads are really intuitive; they're dead easy to use"* but, when the iPads are given to the students to use many had not used a tablet or any apple device and asked: *"What am I supposed to do with this?"*. 'Archie' reflects that: *"I'm sometimes amazed at how un-computer-literate they are"*. 'Verity' recognises digital skills development can be painful for students, and is insightful of the need for a cautious approach:

"I think you have to be cautious how you introduce technology to people who haven't grown up with it… I think it's the way you go about it"

Though the students' digital skills are not the focus of this research, all the participants talk about student diversity and as Margaryan *et al.* (2011), Hargittai (2010), and Bennett *et al.*'s (2008) findings illustrate, there is a complex relationship between age, socioeconomic status and the extent of technology use, which 'Brian' acknowledges. *"Anecdotally I noticed… 20, 21, being equally as "Well, I don't know how to use it" … as some of the older students. I don't think it's a demographic thing, I think it's more of an exposure thing".* Without consideration of the student body, and their digital skills, the integration of the TEL agenda is never going to be as effective as it could be. In the next section of this chapter, consideration is given to how the lens of sociocultural theory has helped in illuminating the existence of professional, social and personal factors in determining the use of TEL.

2.6 The complex factors that impact on academics use of TEL.

The participants are working in complex educational organisations. The reality in which the practitioners operate is determined by the wider university, faculty and subject team. Academics are members of several communities, but the faculty and subject teams are usually the most significant as this is the place of the locus of cultural enactment (Knight and Trowler 2000). This has a profound influence on academics' ways of working. There are competing tensions between individuals and the wider organisations they are working in and this may mitigate against the TEL agendas (Schneckenberg 2009). The following discussion, using the lens of Trowler's sociocultural theory, helps to reinforce the assertions made by Knight and Trowler (2000), in other words, that the participants' experiences of TEL differ

according to the degree of agency that they are afforded. In this section of the chapter, I use Trowler's (2000) sociocultural theory to reflect on the professional, social and personal factors influencing the research participants' application of TEL to pedagogy.

Trowler (2000) reflects on how groups working together develop sets of ways of behaving. 'Sue, Tristan and Martin', operate in an environment in which their immediate leaders are encouraging of them and supportive of their professional practice. 'Sue' talks about *"key individuals"* moving the agenda forward, 'Tristan' reflects on being in the *"right environment"* to undertake TEL activities and 'Martin' comments that *"we do get supported with our ideas"*. King and Boyatt (2014), and Phipps and Clay (2018) highlight the need for a supportive infrastructure which provides direction and guidance to develop and subsume TEL into pedagogic practice. 'Sue, Martin and Tristan's' experiences indicate that they are in the type of environment which appears to support their professional practice. Inan and Lowther (2009) argue that it is a teacher's working environment that has a strong influence on computer proficiency as well as belief in the importance of the TEL agenda. 'Sue, Martin and Tristan' are open to using TEL to support their learners' experiences and they have the opportunity to do so as well. They have brought their digital skills to this environment and they are in a situation where their digital skills can be utilised in a meaningful way on a regular basis. 'Rachel, Jacqx and Elizabeth' talk about sharing and discussing with their colleagues, technological tools and ways of working. As 'Rachel' exemplifies, *"… we chat a lot in our shared office about things like this and what people's experience is of them"*. 'Elizabeth' reiterates the sharing *"… often as a team, we'll sit and develop things together"*. 'Jacqx' talks about the informality of talking and sharing technological experiences with colleagues, *"What*

do you use? How do you use that? What's the benefit? Could I get anything from that?"

The work groups in which 'Guy, Helen, Katie and Deia' operate in have much larger module teams in which they have very little freedom to integrate TEL into their pedagogy. These research participants reflect on following the lesson plans that are provided for them. 'Guy' indicates that he has reasonable digital skills and is confident with TEL, even though he is afforded little opportunity to initiate TEL into his curricula design. Likewise, 'Helen and Deia' are afforded little opportunity to develop their digital proficiency within the curriculum, and this appears to reinforce Suki and Suki's (2011) argument that the extent to which technology is used in academic programmes is influential in developing digital skills, not only among the staff, but also in students as well. The experiences of these participants reflect how workgroups engage in common projects and develop ways of behaving and of understanding their world. They are developing sets of discourse repertoires which support the use of TEL in some instances, but not in others (Trowler 2008).

King and Boyatt (2014) argue that the TEL implementation strategy rarely focuses on pedagogy, but rather reflects the organisation's broader vision. 'Sue' comments on her perception of the digital agenda in the wider organisation when she comments *"it doesn't feel like it's a major aim of the institution to move things forward"*. If TEL does not feature as an organisational priority, there is the potential for the digital agenda to be omitted from the discursive repertoires of everyday practice, when considering curriculum design and lesson planning. 'Sue' recognises the investment in classroom infrastructure, but the reality of her day to day practice is a paucity of facilities on her desk to operationalise her practice to its full potential, 'Tristan' also alludes to the lack of facilities at his PC to create vodcasts *"not all machines have cameras and*

they don't have proper audio facilities", 'Lizzie' purchased her own equipment to facilitate working in a noisy office *"we do need environments that you can work in".* These participants see the wider organisation as not fully engaging in the discourse surrounding TEL. The senior management team need to lead the way, as Seldon (2017), Phipps and Cleg (2018) argue, if current practices are to move from a rather ad hoc approach to TEL integration, instigated by interested and motivated individuals, to a position where all the academics have the required digital skills and can make informed decisions about how, why and when they integrate TEL into the curriculum.

Trowler (2008) considers how people's interaction with artefacts and tools is socially mediated. The tools themselves may influence the nature of reality in significant ways, and at the same time this use is socially constructed, as artefacts configure activity and are imbued with meaning and significance by their users. This shapes their use (Trowler 2008). In this doctoral research, we see examples of the participants' interaction with the tools that they employ in their everyday practice as a positive experience, reinforcing their own skills. 'Sue, Tristan and Stephanie' reflect that: *"I videoed myself drawing, with a voice over in real time… suddenly they (the students) can make sense of it"* Sue, *"…if I'm going to spend time… and do a quiz… I may as well do some quality learning materials"* Tristan, *"I've got twitter feeds embedded, I suppose it's that thing about modelling behaviours",* Stephanie. On the other hand, 'Tilley Katie and Jane's' experiences have a very negative impact on the way they think about TEL and how consider their own digital skills. 'Jane' comments that: *"I think it's mainly about me... I'm scared of it"* and she goes on to think about how her paucity of skills impact so her pedagogy: *"we do have distance students...and I don't think we're quite up to scratch with what we do there. So that's*

something… again, it's not knowing what I can do, because I don't know what I don't know". 'Jane and Katie' reflect that *"I'm not IT-literate"* and do not relish using IT, it's a day to day battle, *"I just don't manage it somehow…"*. For 'Tilley' IT is something she fears. 'Jane' also reflects on the group of people she works with and this influences the way the research participants use and think about TEL *"I don't think many of the team are keen for getting on into all these new things… so perhaps there isn't the support in the team…"*. This is also a factor noted by 'Guy': *'maybe if there is that sort of encouragement we are then able to share our expertise with TEL…"*.

As a group people come to work together and develop ways of using the tools available to them, they construct and negotiate knowledge and meaning and apply it to their practice (Trowler 2008). Those working on larger module teams, where between 6 and twelve people are teaching are operating in contexts that afford them little agency, 'Sue' refers to the professional regularly body that influences the curricula design of pre-registration programmes *"… a certain number of hours have to be allocated to a certain number of topics… and we have to colour within the lines"*. *Sue.* Some of the research participants do not seem to have the opportunity to facilitate the learning of students in ways they would like, as they are provided with lesson plans and learning materials and they are not expected to deviate greatly from this set model of learning. 'Katie' reflects on a lack of autonomy and that this makes her feel *"disempowered" and* she is concerned about the potential impact of this on the student experience: *"then I don't feel that we are empowering students to have that kind of mind-set…"*. *Katie.* Here we see how the agency of the participants in limited by the influence of the regulatory bodies. This appears to be in contradiction to the participants' acknowledgement of the need to develop students'

digital skills to facilitate them working in health and social care where the increased use of digital technologies is pervading many areas of practice. It appears that they have little opportunity to negotiate a mutual understanding of digital tools which can be integrated into the students learning experiences.

Ingleby (2015) argues that the dominant discourses about technology influence teachers, and that their views on TEL are also shaped by their personal and professional backgrounds. This argument aligns with Trowler's (2008) theory about how Individual identities are mediated and conditioned by the social context in which they operate. Ertmer (2005) also talks about teachers' pedagogical beliefs being critical to technological integration. The participants in this study talk about their pedagogy and how they employ active learning approaches. 'Tilley and Katie' are firm advocates of 'face to face interaction' and support the construction of knowledge in the classroom. 'Sue and Rachel' are also advocates of active learning, socialisation and discussion, and they use technology to facilitate this 'active pedagogy' for their distance learners. The data supports Ertmer's (2005) argument that beliefs, digital skills, understanding of TEL and opportunities to develop all influence teaching and learning in this area. New lecturers are initiated and subsequently normalised through participation in accredited programmes of teacher training (Taylor 2002 cited in Austin 2013). The research participants reveal that their experiences of digital technologies are mixed in their PgCLTHE programmes. 'James, Jacqx and Elizabeth' reflect that: *"we were put in groups, and we had to design a module, and... it wasn't a great deal of technology"*. James. *"The content was predominantly around using the VLE"*. *'Jacqx'*. *"We actually had a TEL module within the PGC...and one of the tasks I was given when I first started, was to set up an e-learning module".' Elizabeth'*. If TEL is not a dominant discourse, these

academics are not going to be influenced by this agenda through their initial professional development.

According to Archambault *et al.* (2010) TEL challenges the thinking of academics, 'Rachel' considers how changes to her pedagogical approach have impacted on the students' learning when she redesigned her postgraduate programme from study blocks to distance learning: *"they didn't get time to reflect and think about their own practice; whereas they do now…"* 'Hero' also reflects on student engagement *"I think it… can engage students a lot better"* and 'Elizabeth' considers the way students like to learn "*… it provides flexibility … spend their time…interact directly with people or not …"* 'Tristan' reflects on how he is trying to use his digital skills to generate high quality materials to engage the students and also to convey complex and difficult concepts. This supports Laurillard's (2008) argument that for academics to subsume effective TEL in pedagogical practice, they need to commence with an analysis of what it takes to learn. In other words, it is important to consider what the learners need and how technology can facilitate learning rather than been driven by the technology for the sake of it.

Scott and Palincsar (2013), drawing on Vygotsky, explain how individual mental functioning is related to cultural, institutional and historical contexts. Trowler's (2008) final proposition explores the significance of historical backgrounds and how this background has substantial influence on social life in the present. The participants provide insights into their past lives when they talk about their histories and how these histories influence their current practices. There are two elements which have been scrutinised in this thesis: their rationale for working in HE and their engagement with technology in their professional practice. The participants explain why they wanted to come into HE: they were interested in student learning alongside

influencing the future gatekeepers of the profession. The research participants demonstrate strong motivation for teaching.   This former occupational identity does "provide a sense of credibility" as Austin (2013) argues and acts as a link to the worlds for which they are preparing their students. Secondly, their exposure to technology in their previous lives is noted. 'Stephanie, Millie, Rachel, Brian and Tristan' all talk about extensive immersion in their professional roles, particularly when working in the private sector ('Millie and Brian'). These two research participants ('Millie and Brian') are actively engaged in the integration of TEL in their current practice. They appear to be exemplars of Bennett's (2012) work which identifies early adopters as being driven by the understanding the radical pedagogical possibilities of using TEL. Jephcote and Salisbury (2009) argue that work based identity often underpins and shapes dispositions and orientations towards learning and teaching. In other words, professional backgrounds are shaping emerging ideas about pedagogy (Austin 2013) and it seems that the immersion in technology in previous professional backgrounds translates into confident users of TEL. Brown and Czerniewicz (2010) and Margaryan *et al.* (2011), argue that how, why and when people start using computers is important. As 'Tilley, Katie, Rachel and Deia' illustrate, their exposure to technologies prior to starting in higher education, was limited and this is subsequently translated into their paucity of engagement with digital technologies in their current practice. These research participants cite age as a mitigating factor, but this is contested by Jones *et al.* (2010) who argue that there are variations within and between age groups. It is argued that what is most important is the lack of access to and not knowing how to use technology (Waycott *et al.* 2010). I argue that agency is also a significant factor influencing TEL. All of the research participants reflect on the support and

encouragement they have received from their subject leader, and the shared environment they work in and its conversations and sharing of practice. This appears to help and is characterised by emanating from particular agents. It is through the socio-cultural lens that we can see how the professional, personal and social factors have emerged and we also see how the context in which these participants are operating facilitates and constrains TEL engagement. The groups in which the research participants work and how they talk about and share digital practices seems to play a part in TEL integration. The past histories of the research participants and their personal digital development appears to be influential in the way they engage with TEL and digital technologies today.

5.5 The VLE and its role in TEL.

Networked learning has been considered a core activity of institutions for more than 15 years (Alharbi and Drew 2014), and the research data in the thesis and the subsequent discussion concerning the VLE seems to reflect the consensus presented in the literature. Access to course material continues to account for the greatest VLE usage (Browne *et al.* 2006), and this is certainly mirrored in this research, with the prominent use of the site being listed as a repository (91% contained learning materials). "*I use it as a repository of info really*" as 'Elsa' reflects. There is limited use for students' own construction of learning as only 8 of the sites used the tools available. as 'Stephanie' says, *"I don't have enough time to develop things"* which provides one explanation. However, this is probably not the only reason why these tools are not used, 'Tristan', a competent digital user, says, "*I looked at the quiz feature… it doesn't look nice, it's very clunky"* and 'Lizzie' reflects

that *"I don't find (the VLE) all that intuitive".* The results indicate that those using the VLE are not meeting the university TQS, which may not be surprising given the 'experiences of the VLE being *"clunky", "not intuitive" and "not looking nice".* Despite the literature suggesting that the VLE is used for administration (Browne *et al.* 2006, Griffiths & Graham 2009, West *et al.* 2007) this is not wholly true in this case with assessment details available in only 36% of cases. 33% have on-line submission and 14% of external examiners have access to the module sites. As West *et al.* (2007) argue, the predominant features of the VLE use is for 'announcements', which automatically sends students emails, and access to learning materials. As James articulates, *"it's the way I communicate with students"*. This research reveals extensive use of announcements, but the facility to reciprocate communication is limited by the fact that module team contact details are available in only 33% of cases.

The results indicate the other features of the VLE, such as discussion boards, chat tools and blogs are not used to any great extent and the participants offer a range of reasons as to why this might be the case, which included the tools being *"Not user friendly"* 'Jacqx', but they also view that students did not engage effectively as 'Archie' says *"to get people engaged … there needs to be a certain quantum of activity"* and 'Katie' says the students, as well as herself… *" they just find it confusing"* . West *et al.* (2007) found in their research the VLE is mostly used for teacher-centred, rather than student-centred activities and this appears to be the case here. The VLE in this instance is more often used in a passive rather than active way, which JISC (2007) reported a decade ago. In contrast to the participants' articulated ideal pedagogical approach of encouraging the students'

construction of their own learning, their use of the VLE to engage students in active learning activities appears to be limited.

Barnes and Tynan (2007) argue that undergraduates already live in a Web 2.0 world, and that these students have different expectations of technology. It is also argued that there is the opportunity for student centred learning mediated through the advance of social technologies, but despite this assertion, there seems to be little evidence of the use of technological tools to assist in creative pedagogy. Despite advocating the need for staff development for the past decade in creative learning designs based around the VLE (JISC 2007), there is little evidence of this happening with the research participants in this study. Considering the views of the participants and the evidence from the VLE sites, it appears to be the case that the VLE's "clunky" operation is curtailing constructed learning and this supports the findings of Stiles (2007). I argue that problems with the usability of the VLE is one of a number of factors affecting integration of TEL in pedagogy within the research sample.

5.6 Professional development.

It is argued that organisational culture and practice needs to change to facilitate and support the development of a digital infrastructure and its use, in tandem with staff development (Phipps and Lanclos 2017). I argue that there is a complex interplay of self, team, faculty, wider university and policy factors affecting the uptake and integration of TEL into pedagogy. The literature emphasises the need for continuing professional development (Stevenson *et al*. 2016. Cameron and Woods 2016, Fraser *et al.* 2007, HEA 2011) with benefits for both the learner and educator (Elliott 2006 and Snell *et al.* 2013). There is an expectation for lecturers to make changes to their practice throughout their careers (Lofthouse and Thomas 2017). The findings of

this research indicate pedagogical professional development is taking place; however, it does not appear to be systematic. It is competing with the minutiae of their everyday practice for these participants. The research participants recognise that PD is an essential component of any profession (Hadley *et al.* 2015) and many of the participants appear to have made changes and developed their pedagogy over the years. 'Verity' talks about moving from 'teacher led' to 'student led' pedagogy: *"I felt I was a novice in my teaching… I worried a lot on the content... whereas now I concentrate more on the activities"*. For some of the research participants there is a great deal of autonomy in the way they achieve the outcomes of the programme, affording them the opportunity to develop, experiment and change their pedagogy. In contrast, for others the constraints of working in large module teams with a complex curriculum determined by outside agencies inhibits opportunities for changing and developing their pedagogy.

It is argued by Seldon (2017) that effective leadership is required to support CPD in order to incorporate a strategic approach that provides opportunities for pedagogical development at different stages of a teacher's career (Hadley *et al.* 2015). All the participants were provided the opportunity to undertake their initial teacher training, but the opportunities for pedagogical development at different stages in their careers appear to be limited. When the participants reflected on their annual professional development review, workload was prioritised and pedagogical development appears to have been given less attention as 'Elsa, Millie and Helen' reveal:

"…I think time is one of the biggest barriers… workloads", Elsa.

"… workloads are high…". Millie.

"PDR's focus on workload. That's the agenda. I'll go in with what I want to get out from the next year… but that's not a routine part of the meeting. I feel like I'm putting

that on the table, rather than that being on the set agenda... It's all about workload".
Helen.

If the leaders are not prioritising the need for pedagogical development, it is not surprising the integration of TEL in everyday practice is limited, as many of the participants are not afforded the opportunities to engage in the TEL agenda effectively.   All the participants have undergone the initial PgCLTHE, and therefore meet the expected standard for successful academic probation (Weller 2009). The opportunities for refresher courses as suggested by Seldon (2017) and (Dobbs *et al*. 2017) are currently not available for my research participants. Some of the research sample have undertaken an MA in Education, ('Sue, Rachel and Martin') as well as their PgCLTHE, 'Elsa' was undertaking an EdD, so clearly there are opportunities available for staff, albeit, these participants have undertaken these activities following their own initiative. The fact that only some have undertaken further pedagogical development reflects the findings of Weller (2009) who argues that mid-career academics are less likely to engage in pedagogical CPD.

When the participants reflected on their personal digital development some, including 'Jacqx, and Stephanie' made insightful comments about their experiences. For 'Jacqx' *"probably very informally"* for 'Stephanie' *"I just learnt it: taught myself"* and 'Guy' *"learnt out of curiosity"*. For others, including 'James and Lizzie', though they use technology they recognise their limitations, and they talk about when things may go wrong. 'James' reflects *"I might work it out, equally I may render it unusable"* and 'Lizzie' *"if I don't understand how to do something and I fiddle around and I still don't get it, I just contact IT"*

The participants also talk about the challenges of digital development, suggesting *"they haven't got to grips with it"* 'James', *"some of my resistance is probably my*

own" 'Jacqx', *"it doesn't come naturally"* 'Helen'. Issues relating to the adoption of technology can be attributed to academics lacking confidence in their digital skills and this reinforces the arguments of Phipps and Clay (2018).

When the participants reflected on their pedagogical CPD related activities, the predominant model these participants engaged with was a transmission model of CPD (Kennedy 2005). All the research participants talked about workshops they had attended. Far 'Rachel', a workshop had given her insight into new ways of working and following further reading into synchronous learning, she developed her curriculum to integrate these changes. 'Rachel' was supported by her team leader and the wider faculty, evidencing transformative professional development. All the participants have undertaken an award bearing professional teaching qualification as early career academics. This 'transmission model' of CPD, which Kennedy (2005) reflects on can be 'limited'. Kennedy (2005) argues that a deficit model of CPD, which 'Jane, Katie and Tilley' refer to is insufficient in meeting their needs. 'Jane' reflects on her need for 'consistent support'. Compton *et al.* (2016) argue that on-going school based coaching is an essential component in meeting teachers' needs around technological integration and curriculum development, however CPD in education can become fragmented. Dogan *et al*. (2016) argue that fragmented CPD evidences a disconnect between CPD and professional practice. This experience is revealed by 'Tilley' when she reflects on how her CPD sessions can be 'taken over' by 'more experienced people' so that she becomes 'lost and disengaged'.

One of the key themes this research highlights is the need for staff to be supported in their development, discovery and adoption of digital tools, I argue that this needs to be undertaken in a meaningful way, taking into consideration a multiplicity of factors. If we think about CPD as a process of developing skills and competencies to

produce effective outcomes for students (Tan *et al.* 2015); the focus of professional development should consider the needs of the lecturer as well as the overall aims of the organisation. Phipps and Clay (2018) argue that staff development programmes need to include more modelling of how to use TEL, however this general point gives little pointed advice on how this should be put into effect. In a large organisation in which there is evidence of a great diversity of skills among many of the academics, CPD is always going to be a challenge. Leask and Younie (2013) argue that pedagogical technical skills need to be developed through research evidence. My research illustrates that although workshops are available for the participants, workload patterns and the culture of the organisation may reduce the opportunities for these workshops to be useful. Phipps and Clay (2018) argue in favour of the importance of encouraging staff to experiment with new tools and technologies in a way that is safe for staff and students and allows for failure. 'Brian, Stephanie, Tristan and Verity' make reference to the encouragement they have experienced in trying new things and ideas. 'Rachel's' resilience and commitment to ensure the positive aspects of her programme is a further example of a willingness to engage with CPD processes. The research reveals that although the participants appear to be willing to develop as professionals, the processes do not always support this willingness.

Phipps and Clay (2018) argue that educational organisations need to ensure that academic staff are trained to integrate the VLE into their teaching practice efficiently and effectively. However, in this research study, there appear to be shortcomings and inconsistences with the VLE. The VLE is used predominantly as a portal for learning materials and as a communicative tool. I argue that a barrier to effective CPD lies in the *"clunky"* nature of the VLE and the tools within it. Tan *et al.* (2015)

argue that there is a need to allow individuals to use non-institutional tools, and this is evidenced by 'Stephanie, Archie, Rachel'. It is argued that a comprehensive training programme should be provided to support the use of core digital tools. Phipps and Clay (2018) do not go as far as to suggest that this training should be compulsory or voluntary, however, the participants in the study, who self-report they require the most support ('Katie, Jane and Tilley'), do not appear to be availing themselves of the opportunities that are available to them. These research participants give a range of reasons as to why this is the case: *"time factors"*, Katie, *"scared of digital"* Jane, may be able to *"get away with it"* as Tilley suggests. Any training needs to be supported effectively, with sufficient time allocated to meet the needs of the individuals and it should be more than just a functional experience. I argue that educators' beliefs have a powerful influence on their interpretation of what is happening around them and the decisions they make (Tan *et al.* 2015). It would appear to be unlikely that 'Jane, Tilley and Katie' will change their way of practice, without them seeing a real benefit for the pedagogical process.

5.6.1 Challenges to professional development.

There are challenges to professional development in HE, as highlighted by Lawless and Pellergrino (2007), who argue that effective CPD should be sustained, but it is often not provided due to a lack of adequate resources (Margolis *et al.* 2017). The research participants reflect that their biggest challenge to effective CPD is the paucity of time that is afforded to them. As 'Archie' says *"I think there's more support that I could get if I took advantage of it and looked at it, but it's just about finding the time.* The research participants acknowledge that the organisation provides

opportunities such as workshops and short courses, but their timing is not convenient for many of the participants: "*they tend to not put them on over the summer…which is actually the moment in time when we are marginally less frenetic".* 'Deia and Elsa' make reference to: *"… one of the biggest barriers… is found with staff workloads".* Margolis *et al.* (2017) and Stroll *et al.* (2003) also make reference to the mitigating factors of 'time' and 'workloads'. Without the capacity to engage in their own development, the research participants can become 'professionally stagnant'. The participants talk about workshop opportunities, which they find challenging to access. While the staff recognise that support is available centrally, they reflect that it needs to be more closely tailored to their own specific needs and the research findings reflect evidence from the literature which reports that staff need to be provided with flexible support opportunities (Schneckenberg, 2009).

The CPD support provided by the wider institution currently consists of workshops and drop-in sessions, and it appears that there is an assumption that the current exposure to TEL may be sufficiently developmental. As Harris *et al.* (2009) argue, it is not just about digital skills, as it is more about integrating TEL into pedagogy in reflective ways, Mishra and Kohler (2006) argue that this should begin with reflecting on how technology can be used in a particular context. This is exemplified by 'Millie, Rachel and Tristan', who have well developed digital skills.   The barriers to developing the digital skills that are necessary to engage with TEL are complex. For some it is about changing the very essence of their current practice and there is no doubt change is challenging and comfort can be gleaned from existing habits. However, there are a range of factors which need to be considered that may be contributing to this resistance to change. These factors can include the wider policy

drivers, the context in which the academics operate, their subject group, class sizes, module teams as well as the technology infrastructure which supports the learning environment (Herckis *et al.* 2017).

Academics are expected to pursue academic growth, according to Pedrosa de Jesus *et al.* (2017). There is an expectation that this CPD reflects the changing environment in which these academics operate as Stevenson *et al.* (2016) argue. These participants are on a continuum of engagement with TEL, with examples at both ends of the spectrum. There is a body who are developing and changing, building on skills developed in their former lives, learning new skills, integrating TEL in their everyday practice ('Martin, Millie, Brain, Archie, Sue, Stephanie, Tristan, Rachel and Hero'). Conversely other research participants, ('Katie, Rachel, Jane'), whose exposure to technology in the past has been limited, are reticent to integrate TEL in their pedagogy due to their lack of digital skills. Their engagement with TEL is mitigated by the context in which they are operating as it appears to be the case that the technological infrastructure in the organisation does not appear to fully support all of their TEL activities. This is illustrated by the paucity of digital resources experienced by some of the participants. If it is a challenge for those with well-developed digital skills to fully incorporate TEL in their practice, then it is unlikely that those who lack confidence in their digital ability are going to engage with TEL. The technological infrastructure is only part of the picture, the operationalisation of every day practice, within subject teams, appears to have an influence on these participants pedagogical agency.

To enable all academics to fully engage with the TEL agenda they need to develop the skills to do so, and these skills are both pedagogical and digital. It is also important to develop full recognition of the potential of TEL to add value to the

students' learning experiences (King and Boyatt 2014). Whilst participants, such as 'Jane, Katie and Tilley', recognise their deficiencies and in some ways, would like to ameliorate their perceived deficit, the circumstances in which they practice, as well as the current provision of CPD does not support the level of attention to detail and support they require to move from a place of fear to becoming more confident digital operators. The other participants also need to engage in continuing pedagogical development and while some evidence this in their practice, they express concern about the paucity of time available to them to do so. I argue that the wider organisation needs to see CPD as a priority, to ensure the student experience meets the needs of those attending university, but the graduates are equipped with the skills for the world of work. Any staff developers need to consider, not just changes in practice, but also the need of individuals, their past experiences and their current context to help academics to change, maintain or discontinue what they are doing.

5.7 Dissemination and current thinking.

Evidence of dissemination of the research can be seen in Appendix 12. In Appendix 13 I present my current thinking and have created a visual representation of my findings.

CHAPTER 6 SUMMARY AND CONCLUSIONS

In this chapter I start with a summary of the thesis, revisiting the reasons for the research and identifying the key findings of my doctoral thesis. This is followed by a reflection on the implications of the study and a summary of the contributions of my thesis to TEL and professional development. I then provide consideration of my methodological approach by considering the strengths and limitations of my research, along with a brief assessment of the quality of my research. I indicate areas for potential further research and present my concluding remarks.

6.1 Summary of the study.

In this section a brief overview of the research problem is revisited alongside reflecting on the overall purpose of the research. The study sought to explore the key factors that influence academics' use of TEL in their pedagogical practice. The recommendation for the inclusion of TEL in the students' learning experiences can be seen in educational policies that refer to the need for the workforce to have well developed digital skills to enable them to compete in a global market (Chatterton and Rebbeck 2015, Conservative Manifesto 2017, Ingleby 2015). In 2017 JISC published a report highlighting that 81.5% of university students thought that digital skills were important to their chosen careers, however only half believe that the courses prepare them for the workplace. Within the health and social care sector there are attempts being made to use technology for patient records, telemedicine and telehealth as stipulated within the Information Strategy (DH, 2012).

In my role as one of the faculty learning and teaching leads, I observed a variety of forms of professional practice. There are examples of the innovative use of TEL

embedded in some curricula and individual practices and on the other hand there are other curricula that appear to pay little or no attention to TEL. Some of the research participants' engagement with TEL appears to be very limited and they expressed anxiety about engaging with digital technologies. There appears to be a gap between the wider political drivers and the real pedagogical experience of TEL. The research presents a picture in which, there is a paucity of engagement with TEL by some academics resulting in fewer learning opportunities for students to develop the digital skills they need for the world of work. Conversely there are other examples of innovation with TEL and conscious integration of TEL into the pedagogy of the curriculum. The purpose of the research is to ascertain why this is the case, to explore those factors that enabled or inhibited individuals and their engagement with TEL.

The research participants are lecturers in the field of health and social care, in a broad range of professional disciplines, located in a post 1992 University in the North East of England. This faculty was selected as there appear to be different levels of engagement with the TEL agenda across curricula and as an insider researcher I have a unique opportunity to explore the situation in detail with the added advantage of having expert knowledge of the area. The research participants operate in a complex area in which their roles are multifaceted. They are supporting a diverse portfolio of delivery across pre-registration; professional registration education; and postgraduate health and social care professional development education, to a non-traditional student body. Pre-registration curricula must meet the requirement of professional bodies and professional regulation. Those lecturers who are registered health and social care professionals are required to undertake continuing professional development to maintain their professional registration. The interview

data was collected over a period of six months from January 2015 – June 2015. 23 interviews were conducted, with two pilot interviews followed by a further 21 interviews. A review of 57 operational VLE modules was undertaken, using the Universities TQS proforma, from January to March 2016.

The purpose of the research is to explore factors that affect academics' engagement with TEL in their pedagogy.

The research questions posed were

- What factors influence individuals use of TEL in their pedagogical practice?
- Why do academics choose to use TEL in their pedagogical practice (or not as the case may be)?
- How do academics go about learning the skills required to use TEL in their pedagogical practice?

My research study is an interpretive phenomenological case study combining analysis of the VLE using the organisation TQS and semi-structured interviews. My analytical focus was on the factors which may enable or preclude academics from embedding TEL in their pedagogical practice. Thematic analysis was undertaken via an iterative and inductive process using the work of Fereday and Muir-Cochrane's (2006). The themes identified were ultimately clustered together in a final structure of key research themes.

The data reveal a number of factors that have potential implications for academics and their ability to engage in professional development that supports the use of TEL in pedagogy. These key variables are referred to as professional, personal and social factors. The professional factors take into consideration the learners, as well as the infrastructure support for the academics to operationalise TEL. The context of

the academics' working lives, the policy and wider university, the faculty and the teams in which the students operate, their pedagogical practices and their thoughts on TEL contribute to the professional factors. The personal factors include the research participants' histories and exposure to technology; their digital development and how they have gone about learning their skills, and health concerns. The social factors include the influence of colleagues, their family and friends and socialisation into TEL.

The research participants' professional development reveals they have all undertaken a teaching qualification, but when they undertook their studies, TEL was not identified as a key aspect of CPD. Some of the research participants have subsequently undertaken professional development in the field of education through completing postgraduate degrees; however, the others did not indicate that they had undertaken pedagogical professional development recently. The participants acknowledge that there are opportunities provided for them across the university to undertake pedagogical professional development, however they reflect on the number of constraints that exist and mitigate against their participation.

The module data and participants' reflections on the VLE reveal how it is used to communicate with students as a repository of resources. Reflecting on the academics' use of the VLE, it can be seen that they operationalise the VLE as a mechanism to communicate with students and use it as a repository for providing resources for students. Only eight of the sites evidenced use of web2.0 tools to facilitate the co-creation of learning. The findings echo Ecclesfield and Garnetts (2013) work, by illustrating a more teacher centric delivery mode, rather than being student centric. Their poor digital skills appear to impact on the use of the VLE and whether they employ TEL in their practice. Those who articulate greater curricula

freedom and well developed digital skills, may not necessarily use the VLE to facilitate and support the integration of TEL into pedagogy. Perhaps the functionality of the tool itself does not support self-governed and collaborative activities as some of the participants articulate and this reinforces Dalsgaards (2006) findings. There is little evidence of using the tools within the VLE to facilitate the students' own construction of knowledge. The major findings of this study reveal;

1. TEL is talked about in policy as an entirety, my research reveals that TEL is altogether more complex.

2. A range of interconnecting complex factors, professional, personal and social are evident which influence academics' engagement with TEL.

3. The current provision of PD does not meet the pedagogical and professional development needs of these academics. Professional development focusing on TEL does not consider the complex factors, highlighted by this research, which influence individuals and their engagement with TEL.

4. To facilitate an uptake of TEL adequate resources, need to be provided to enable effective CPD.

6.2. Implications of the study.

Three dominant themes, professional, personal and social factors, have emerged from the data which influence academics' engagement with TEL. A key finding of this research is that the pedagogical and professional development needs of those educating with technology are not being met as fully as they should be. Even those research participants who are encouraged and are willing to embed TEL are constrained by the paucity of some hardware and software.

The implementation of policy needs effective leadership, and leaders need to understand the benefits of employing TEL in the curriculum, but it is also necessary to ensure that academics have sufficient hardware and software available to operationalise TEL in a meaningful way. This will require investment, not necessarily in tools, but in time. It is necessary to enable the time to encourage and reward those who are already engaged with the TEL agenda, so that they are enabled to further develop their provision and skills alongside providing individualised professional development. This CPD ought to be meaningful for individuals, so that their digital skills development is tailored to meet their specific needs.

What factors influence individuals in their use of TEL in their pedagogical practice?

A triumvirate of professional, personal and social factors emerge from the data. These factors are complex and intertwined, but tell a story of effective engagement with TEL in pedagogy, despite some infrastructure constraints. For others there are challenges in engaging with this agenda, which are not just contextual but personal.

The data reveals a complex working life for these research participants. Whether they engage with TEL in their pedagogy is a choice for some and for these academics their use of TEL is mediated by the support of their peers and their immediate line management. They have opportunities in their curricula to experiment with the inclusion of TEL, despite regulatory requirements. For others, there are constraints within the curriculum, but there are also larger working teams, reducing the opportunity to engage with TEL.

To engage with the TEL agenda, academics need to understand how and why TEL is used and become aware of the digital skills that are needed to operationalise any digital activity (Harris *et al.* 2009). Some of the participants, who have well developed digital skills, appear willing to create learning opportunities utilising TEL. For those research participants who expressed that they have poorly developed digital skills, this appears to impede their engagement with TEL in their professional practice.

Contributions of the thesis to new knowledge

This research contributes to the understanding of the environment in which the academics operate and how their professional context is influencing their engagement with TEL. With regards to leadership from senior management, as Phipps and Clay (2018) and Seldon (2017) recommend, in this context, there appears to be an effective engagement with the agenda. However, the challenges of poor infrastructure (ineffective hardware and software) can appear to work against this agenda.

The results add to what we know about Trowler's (2008) socio-cultural theory, which focuses on an understanding of learning and teaching in social contexts. These research participants illustrate how past histories are influencing and supporting how they operate today. The workgroups, module teams and subject teams, while they may develop ways of working together, are limited by the social and cultural structures of the wider university in which they operate. Within their subject groups the discourses about TEL is influential in how they engage with TEL.

***How do academics go about learning the skills required to use TEL in their
pedagogical practice?***

All of the participants have undertaken a teaching qualification in the early part of
their academic careers. TEL did not feature strongly in the curricula they studied.
Some have undertaken further award bearing professional development in the field
of learning and teaching. For others pedagogical professional development appears
to consist of workshops and conferences. The past experiences, and exposure to a
range of different technologies, including digital technologies, appears to have given
some participants the self-confidence to self-manage their own digital development.
The research reveals the way in which academics go about learning the skills
needed to integrate TEL into pedagogy is varied and this mirrors Kennedy's (2005)
work on professional development.

The research reveals that there are constraints to engaging with CPD for these
participants and that this links to the complexity of their professional roles. The need
to engage in health and social care CPD to maintain registration, and the extended
academic year in which they operate, appears to impact on the time they have
available to engage in any meaningful pedagogical CPD.

Contributions of the thesis

The research reveals that those participants who have been previously exposed to a
range of technologies are confident in their digital skills and they appear to readily
engage with TEL in their pedagogy. These research participants are often
experimenting and developing skills in their own time, despite the lack of hardware
and software infrastructure.

The current provision of CPD in this context appears fragmented and this reflects Dogan *et al.*'s (2016) research. These research participants cite structural arrangements and insufficient release of time as impediments to CPD and this mirrors the work of Margolis *et al.* (2017) and Stroll *et al.* (2003). For those research participants who have less well developed digital skills, CPD should be tailored further to meet the individual needs of the research participants.

Why do academics choose to use TEL in their pedagogical practice (or not as the case may be)?

Those academics who are integrating TEL in their everyday practice see benefits to the students' learning experience by the integration of TEL. These benefits include equipping students with the skills to work in a digital world, reflecting the changes taking place in the health and social care sectors (with its increased use of digital technological to support and facilitate practice). These research participants see TEL as having the potential to facilitate deeper learning, to engage students more effectively with pedagogy and to provide more flexibility to the learners. Despite the perceived benefits, some participants express limited experience of engaging with TEL and others talk about the challenges to embedding TEL by identifying mitigating factors (hardware, software and physical infrastructures as well as personal and professional factors).

Contributions of the thesis

This work illustrates the engagement with TEL in current pedagogies is more complex than the policy documents (Conservative Manifesto 2017, JISC 2017, DH 2012, Hefce 2009) suggest. I argue that these policies do not take into consideration

the super complexity of the environment that academics work in, nor do they consider the professional development needs of these academics to achieve these aims.

There are multiple factors which influence whether academics incorporate TEL in their pedagogy or not. I argue that those with more well developed digital skills and who have a degree of agency in their everyday practice are more likely to embed TEL. There is, also evidence that these research participants are using technology to enable changes in their pedagogy (Price and Kirkwood's 2014). Conversely, those who have not such well-developed digital skills appear to operate in a context where there are greater structural constraints and this works against embedding TEL within pedagogy. This research illustrates how the integration of TEL in everyday practice is complex and this supports Baynes (2015) and the argument that the process of embedding TEL in every day practice is not straightforward because it requires social, technological and educational change. Crow *et al.* (2010) and Cheon *et al.* (2012) argue that one of the main barriers to the effective use of TEL in an individual's pedagogy is a lack of training in this area, and some of the participants' experiences support this argument.

In the next section of the chapter, I present a methodological review, considering the merits and limitations of this research followed by the implications of the study.

6.3 Methodological review.

There are limitations to any research from both theoretical and methodological perspectives. My claim to new knowledge is that I have used a case study in a tertiary setting, more specifically in a health and social care context, and reflected on

Kennedy's (2005) professional development framework alongside using Trowler's (2008) socio-cultural theory as a means to exploring the data. I have researched academics' past experiences of using technology, their current use of TEL in their pedagogical practice and explored their professional development needs using semi-structured interviews that have elicited rich and interesting data. The research has also explored the VLE using the organisation TQS as an analytical tool. I wanted to explore ways of being, rather than looking for causal relationships, therefore I opted for a qualitative inductive research approach. Though positivist empirical approaches may at times be viewed more favourably than others for a range of complex reasons (Bryman 2012), I am confident that I have answered my research questions (Feyerabend 2010). An objective reductionist approach fails to take in to consideration the feelings and experiences of participants and I argue that this will not capture the complexities of the application of TEL to pedagogy in HE.

Throughout the study, my research skills have developed, particularly my interview technique. It was evident from the early interviews I generated more "noise" with numerous positive "mmm's" to encourage the participants, but as the interviews progressed I realised I was quieter and was more comfortable with silences, listening more effectively. I noted, on review of the data generated from these early interviews, there were, on occasions, opportunities missed to probe further. In the later interviews when this occurred I made a conscious decision not to interrupt the interviewees and their flow; as it was their lives and experiences and I felt it was important for them to articulate it in a way they felt comfortable. After they had finished speaking, I went back to probe a little further. The interviews were light hearted and there was lots of laughter. I asked the questions in a respectful way, using terms such as "could you tell me", "can you tell me a little more about that" for

example. Many participants commented that the interview questions had been very though provoking.

I was aware of the tension between my role as an insider, as one of the learning and teaching leads in the faculty, with TEL as part of my portfolio, and that of the researcher. Participants were respectful in their critique of the facilities and support the faculty and wider university gave. On occasion I thought it was an opportunity to give some guidance regarding the digital facilities available and discussing the PDR (professional development review) process. Whereas this might be considered a potential 'conflict of interest', (by possibly influencing further responses to the questions that were posed), this is just a research obstacle that I have needed to negotiate.

6.3.1 Limitations of the study.

Case study research is a frequently used in education, but there is little consensus as to whether it is a methodology or method. I argue it is not a method as the data collection and approach can vary considerably and the research process is dependent on the case (Thomas 2011). By its very nature, case study research is looking at a specific phenomenon, exploring the topic in detail, and not seeking to generalise. I am exploring the how and why something might happen in this case, and consequently, the reader must decide whether they think the research findings are transferable to their own context. The vocational nature of the degrees the research sample includes the subject areas of nursing, midwifery and social work and as the lead researcher; I have knowledge about this area of higher education.

This provided subject expertise within my qualitative research process (Thomas 2011).

There is much debate about the number of participants who are needed to adequately reflect the circumstances under exploration and I had no difficulty in gaining agreement from participants who wanted to be in the study. Ordinarily, when managing large volumes of qualitative data, the coding is undertaken by a number of researchers to ensure that the categories are appropriate. The subsequent analysis and emergent themes are generally discussed among the research team so consensus can be made. However, by the nature of this doctoral study, many of the decisions were incumbent upon myself. Although they were discussed with the supervisory team, the final decision rested with myself, and this may have given a potentially biased point of view.

6.3.2. Research quality.

Throughout the research process I was conscious of the need to ensure the trustworthiness of the study. Transferability is considered through the thick description of the research, specifically in the introduction and the data presentation (Tuckett 2005). Throughout data analysis, to ensure credibility, the interviews were listened to initially on completion, to check the accuracy of the content and to enable the writing of participant summaries. In addition, the transcriptions were read to facilitate initial coding in NVivo, and these codes were applied to subsequent interviews and read again as additional codes were created following (Fereday and Muir-Cochrane 2006). Initially I planned to utilise intersubjective reflexivity, by exploring mutual meanings with participants, however I realised that it was

necessary to adopt a more introspective reflexive approach in my research (Finlay and Gough 2003). I argue that prolonged engagement in the research setting and the engagement with the data from multiple sources has enhanced the credibility of my research. A critique of the research has been undertaken through the presentation of the findings locally and nationally (in seminars and a conference) and I have enjoyed regular supervision team meetings. Dependability was increased by the use of an interview schedule and the Threshold Quality Standard (TQS) tool during data collection. This is supported with an audit trail of documents, which includes raw data, personal notes and a blog (Koch 2006).

6.4. Potential areas for further research.

The research is illuminating and highlights that there are multiple factors determining whether academics integrate TEL in their pedagogy. Though the research in some ways answers some of the anomalies of academics' engagement with TEL in their practice, the findings raise a number of other areas that warrant further exploration.

- The focus of this research is on academics working in the health and social care sector, exploration of the experiences of academics in other discipline areas, other HEI's across the UK and internationally would ascertain whether these finding are unique to this sector or whether there is commonality across a range of disciplines.
- Pedagogical professional development literature focusing on the HE sector is limited; therefore, further exploration of the value academics place on pedagogical development would be of interest to staff development.

- The research identified several challenges for these academics limiting their ability to engage in CPD, and further research into perceived or real barriers to professional development would be of interest to individuals and staff developers.

- There were a number of participants who expressed anxiety about their digital skills development and the scope and implementation of TEL. Research focusing specifically on their anxieties and the needs of this group of academics could give further insight into how their developmental needs could be met.

6.5 Concluding remarks.

In this case study I explored a unique context using interviews and analysis of the VLE sites to explore factors which affect academics use of TEL in their pedagogy. I found that these academics were on a continuum of engagement with TEL: at one end those who are actively engaged, who see the benefits to the student learning experience and to themselves. These academics recognise the context in which we now live is IT rich and people are using the internet for a variety of learning related activities and people are learning in different ways (Weller 2011). These research participants see the digital agenda as a series of opportunities, but they are, at times, restricted by physical factors. However, at the other end of the continuum are academics who actively avoid engagement with TEL due to their past experiences and lack of confidence with technology. The CPD requirements of academics, no matter where they sit on this continuum, need to take into consideration. The

triumvirate of professional, social and personal factors that influence their engagement with TEL ought to be acknowledged.

Despite the strategies published by HEFCE in 2005 and 2007, I argue that we need to be open minded to change beyond policy documents. Some of the academics who were interviewed exhibit well developed digital skills, imagination, make the most of opportunities, have support and exhibit agency. These research participants recognise that it is not the technology itself that is making something new, rather it is their capability and the capacity that the digital brings that allows change in their practice (Phipps 2013). Some of the research participants are unlikely to meet the expectations of today's students, who imagine that they will be supported by the latest technologies (Suki and Suki 2011). These research participants acknowledge the challenges of supporting students from diverse backgrounds, and they do not necessarily have the skills themselves, to support these students (Beetham and White 2013), despite acknowledging the need for digitally competent health and social care practitioners (Chatterton and Rebbeck 2015).

In the research, I have explored the academics' engagement with TEL through a socio-cultural lens which highlights that the research participants' past experiences have a bearing on their current pedagogical practice. The wider organisation may appear to support their digital development, but there are hidden barriers hindering many academics and this prevents them from engaging with their pedagogical and digital development. To facilitate true development of digital capability there needs to be good leadership from senior leaders, who recognise that a "one size fits all", of staff development is insufficient to achieve the wider goals of the universities and government policy. We need to think of different ways to support academics if we really think that there is value in incorporating TEL into our practices.

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