STAFF DEVELOPMENT AND WIDER INSTITUTIONAL APPROACHES AROUND TECHNOLOGY ENHANCED LEARNING IN HIGHER EDUCATION INSTITUTIONS IN THE UNITED KINGDOM FROM THE HEADS OF E-LEARNING PERSPECTIVE

Timos Almpanis, BEd, MSc, FHEA

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Department of Educational Research,
Lancaster University, UK.

This thesis was completed as part of the Doctoral Programme in e-Research & Technology Enhanced Learning.

This thesis results entirely from my own work and has not been offered previously for any other degree or diploma.

Signature .....

Timos Almpanis, BEd, MSc, FHEA,
Staff Development and Wider Institutional Approaches around Technology Enhanced Learning in Higher Education Institutions in the United Kingdom from the Heads of e-Learning Perspective.
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ABSTRACT

This thesis presents the findings of a mixed methods study conducted in the context of Higher Education Institutions (HEIs). More specifically, it focuses on the Heads of e-Learning (HeLs) perspective of the needs of tutors who teach in blended and online environments, the ways HEIs in the United Kingdom (UK) address these needs and on institutional issues around the deployment and support of Technology Enhanced Learning (TEL) by campus-based institutions. The HeLs' perspectives are also compared to Laurillard's conversational framework for the effective use of learning technologies.

The literature review in the area of staff development on TEL offers an analysis of the key issues and provides a useful backcloth for this research; the TEL context in UK HEIs is discussed, the terminology is clarified and learning theories are briefly looked at, prior to the more detailed description of staff development models and approaches around TEL.

The research design follows a mixed methods approach. The informants in both phases of this research were the HeLs in various UK HEIs. Using an online questionnaire, quantitative data were gathered on the various ways that the staff development needs of the lecturers in blended and online learning have been addressed by UK HEIs. Simple frequencies and cross tabulations were applied to the data. During the second phase of this research, thirteen semi-structured interviews were conducted.

The questionnaire findings – interviews' outline chapter describes and analyses the research findings from the online questionnaire and provides information about the interviewees and outlines the way the interview questions were developed over time. Further discussion, integration and interpretation of both phases of this research takes place in the discussion – integration of findings chapter. The study concludes by re-addressing the research questions and by pointing out its achievements as well as its limitations.

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Publications derived from this thesis

The results of this research have been published in the following peer-reviewed academic journals:

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1. INTRODUCTION

1.1. Overview of the thesis

This thesis is composed of six chapters that are structured in the following way:

Chapter 1 – Introduction

Introduces the research, the wider context in which this research is taking place, its purpose, its main research questions and research approach, and its intended audience.

Chapter 2 – Background – literature review – desk-based research

Discusses the relevant research literature around staff development in Technology Enhanced Learning (TEL); the terminology is clarified and learning theories are briefly looked at, prior to the more detailed description of staff development approaches around TEL. The literature review in the area of staff development on TEL includes a desk-based research review of what is currently on offer from various UK Higher Education Institutions (HEIs).

Chapter 3 – Research design – methodology - methods

Discusses the research design, research methodology, and methods used for data collection and analysis.

Chapter 4 – Questionnaire findings – Interviews' outline

Presents a description of the findings from the online questionnaire and provides information about the interviewees and the way the interview questions were developed over time.

Chapter 5 – Discussion – integration of findings

Analyses and discusses the research findings in more depth. Further discussion, integration and interpretation of findings from both phases of the research takes place in this chapter.

Chapter 6 – Conclusions - summary

Concludes by providing constructs to address the research questions and provides reflections on the research and the implications for practice and future research.

1.2. Wider context for the research

Socio-economic concerns such as ways to consider and implement lifelong learning (Jallade and Mora 2001), coupled with recent advances in learning technologies such as the development of multiple applications within a single accessible platform provided through virtual learning environments (VLEs) and other software that allows both synchronous and asynchronous communications, have created an increasing demand for blended and online learning courses in Higher Education Institutions (HEIs) in the UK and globally according to Allen and Seaman (2010), Inglis (2008) and Jung (2008). Some UK universities have more or less made a commitment to increase flexible and blended learning as part of their strategic plan or their mission **(**Nottingham Trent University 2010, Southampton Solent University 2015**,** University of Kent 2007, University of Reading 2013, University of West London 2008**)**; at the same time, they have developed or are planning to develop their first courses for blended or purely online delivery. This is, however, not a simple task; online provision takes a lot of planning and requires information technology (IT) infrastructure, platforms, administrative processes and more importantly, 'online tutors' to be in place for it to succeed.

According to MacDonald (2008, p.2) blended learning 'is commonly associated

with the introduction of online media into a course or programme, while at the same time recognising that there is merit in retaining face-to-face contact and other traditional approaches to supporting students. Similarly, according to Garrison and Kanuka (2004), blended learning refers to the integration of face-to-face and online learning and is the definition that will be adopted in this research. At the same time, it is recognised that this 'blend' is not a mixture of face-to-face and online components, but a thoughtful fusion of the two (MacDonald 2008) that makes the most of both environments - the classroom and the online space - and requires a new approach to learning design in order to be pedagogically effective and sound (Garrison and Vaughan 2008). The Open University's (OU) definition of learning design (Open University Learning Design Initiative 2011) is adopted here according to which learning design is a pedagogically informed methodology that makes effective use of appropriate resources and technologies aiming to enable teachers to make more informed decisions when designing activities, courses or curricula.

Staff development in aspects of blended, flexible and online learning – these terms are defined in the following chapter - is offered by most HEIs; however, it has not been standardised, monitored or certified. Most institutions offer training sessions and workshops on various topics such as how to use the institutional Virtual Learning Environment (VLE) and its various tools, or how to use other web 2.0 tools. Additional emphasis, however, needs to be placed on the pedagogical implications behind the implementation of various learning technologies (Laurillard 2002, MacDonald 2008, Salmon 2003, 2011) and on the fact that converting a course from face-to-face to blended delivery requires a fundamental redesign (Garrison and Vaughan 2008). This redesign would require going back to the early stages of course design and considering which of the elements of the course would be better delivered in the classroom and which would be better supported in the online environment, making best use of both environments - the on-campus and the online.

The pedagogy of technology enhanced learning (TEL) (Garrison and Vaughan 2008, Laurillard 2002, MacDonald 2008, Salmon 2003, 2011) is one of the main areas of focus of this research and will be covered both in the literature review but also will recur in the questionnaire findings – interviews' outline chapter and will be discussed in more detail in the discussion –integration of findings chapter of this research. Some universities have included a module on the pedagogy of TEL as part of the Post Graduate Certificate in Learning and Teaching in Higher Education (PGCLT), or else Post Graduate Certificate in Academic Practice (PGCAP), which is a formal requirement for all new lecturers. However, the lack of a UK-wide consistent approach to such an important matter as staff development for blended and online learning seems at first surprising and clearly is warranted as an area for further investigation. As HE practice becomes increasingly standardised, a more consistent approach would be expected in the ways staff development is approached in the area of TEL too. For instance, in the same way that a PGCLT or PGCAP is a formal requirement for all lecturers new to teaching, a similar consistent approach might be adopted in the near future for those who are expected to teach and moderate in a blended or, even more so, in a totally online environment.

The constantly increasing integration of learning technologies in the curriculum in the 21st century, such as VLEs and web 2.0 software, has made the pedagogy of TEL more central to university practice. Therefore, staff development activities in the area of TEL become increasingly important. This study is focused on the various staff development aspects in the area of blended and online learning as described in the next section.

1.3. Research questions and research approach

This research focuses on the staff development needs in the use of learning technologies and on a range of institutional approaches to TEL, providing the Heads of e-Learning perspective. The research questions are:

What provision do a range of UK HEIs make for staff development in the area of TEL?

What do HeLs think lecturers need to know in order to deliver blended and online courses effectively? Are these needs addressed by a range of UK HEIs?

According to HeLs, what institutional approaches are required for TEL to be effectively embedded in the curriculum?

How do HeLs' perspectives compare to Laurillard's conversational framework for the effective use of learning technologies?

The first research question is mostly addressed in this study based on quantitative data gathered via an online questionnaire, while the second, third and fourth questions are addressed qualitatively, based on data gathered via semi-structured interviews with thirteen heads of e-learning (HeLs), drawing on HeLs' expert informed responses. The term staff development has been preferred here over the term training as it encompasses staff training but also includes other forms of professional development such as the PGCLT course. Data gathered from the questionnaires plus some questions from the interviews address these staff development needs that include, pedagogic, technical and curriculum design skills. As the participants of this research provide a high level institutional perspective, the data gathered do not focus on particular subject areas or faculties.

This research is underpinned by a pragmatic philosophical approach; it does not attempt to resolve the paradigmatic war between the purists, but it rather attempts to fit together the insights of both quantitative and qualitative research into a workable solution (Burke and Onwuegbuzie 2004). As this research is looking at both the general picture in the area of TEL in UK HEIs but also closely examines the ways TEL is approached by some individual institutions, a mixed method paradigm was adopted. In a highly interdisciplinary area such as TEL, the mixed

methods approach is adopted in order to bridge the gap left by the purists by attempting to both paint the big picture in the area of staff development in blended and online learning, utilising a survey, and also analyse in depth what is happening in some example individual cases, by conducting thirteen in-depth interviews. The author understands the danger of such an attempt; his research may be labelled as superficial by the purists of either side. The decision to follow a mixed methods paradigm has not been taken lightly. The author has been thinking long about the affordances and limitations of both the positivist/postpositivist and the constructivist/interpretivist paradigms and, having not been totally convinced by either one, has decided to adopt a mixed methods paradigm (Bergman 2011, Creswell 2009, Denscombe 2008, Feilzer 2010, Johnson, Onwuegbuzie and Turner 2007).

Mixed methods research has been adopted in an attempt to utilise the best tools available to address the research questions, rather than imposing some strict ontological views to the research itself. Mixed methods research recognises the fact that both quantitative and qualitative research are important and useful. According to Oliver (2002), if one is pluralistic in the way one approaches theory and research methodologies, one may risk being superficial, but on the other hand, if one can 'believe and live' in a chosen theory-methodology, one can risk being dogmatic.

In this study, quantitative and qualitative data have been gathered sequentially, in two phases. The first part of the research utilises mainly quantitative research methods; following some initial desk-based research, a questionnaire has been the main tool for data gathering. The questionnaire was first piloted with two people in order to be tested for clarity as well as fitness for purpose. This questionnaire, which was emailed to the HeLs of UK HEIs, was asking for factual information on the workshops, seminars, courses and support offered to academic staff in their institution. No evaluation on their effectiveness was made at that stage. The questionnaire also asked about the uptake of blended and online learning in the

participating institutions.

During the second part of the research, the area of staff development in online learning is explored in more depth. Thirteen illustrative case studies – including the pilot interview – were developed on the ways some UK HEIs are tackling the issue of staff development in blended and online learning, as well as covering wider institutional approaches on the implementation of TEL practices. The research method utilised in this part was interviews with HeLs in UK HEIs. The interviews were semi-structured in order to allow for in-depth data of particular pertinence to the individual to be collected.

1.4. Research purpose – intended audience

My initial idea for my thesis, which aligns with my professional role and interests, focuses on the tutors' training needs in order to deliver blended and distance learning courses successfully. It includes a training needs analysis based on the background literature on staff development in online learning, focusing on what online tutors are said to need to know and ways to learn it - training sessions, workshops, continuing professional development (CPD) short courses and more formal qualifications such as modules on teaching online (e.g. a module on online learning as part of a PGCLT/PGCAP course) or courses/certificates/diplomas on teaching online. Existing frameworks, such as Laurillard's (2002, 2012) conversational framework for the effective use of learning technologies and Salmon's (2003, 2011) five stage model for e-moderating are examined in detail as they have influenced the research questions and are compared to the research findings that provide the HeLs' perspectives. Other sources that have influenced this research include the following: the Universities and Colleges Information Systems Association (UCISA) recent surveys on TEL (UCISA 2010, 2012, 2014), the Higher Education Funding Council for England revised strategy for TEL (HEFCE 2009), the HEA's UK Professional Standards Framework for teaching and supporting learning in Higher Education (HEA UKPSF 2011) and various TEL-related studies commissioned by the Joint Information Systems Committee

(JISC 2010, 2011, 2013, 2015).

This study is focused on the staff development provision that UK HEIs make in the area of TEL. It aims to shed more light on the staff development activities currently on offer by HEIs in the UK in order to encapsulate in detail information on both technical and pedagogical training in the area of TEL, as well as examples of good practice in the form of case studies and CPD activities offered to academic staff in this area from the heads of e-learning perspective.

Despite the fact that a lot has been written on the subject, according to a UK online study report (White et al. 2010), one of the areas around online distance learning (ODL) that would be useful to be explored further is 'tutor training and other continuing professional development for staff employed to develop and deliver ODL programmes' (White et al. 2010, p.6). This is another area of focus for this research, as it looks at those areas from the HeLs' perspective. The intended audience of this research includes those involved or interested in the area of TEL such as staff developers, learning technologists, e-learning managers and academics who are involved in blended and online delivery.

1.5. Summary

This chapter introduced the research, the wider context in which this research is taking place, its purpose, its main research questions and research approach, as well as its intended audience. The following chapter covers an extended literature review in the area of TEL, including models, frameworks, terminology, but also an exploration of staff development in the area of TEL and various approaches and issues related to TEL implementation by HEIs.

2. LITERATURE REVIEW

This chapter provides a detailed analytical review of selected background literature on blended and online learning in the context of staff development needs for TEL, which is extended to include some models and frameworks concerning the effective use of learning technologies. These sources were selected as they provide focal background knowledge on TEL-supported implementation and on staff development issues in the area of TEL; the ways these sources have informed and shaped the research questions for this thesis are also explained in this chapter. The literature discussed in this chapter is the backdrop of this study and will be compared and contrasted against the HeLs' views on staff development around TEL.

The terminology related to TEL practice is clarified in this chapter. The role of learning technologists in HE is explained as they are central in promoting TEL and in TEL-support implementation in today's UK HEIs and are also usually managed by HeLs who are the informants of this research. Furthermore, a brief history of learning theories is provided, as these are likely to influence one's attitude to TEL. Some online learning models/frameworks on the effective use of learning technologies and on staff development in TEL are closely examined, with an emphasis on Laurillard's (2002) conversational framework for the effective use of learning technologies and Salmon's five stage e-moderating model (2002, 2003, 2011). The outcomes of desk-based research in the area of staff development of TEL in UK HEIs are then described. Finally, the thorny issue of cost is also reviewed as this may have a direct impact on the sustainability of blended and online courses.

This study is focused on the staff development provision that UK HEIs make in the area of TEL. The biannual TEL survey for higher education in the UK (UCISA 2010, 2012, 2014) administered by the Universities and Colleges Information Systems Association (UCISA), using the same informants as this

study, the HeLs, offers a representative picture on institutional developments in this area in a much wider context, including provision of IT systems, staffing issues, prospective developments, as well as the anticipated challenges that these developments may pose in the near future and possible ways these challenges could be addressed. This study aims to shed more light on the staff development activities currently on offer by HEIs in the UK in order to encapsulate in detail information on both technical and pedagogical training in the area of TEL, as well as examples of good practice in the form of case studies and CPD activities offered to academic staff in this area from the heads of e-learning perspective.

2.1. Background - context of blended and online learning

Information and Communication Technologies (ICTs) can have a profound impact in enhancing teaching and learning as stated by HEFCE (2005, 2009). During the past decade in particular, fast broadband connections, web 2.0 software and synchronous interactions facilitated by Voice over Internet Protocol (VoIP) software, web conferencing and immersive virtual worlds have transformed the ways online learning can be delivered. Furthermore, socio-economic concerns about ways to consider and implement lifelong learning, widening participation and the added emphasis for the creation of a knowledge-based economy (Jallade and Mora 2001), coupled with recent advances in learning technologies and the world-wide-web have created an increasing demand for blended and online learning courses in HEIs in the UK and globally (Almpanis 2009).

There are many open universities around the world offering online distance learning (ODL) courses. The wikieducator's handbook (2011) of open universities (OUs) in the world lists sixty universities based in five continents offering online degrees to a national and international audience. The UK's OU is among them and with 250,000 students currently enrolled is among the largest HEIs globally (Open University UK Facts and Figures 2010).

Campus–based institutions around the world have also recently become increasingly interested in blended, flexible and distance learning delivery for parts of their portfolio. Increasing their online provision is among the common targets for many traditional campus-based universities looking at new ways to expand. The flexibility in time and space offered by online distance learning allows universities to target some of their courses to a wider audience nationally and internationally. As already noted, some UK universities have made a commitment to increase flexible and blended learning as part of their strategic plan or their mission **(**Nottingham Trent University 2010, Southampton Solent University 2015**,** University of Kent 2007, University of Reading 2013, University of West London 2008). This is done partly due to increasing demand for online learning; according to a study for online education in the United States of America (USA) funded by the Sloan Consortium (Allen and Seaman 2010), enrolments in online courses were growing much faster than the overall student population as the 21% growth rate for online enrolments has exceeded by far the 2% growth of the overall higher education student population. In the autumn of 2009 there were 5.6 million students enrolled in online courses in the USA which is one million more students than the number reported a year earlier (Allen and Seaman 2010). It is noteworthy that according to the same report online learning is no longer seen as a 'poor relative' or inferior to face-to-face learning. On the contrary, the number of academic leaders in the USA who rated the learning outcomes in online education as the same or superior to those in face-to-face rose from 57% in 2003 to 66% in 2010 (Allen and Seaman 2010).

A study of the UK's online learning (White et al. 2010), commissioned by the Higher Education Funding Council for England (HEFCE), showed that there were no existing bodies of data on online and distance learning provision among campus-based universities. Following desk-based research, the same study identified 1,528 courses delivered by distance and online learning by UK Further Education (FE) and HE institutions. According to this survey, most of the online courses were either postgraduate or vocational courses providing entry routes to

HE; continuous professional development (CPD) courses were also popular for online delivery. This study evidenced that it was not easy to find ODL courses offered by UK HEIs and 'this problem was compounded by a lack of clarity in the terminology used by institutions to describe their ODL programmes' (White et al. 2010, p.1).

It has been found that delivery of online and blended courses by traditional, campus-based institutions is no simple task. Since the last decade, institutions have been challenged to not only employ technologies to enhance learning, teaching and assessment but also to move beyond capital investment and invest further in staff development on the appropriate pedagogical use of the technologies in order to maximise their potential to aid students' learning (HEFCE 2009).

Learning platforms for online learning such as VLEs have been implemented by the vast majority of universities and colleges in the UK; according to the Universities and Colleges Information Systems Association survey (UCISA 2010) on TEL in 2010, 90% of the HEIs that participated in the survey reported having at least one main VLE in use, while this figure rose to 95% of survey respondents in 2014 (UCISA 2014). Furthermore, according to the same latest survey, centrally supported use of plagiarism prevention and detection software and e-submission tools remain the most common centrally supported software across the sector. E-portfolio, blog and e-assessment tools as well as personal response systems (PRS) were also well established. Lecture capture and media streaming solutions were identified as the leading new demands on institutional support (UCISA 2014). This is clear evidence of the fact that, while VLE implementation was a central focus for most institutions more or less ten years ago, their provision for learning technologies has expanded rapidly to include, add or integrate other systems and tools that facilitate teaching, learning and assessment.

It has been found that online provision takes a lot of planning and requires IT

infrastructure, platforms, administrative processes and online tutors-moderators in order to succeed. Many authors (Garrison and Vaughan 2008, Laurillard 2002, MacDonald 2008, Palloff and Pratt 2007, Salmon 2003, Tait and Mills 1999, 2003) have highlighted the fact that, for online learning to succeed, staff development is of crucial importance. According to MacDonald (2008, p.177):

> *The effectiveness of a blended course will be greatly influenced by the skill, enthusiasm and availability of the staff who work on it. They will need staff development to be effective, unless they already possess the relevant experience.*

Moreover, Salmon (2003) argues that an online tutor-moderator needs to develop technical skills but more importantly, become aware of new teaching practices that can be implemented online in order to become effective facilitators in online environments. Currently, there are a variety of approaches to staff development on blended and online learning including staff training sessions, workshops, seminars, CPD short courses and online resources. Also, pedagogical aspects of online learning are often covered as part of the PGCLT/PGCAP courses aimed at new lecturers. These approaches currently in use by UK HEIs for staff development for blended and online learning from the HeLs' perspective are the main focus of this research.

At this point, and as this research is focused on TEL, it is worthwhile clarifying the various terms used in the area, as there is a mixture of terms commonly used worldwide to describe courses that make use of ICT to deliver parts of the course, or the whole course.

2.2. Terminology

This section clarifies the various terms used in the area of online learning, including e-learning, online learning/web based learning, TEL, distance learning,

blended/hybrid learning and synchronous and asynchronous online learning.

2.2.1. E-learning

According to the Joint Information Systems Committee (JISC e-learning 2011), the term e-learning refers to learning facilitated and supported through the use of ICT and can cover a spectrum of activities from blended to fully online approaches. Similarly to this definition, Oblinger and Hawkins (2005) underline the fact that e-learning, while in the past used to describe learning that takes place entirely online, now refers to the use of technology to deliver some or all of a course. While this term is still popular and still in use mostly in training, in the UK's HE sector it has mostly been replaced by the term 'Technology Enhanced Learning' (HEFCE 2009, p.1).

2.2.2. Online learning/web based learning

The term online or web based learning is very similar to e-learning but emphasises the importance of the world-wide-web for the delivery of the course. E-learning on the contrary can include other electronic media such as compact disks (CDs); however, this has become less common nowadays.

2.2.3. Technology enhanced learning

TEL is an inclusive term that encompasses blended learning, distance learning and even classroom-based activities assisted by digital technology (Almpanis et al. 2010). The Higher Education Funding Council for England (HEFCE) is now using this term as a replacement of the term e-learning which 'can now sometimes be too narrowly defined to describe fully the widespread use of learning technology in institutions' (HEFCE 2009, p.1).

2.2.4. Distance learning

Distance learning is a term used to emphasise the fact that students can be geographically dispersed and that minimum or no campus attendance is necessary. In the past, distance learning was making use of the post to send learning packs;

however, nowadays many distance learning correspondence courses are replaced by ODL courses. Unless otherwise noted, the term distance learning is used in this document to refer to ODL courses where there is little or no campus-based contact.

2.2.5. Blended/hybrid learning

Blended or hybrid learning is a term that has become increasingly popular lately as it is often seen as 'the best of both worlds' - face-to-face and online. According to MacDonald (2008, p.2):

> *The term (blended learning) is commonly associated with the introduction of online media into a course or programme, while at the same time recognising that there is merit in retaining face-to-face contact and other traditional approaches to supporting students. It is also used where asynchronous media such as email, forums, blogs or wikis are deployed in conjunction with synchronous technologies, commonly text or audio.*

What is more, blended learning is perceived as requiring a fundamental redesign that transforms the whole approach to teaching and learning. It is not just a mixture of face-to-face and online components but a thoughtful fusion of classroom-based and online learning experiences (Garrison and Vaughan 2008). In other words, the classroom and the online environment are fully integrated in a way that extends learning beyond the classroom, creating a continuous learning experience that makes the best of both environments - the classroom and the online space.

According to Allen and Seaman (2010), 'blended/hybrid' courses are strictly defined as having between 30% and 79% of their content delivered online. Courses with 80% or more delivered online are named 'online' while those having up to 30% delivered online are named 'web facilitated' courses, according to the same source (Allen and Seaman 2010). This definition may initially seem too

prescriptive; however, it is useful as it highlights the spectrum of form of course delivery. The University of Glamorgan has adopted a similar definition of blended learning which is based on a continuum as shown in Figure 2.1 (Jones and Man Sze Lau 2010).

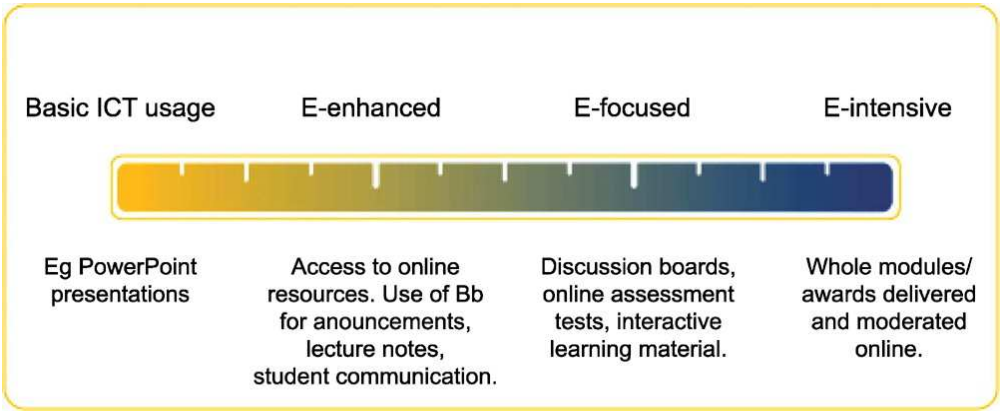

Figure 2.1. Blended learning continuum – Source: Jones and Man Sze Lau 2010.

This continuum includes the whole range of ICT enabled learning, from basic ICT usage to complement face-to-face teaching to fully online delivery of units/modules. Jones and Man Sze Lau (2010) underline the importance of pedagogical design in the adoption of technology, making clear that their model does not imply a simple technological add-on to existing modules, but a total redesign of the whole module/unit.

While the aforementioned literature uses the terms blended and hybrid indistinguishably, the term blended is going to be adopted in this thesis to refer to courses that are either e-enhanced or e-focused as described in the blended learning continuum above. The term blended is preferred to the term hybrid as, according to the author, it denotes better the fact that while embedding technology, there is a redesign of the curriculum in which both environments, the classroom and the online environment, become integrated, in contrast to hybrid learning where each of the two main components, on-campus and online, can be an add-on to the other. The term blended is going to be used in this context throughout this thesis and further clarification will be provided when this term is

used by the informants in this research.

2.2.6. Synchronous/asynchronous online learning

Online learning can employ synchronous (communication among participants is occurring at the same time) and/or asynchronous (communication among participants is occurring at different times) delivery options. Asynchronous learning can be self-paced and self-directed but also can take place using discussion forums where students contribute at their own time over a pre-specified period for a task such as discussion of an article. Other asynchronous tools include wikis where students can collaboratively edit a web page and produce a group project. Synchronous learning takes place using web conferencing systems, Skype or other software that allows for students to meet online with their tutor simultaneously at a pre-specified time.

The emergence of different forms of blended and online learning has created the need for staff development in the area of TEL. These staff development needs in both pedagogical as well as technological aspects of TEL have resulted in the creation of a new role in universities, the learning technologist, whose role is described in the following section.

2.3. The role of the learning technologists in UK HEIs

One of the main challenges identified in the UCISA surveys (UCISA 2010, 2012, 2014) is the lack of academic staff knowledge in the area of online learning and teaching. In order to address the staff development needs of the academic staff, HEIs have employed professionals with various job titles – learning technologists, e-learning officers, e-learning advisers, e-learning staff developers - whose job role includes staff development in the effective use of educational technologies. Fifty-four out of 91 institutions (63%) participating in the UCISA 2010 survey reported having a learning technology support unit while 56 (65%) had an educational development unit that provided TEL support. On top of that, TEL

support is commonly provided by IT support units (80%) while local, departmental support is also provided in two thirds of the cases (66%), according to the survey. Similar numbers were reported in the UCISA 2014 survey as TEL support was provided by a learning technology support unit by 60 (66%) out of the 96 HEIs who completed the survey, while 46 (51%) reported that TEL support was also provided by an educational development unit. An IT support unit still came on top in terms of central units who provided TEL support with 66 responses (73%). According to the UCISA 2014 survey the number of learning technologists who provide TEL support has risen despite the challenging economic climate:

> *There has been an overall increase in the number of learning technologists both within and outside central units… Despite the challenging economic climate and budgetary pressures, which have led just under half the number of responding institutions to restructure or change existing TEL support roles, 34 institutions reported that they had actually increased staffing levels for TEL since the last survey and 38 institutions foresee staff increases in the future (UCISA 2014, p.13).*

Learning technologists are a diverse group of professionals whose activities range from training and staff development to research, management and technical support (Oliver 2002). In some universities learning technologists – or e-learning staff developers - are part of the centre for excellence in teaching and learning (CETL), in others they undertake educational research on the potential of technology to enhance learning and may inform university-wide strategies in the adoption of learning technologies. According to the UCISA survey, approximately 11 members of learning technology staff were appointed on average by each of the institutions who participated in the survey; most of them (9) were residing in the learning technology support units while the rest were divided in local departmental support, educational development units or other places such as generic IT support units, or the library (UCISA 2010). The mean number of

learning technologists working in each of these units slightly rose in 2014 apart from the number of learning technologists working in IT support units where there was a slight decrease (UCISA 2014).

Staff development is critical in the implementation of TEL in one's practice (according to Garrison and Vaughan 2008, Laurillard 2002, MacDonald 2008, Palloff and Pratt 2007, Salmon 2003, Tait and Mills 1999, 2003), as is one's knowledge of learning theories (Ally 2004). The next section provides a brief description of the main learning theories as they have been developed over the last century, and draws links between them and the way they can be applied in online learning environments.

2.4. Learning theories – paradigms and their application in online environments: from behaviourism to connectivism

Educators and psychologists have developed various learning theories over the last century; it is worthwhile for any educator to have an understanding of learning theories so that they might understand their own teaching philosophy. The brief review of the learning theories and learning paradigms as they have been shaped in the 20th and the first decade of the 21st century here is not exhaustive, as that would be a study of its own, but is aimed to highlight main theoretical approaches to learning and teaching. It is worthwhile mentioning that these theories have emerged through different perspectives and can be seen as complementary rather than contradictory according to Passey (2014). He identifies four main perspectives that are taken into account in various degrees by different learning constructs: a) the neurobiological perspective that views learning through biological structure and function; b) the cognitive perspective which focuses on psychological structure and function; c) the motivational perspective which views learning through the interest of the learner and is critically important in particular in adult learning; and d) the social perspective which focuses more on the ways social involvement integrates with practice and

the ways outcomes are used in the long term.

2.4.1. Behaviourism

For behaviourists, it is unknown what takes place inside someone's mind, so they focus more on observable behaviour rather than internal activity. Behaviourists focus more on behavioural change, based on responses to stimuli (Hergenhahn and Olson 2001). According to Ally (2004, p.8), 'The behaviorist school sees the mind as a 'black box' in the sense that a response to a stimulus can be observed quantitatively, totally ignoring the effect of thought processes occurring in the mind'. As a consequence of that, behaviourists often adopt a mechanistic view of learning which does not take into account either the learners' prior experiences or their context, but assumes that their learning is the direct result of some specific, mechanical input. Skinner's radical behaviourism rejected totally any interpretation referring to mentalistic events as anti-scientific (Hergenhahn and Olson 2001). Skinner laid the foundations of computer-based, instructional learning through his teaching machines. Gagné's instructional design (Gagné et al. 2005) is also mainly based in behaviouristic principles as is the whole instructional paradigm.

Despite the fact that behaviourism has been criticised for seeing learning as a mechanical process, behaviourism's perspective to learning is not just neurological but motivational too as it considers strongly the role of rewards in learning (Passey 2014). Furthermore, behaviourist principles are still evident in most formal learning environments and many e-training packages (ECDL Training 2013, Hemsley Fraser 2013, NHS 2013, Skills Active 2013) aimed at individual, self-directed learning, are following behaviourist learning principles.

2.4.2. Cognitivism

In cognitivism, learning is seen as a series of inputs initially managed in short term memory, then coded for long-term recall (Siemens 2004). Most cognitivists take into account one's prior knowledge as they consider the way that new

knowledge integrates with existing knowledge. For them, the learning process is the act of internalising knowledge. The difference is that cognitivists view knowledge as symbolic mental constructs, whereas most behaviourists are interested in observable changes in behaviour (Hergenhahn and Olson 2001). Piaget, an important figure in educational psychology in the 20th century, assumed that 'learning involves both acquisition of information and cognitive representation of that information' (Hergenhahn and Olson 2001, p.288). Piaget's contribution was extremely important in developmental cognitive psychology, as he was the one to point out that children of various ages were at different stages of cognitive development and therefore their 'readiness' to learn varied accordingly. Learning packages that provide content in various formats coupled with formative assessment, which can be either automated via quizzes or include tutor's feedback on other coursework, align with both behaviourist and cognitivist learning theories where the support for learning is focused on the individual (Almpanis et al. 2010). According to Hergernhahn and Olson, 'Both Piaget (a representative of the cognitive paradigm) and most of the behaviorists have reached the same conclusion about education; namely, that it must be individualised' (2001, p.428). Cognitivism has been criticised for focusing on the individual, ignoring the power of the networks in learning (Siemens 2004).

2.4.3. Constructivism

Constructivism sees learners as active seekers of knowledge in their attempt to create meaning and is concerned with the social interactions that support learning. Constructivists emphasise the importance of learners selecting what they want to learn and in pursuing that. Constructivists also view learning as a rather complex process and in their view successful teaching should emulate this complexity, in order to prepare students for life (Siemens 2004). Although constructivist research is still evolving, constructivist theory has a rich history as it was initiated by Dewey at the beginning of the 20th century according to Richardson (2007).

Situated learning, which sees learning as contextual, is central in constructivism

(Ally 2004, p.17). Therefore, in constructivist learning, previous experiences and background knowledge are of crucial importance as individuals 'create or construct their own new understandings or knowledge through the interaction of what they already believe and the ideas, events, and activities with which they come into contact' (Ultanir 2012, p.195). 'Constructivists shift the focus from knowledge as a product to knowing as a process' (Ultanir 2012, p.196). Therefore, in online learning courses influenced by a constructivist pedagogy, learning objectives and the ways these are going to be assessed are broadly defined and usually further negotiated with the learner, whose active participation in the process is critical to the learning process. In the online environment, constructivists can utilise various tools for communication, reflection and online portfolio building tools to facilitate learning. Despite its apparent advantages of making learning negotiated and thus more relevant to one's needs, it could be stated that it should not be seen as a panacea as not all learners may be culturally, psychologically or otherwise prepared to benefit from this approach, and other approaches to learning should not be singled out (Ally 2004, Moule 2007).

Despite their apparent differences, it is worth noting that elements of behaviourism, cognitivism and constructivism can all be included in the design of learning materials. According to Ally (2004, p.7):

> *Behaviorists' strategies can be used to teach the 'what' (facts), cognitive strategies can be used to teach the 'how' (processes and principles), and constructivist strategies can be used to teach the 'why' (higher level thinking that promotes personal meaning and situated and contextual learning).*

Behaviourism, cognitivism and constructivism are foundational learning theories on which other learning constructs are founded. Some of those are briefly discussed in the following sub-sections.

2.4.4. Social constructionism

Social constructionism's origins can be traced back to Berger and Luckman (1966). In their book 'The social construction of reality: a treatise in the sociology of knowledge' they put the sociological foundations of social constructionism according to which man can only be understood as part of the particular culture they belong to:

> *It goes without saying, then, that the organism and, even more, the self, cannot be adequately understood apart from the particular social context in which they were shaped (Berger and Luckman 1966, p.68).*

Social constructionism cannot be easily defined according to Burr (2003). Its main characteristics are that our knowledge – and therefore the ways we learn – is socially and culturally specific and that knowledge is sustained by social processes and constructed between people: 'It is through the daily interactions between people in the course of social life that our versions of knowledge become fabricated' (Burr 2003, p.4).

Social constructionism is influenced by postmodernism and questions our ability to find the 'truth' and uncover hidden structures that would enable us to learn and understand the world. Therefore, for social constructionists, knowledge is subjective and subjected to interpretation based on socio-historical contexts and power discourses (Burr 2003). Some social constructionists adopt the more radical, subjective or inter-subjective approach to reality according to which reality is negotiated in social settings, while others recognise that although reality is negotiated within social contexts, it still has a degree of objectivity (Cunliffe 2013). When adopted in online environments, social constructionism emphasises the power of the various discourses that take place among the members of a learning group or community. Asynchronous but also synchronous communication and collaboration tools can be employed to facilitate these discourses. However, it is important to bear in mind that these discourses become

‘mediated’ in the online environment. This approach is a very popular practice in online learning courses; the main criticism lies in the fact that while in some subjects it can be a sound pedagogic approach, it might not be the best in others (Moule 2007). Furthermore, social constructionist approaches, by their very nature, may disadvantage participants from diverse cultural backgrounds.

2.4.5. Networked learning

Networked learning focuses on the connections and the interactions between learners, tutors and resources. The Department of Educational Research at Lancaster University (CSALT Lancaster University 2004, Jones et al. 2000, p.18) defined networked learning as ‘learning in which C&IT is used to promote *connections*: between one learner and other learners, between learners and tutors; between a learning community and its learning resources’.

Networked learning, in contrast to the Communities of Practice (CoP) approach which is described next, does not privilege any particular type of relationships, either between people, or between people and resources (Jones et al. 2006). While CoPs place a strong emphasis on the strong relationships in those communities and collaboration among their members, networked learning theorists recognise that there is value in both strong and weak ties among members of a network (Ryberg and Larsen 2008), as participants can be in the core in some networks and in the periphery in others. In online environments, networked learning tends to utilise the internet and its various communication and collaboration tools for learners and tutors to interact with each other and the learning resources.

The main criticism of networked learning is that the networks are imaginary, according to an actor network theory approach. According to Fox (2005, p.104):

> *The Internet, which began to be accessed on a wide scale and internationally in the 1990s, basically expanded print-based culture and the imagined community that came with it.*

2.4.6. Learning in 'Communities of Practice' (CoPs)

The preceding learning theories and constructs mostly refer to formal, structured learning. Wenger (1998) recognised the importance of informal learning; he emphasised the role of the communities of practice (CoPs) in one's learning. Wenger (1998) proposed a social theory of learning characterised by components such as meaning, practice, community and identity. Wenger's main criticism to traditional learning theories is that the view that learning should take place in structured environments (classrooms) and learners should be taught by a teacher is outdated; in his view, learning does not necessarily need to be associated with teaching, but is a more natural process that takes place all the time throughout one's life and is heavily enhanced by the social aspect of living in a community. Most of us are members of one community of practice (CoP) or more even if we are not consciously aware of it; in one community we may be at the core while in another we may be on the periphery. In all cases, CoPs are an integral part of our daily lives and provide fertile environments for learning in a natural, informal way.

2.4.7. Connectivism

Connectivists claim that the latest developments in technology, media and communications have altered our habitat in a dramatic way; there is now a huge amount of knowledge produced and made available from which people can dip in and out. Connectivists (Downes 2012, Siemens 2004) move beyond seeing learning as external or internal and claim that learning can also reside outside us. According to Siemens, connectivism incorporates chaos, network, and complexity and self-organisation theories:

> *Connectivism is the integration of principles explored by chaos, network, and complexity and self-organization theories. Learning is a process that occurs within nebulous environments of shifting core elements – not entirely under the control of the individual. Learning (defined as actionable*

> *knowledge) can reside outside ourselves (within an organization or a database), is focused on connecting specialized information sets, and the connections that enable us to learn more are more important than our current state of knowing (Siemens 2004, p.3).*

Therefore, 'the pipe is more important than the content within the pipe', according to connectivism (Siemens 2004, p.4). Connectivism has been recently adopted by many evangelists of massive open online courses (MOOCs), however, as Bell (2011) rightly points out, it is still contested whether connectivism is a learning theory and not simply a phenomenon and, as connectivism is very new, it is yet untested and unproven.

The learning theories and constructs considered here provide a good background to the research questions regarding staff development needs around TEL and the institutional approaches required for TEL to be effectively embedded in the curriculum, as perceived by HeLs, and have informed the interview question on whether the online programmes offered by the interview participants' institutions follow a specific online learning theory or model.

Having considered a range of learning theories and constructs, the following section is looking closely through the literature in the area of TEL; some of the most prominent models and frameworks concerning the effective use of learning technologies and their implications for staff development in TEL are summarised and discussed and the way these align with the research questions is highlighted.

2.6. Online learning models/frameworks - Staff development in TEL

Aimard (2011) points out five main dimensions of e-learning: a) technology (internet, world-wide-web, e-learning platforms); b) content access and production (instructional design, content production, open source content); c) communication and interaction (asynchronous and synchronous online

communications, access to peers, scholars and experts); d) e-pedagogy (e-tutoring, problem solving, project-based learning, metacognition and reflective learning, socio-constructivist learning); and e) organisational and cultural dimensions (looking at the ways the four aforementioned dimensions come together and interact with each other). These dimensions are interlinked and equally important in the implementation of e-learning courses. While this research will focus primarily on the pedagogical and technological dimensions, it will also touch on all other dimensions.

According to Palloff and Pratt (2007, p.129), in order to create an effective online course, one should not convert the curriculum – taking a face-to-face course and putting it online – but convert their teaching methodology. Despite the fact that the steps to be followed when designing an online course are similar to face-to-face courses - such as outlining learning objectives, selecting course materials, tasks and assessments, establishing a topic-driven scheme of work and aligning assessment of activities with learning outcomes and objectives - they have to be considered from the start rather than converting a course from one medium to another. Palloff and Pratt (2007, p.130) argue that 'a paradigm shift regarding the mode of delivery of the course material' is necessary for the creation of an effective online course. Course delivery is far more important than the syllabus in online courses and the activities contained within the course are critical for its success.

The transition from teaching in the classroom to teaching online may not always be easy or smooth. Online learning has challenged educators and their practice (Jones and Man Sze Lau 2010). Online learning has also brought a whole new set of issues and problems for academics, according to Palloff and Pratt (2007, pp.7-8):

> *It takes a unique individual with a unique set of talents to be successful in the traditional classroom; the same is true for the online classroom. The*

ability to do both is a valuable asset in today's academic institutions.

The following models by Anderson (2004), Salmon (2003) and Laurillard (2002) attempt to formulate a theory of practice for online learning. They share in common an emphasis on the interactions that take place online between teachers and learners, but also interactions with content in various media types. These interactions are aimed to form a community of inquiry in Anderson's case, largely depending initially on the ability of the tutor to provide basic technical support and facilitate learning in Salmon's model, and are part of the dialogic level in Laurillard's conversational framework. Furthermore, these interactions are also adaptive and depend not only on the ability of the tutor to be familiar with the platform in use and facilitate learning, making use of learning resources, but also on the ability of both the tutor and the learners to adapt their actions based on the feedback they are getting from each other.

Anderson's (2004) model is based on the basic attributes of learning taking into account the affordances of the world-wide-web and the main forms of online interaction. His e-learning model is built around the two main human actors, teachers and students and their interactions with each other and with the learning content. According to Anderson (2004), online learning allows for three main types of interaction: student-content, student-student and student-teacher, as shown in Figure 2.2. These interactions are mostly important for online courses; however, Anderson argues that 'they can be substituted for each other depending upon costs, content, learning objectives, convenience, technology used and time availability' (Anderson 2004, p.53). As long as one of those three elements of interaction is at very high levels, the other two could be offered at minimum levels or even be totally omitted from an online course without degrading the learning experience.

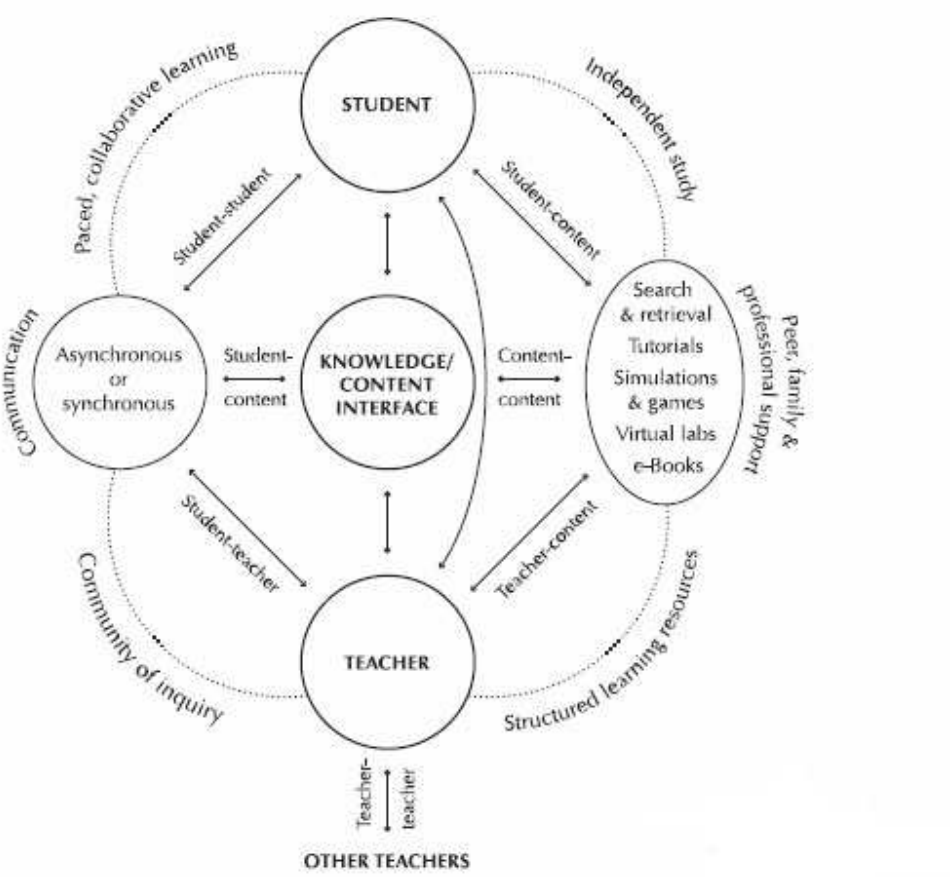

Figure 2.2. Anderson's model of educational interactions on the semantic web – Source: Anderson 2004.

Salmon also acknowledges the three types of interaction mentioned above; however, her model focuses more on the interaction between groups of students with the tutor as mediator and supporter:

> *When I discuss online interaction, I acknowledge that when working online there are three types: interaction with 'content' (course materials or references), interaction between the tutor and the student and, third, the much wider interaction between groups of peers usually with the e-moderator as the mediator and supporter. It is this third kind that the model focuses on whilst seeking to integrate the other two (2013, p. 31).*

Salmon's 5-stage model (2003, 2011) offers a step-by-step guide on how to run e-learning activities which she calls 'e-tivities'. Her model is focused on facilitation of group participation; participants are going through some online structured activities with the aim to become independent learners and eventually develop the qualities of an online facilitator themselves, as shown in Figure 2.3. In the initial stage, participants access and get introduced to the e-learning platform; any technical issues are addressed and sorted at this stage which also includes welcoming and encouraging, usually by an experienced online moderator. During stage two, participants exchange messages with the group, while at the same time the moderator facilitates this process making sure that social and cultural issues are catered for. In stage three, participants, as they get more familiar with the platform, start to exchange information and interact with the content, the moderator and other participants too. In stage four, participants can fully appreciate the potential of asynchronous interaction to support their learning and they take control of constructing knowledge in new ways; for instance, they take initiative to build and sustain groups and they can now handle group dynamics on their own. Finally, at stage five, participants assume full responsibility for their own learning, they become committed and creative in the ways they use the platform; they are also reflective of the whole process they have followed and they are ready to apply the newfound knowledge of online participation to their own, individual contexts.

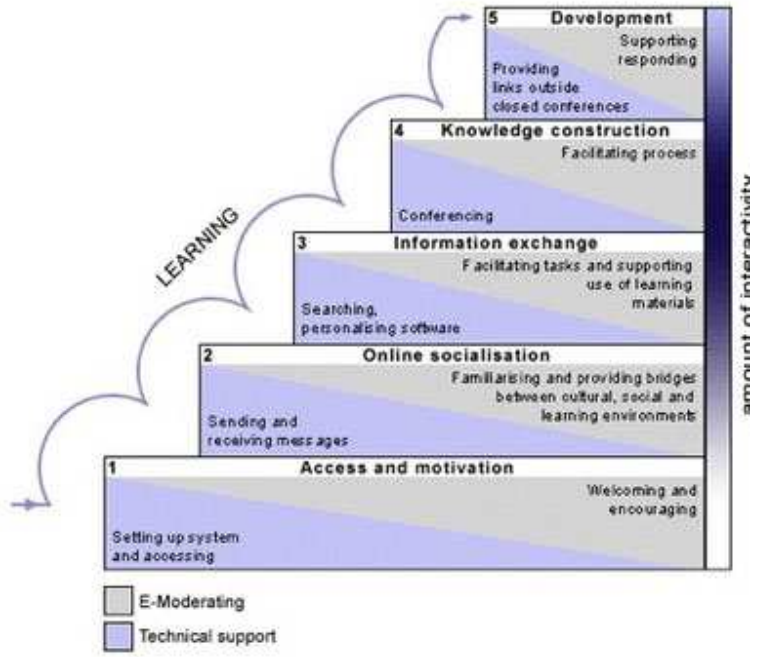

Figure 2.3. Salmon's five-stage model – Source: Salmon 2003.

The online moderators need to own and develop a number of qualities, according to Salmon (2013). These qualities include an understanding of the online process, technical skills, online communication skills, content expertise as well as personal characteristics. An understanding of the online process can be best gained through personal experience of being an online learner and is needed in order to become aware of the potential of online learning and become able to foster and pace discussion by weaving, summarising, evaluating the effect of contributions, enabling effective group work and providing individual and group feedback. The technical skills needed by online moderators include operational understanding of the software in use, reasonable keyboard skills, understanding of the structures of online conferencing so that they are able to control, weave and archive conversations as well as monitor participants' usage, create links to online resources as well as have an appreciation of the internet's potential for learning and be able to use alternative software and platforms. The online communication skills needed for effective online moderation include appropriate use of time, writing concisely, ability to create 'presence' and 'visibility' in the online

environment, manage students' expectations, value diversity and handle conflict constructively. Content expertise is also needed so that the moderators can add their own contributions, encourage sound contributions made by others, being able to start debates by posing intriguing questions, know about valuable resources on the web including multimedia resources that can be used to enliven the conversations as well as being able to give creative online feedback and carry authority by awarding marks fairly to students for their participation. Finally, personal characteristics needed by online moderators include motivation and determination, adaptability to new teaching contexts, methods, audiences and roles, sensitivity to online relationships and a positive attitude towards online learning so that they are able to create and sustain an online learning community. Salmon's five stage model, together with the other models described here, have formed the basis of the research question regarding lecturers' staff development needs for successful delivery of blended and online courses and the HeLs' view on this is discussed in the discussion – integration of findings chapter.

Laurillard's conversational framework for the effective use of learning technologies (2002) emphasises the need for an effective organisational infrastructure to be in place. According to her, a learning organisation needs to be adaptive to the changing environment they find themselves in. Laurillard's framework is a dialogic (conversational) process that takes place on two levels: the discursive level with a particular focus on theory and conceptualising, and the experiential level where the focus is on practice, activity and procedure building. While both levels are interactive, interactions at the discursive level are taking place within the members of the community whereas in the experiential level the interaction is rather adaptive; in other words the individual in the experiential phase is trying something new, adapting their actions depending on their results. As shown in Figure 2.4, Laurillard's conversational framework for instruction accommodates continuous interactions between the instructor and the learners through various media types. The online environment is used in order to facilitate learners' adapted actions and conceptions through reflection based on the

instructor's feedback; the whole process is rather dynamic, as the instructor takes into account the learners' previous actions in order to modify the description of the task and tailor his/her feedback to the learners.

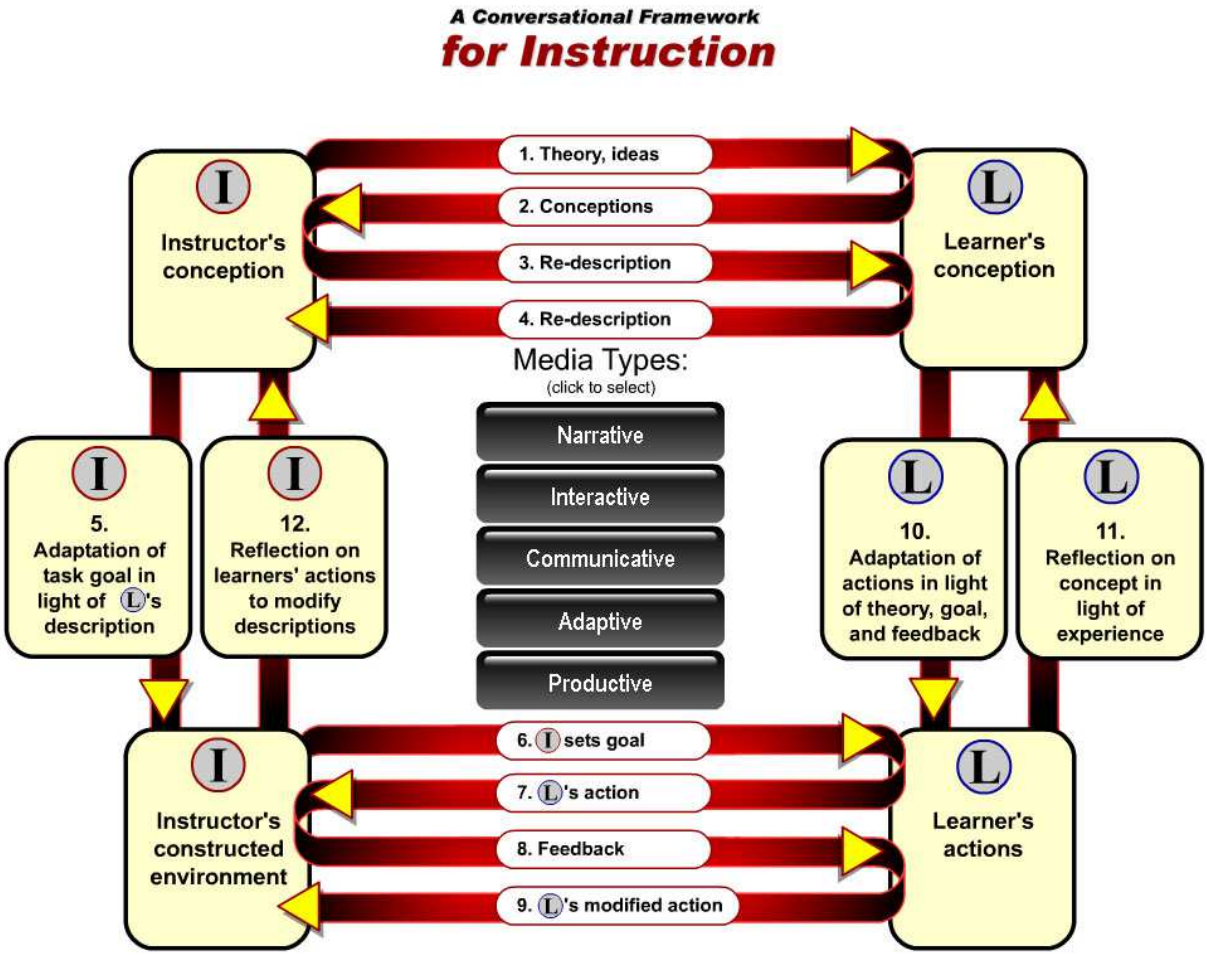

Figure 2.4. Laurillard's Conversational Framework for Instruction - Source: Saint Mary's University of Minnesota 2013.

Laurillard's conversational framework emphasises the fact that although a teaching strategy cannot be prescriptive, it must be a continuous dialogue between the teacher and the students, which reveals the participants' conceptions and

determine the focus for further dialogue:

> *There is no escape from the need for dialogue... There is no room for mere telling, nor for practice without description, nor for experimentation without reflection, nor for student action without feedback (2013, p71).*

Laurillard's framework for an effective teaching strategy brings together the responsibilities of both students and teachers during the iterative, continuous dialogue and identifies four distinct aspects of the progression of the dialogue: discursive, adaptive, interactive and reflective. In the initial discursive phase, the teacher and the students must agree the learning goals for a particular topic by making their conceptions accessible to each other; this requires a discussion environment for the topic goal, within which students generate and receive feedback on their descriptions. Following this comes the adaptive phase during which the teacher adapts the task goal in the light of the students' description in order to determine the task focus of the continuing dialogue; the student has the responsibility to use the feedback from their work and relate it to their conception of the task. During the interactive phase of the dialogue the teacher provides the task environment within which students must act to achieve the goal and the teacher provides meaningful intrinsic feedback on the students' actions. During the reflective phase the teacher supports the process in which students link the feedback on their actions to the topic goal and the students reflect on their task, their actions and the teacher's feedback and modify their actions further. This process according to Laurillard 'aspires to prescribe a form of interaction between teacher and student, rather than action on the student' (2002, p.78). In other words, students' learning needs and their active involvement in the learning process is taken into account. At the centre of these continuous interactions between teacher and students sit the various media that can support these processes – discursive, adaptive, interactive and reflective – and are classified as narrative, interactive, communicative, adaptive and productive. Examples of narrative media according to Laurillard (2002) include the lecture, print (books,

journals, magazines), as well as linear audio and video. Examples of interactive media include hypermedia, web resources and interactive television. Communicative media refer to computer-mediated conferencing both asynchronous (discussion forums) and synchronous (audio conferencing, video conferencing), but also tools that allow students' collaboration. Adaptive media examples include simulations/virtual environments, tutorial programs and educational games. Productive media in Laurillard's framework refer to environments in which the students can build something and engage with the subject by experiencing its internal relationships directly; such environments include microworlds, collaborative microworlds and modelling environments. Laurillard's conversational framework is explicitly discussed and contrasted with the HeLs' perspectives in the discussion – integration of findings chapter.

In the second edition of her seminal book 'Rethinking university teaching: a framework for the effective use of learning technologies', Laurillard (2002) claims that learning is understood to occur through acquisition, practice and discovery, and discussion. Learning through acquisition can be supported by lectures and learning resources; learning through practice and discovery can be supported by exercises and problem-based learning, by field trips and practicals, or virtual field trips and simulations; learning through discussion can be supported by seminars and tutorials in a face-to-face environment and by the use of asynchronous and/or synchronous communication tools online such as discussion forums and web conferencing software in the online environment. According to Laurillard (2002), when these methods are practiced in combination, they are capable of satisfying most of the requirements of a teaching strategy which needs to allow for 'a continuing iterative dialogue between teacher and student, which reveals the participants' conceptions, and the variations between them, and these in turn will determine the focus for the further dialogue' (2002, p.71).

Later on, in her 'Teaching as a design science' book, Laurillard (2012) adds learning through inquiry and learning through collaboration as ways that learning

can arise. Inquiry learning is based on uses of learning resources but the learners need to actively engage with the material by adopting a critical and analytical approach. According to Laurillard (2012) the common features of learning through inquiry include: a) a challenging task; b) specialised task resources; and c) guidance 'designed to model and elicit the skills of inquiry, investigation, interpretation, integration, analysis, critique, evaluation, resolution, synthesis, and representation of a problem or issue' (pp.125-6). Collaborative learning is supported by small group tasks or projects where students can discuss each other's outputs or build joint output either face-to-face or online, using forums and wikis. Additionally, according to Laurillard, learning through production occurs 'when learners generate articulations from all other types of learning, as part of the teacher communication cycle' (2012, p.104). The five methods mentioned above, acquisition, practice and discovery, discussion, inquiry and collaboration will be considered in the context of the data gathered in this study about ways TEL has been used in participating institutions, based on the data gathered from HeLs who are the informants of this study.

According to Laurillard's framework, for the successful implementation of learning technologies in an institution, there is a need for an appropriate organisational infrastructure and a supportive culture to be in place. As innovation with emerging learning technologies is under constant development, their implementation often requires collaborative effort. Therefore, there is a need for the knowledge in this area within an institution to be managed by sharing tacit knowledge, by establishing a programme of staff development in the effective use of learning technologies and by setting up multi-skilled development teams. Furthermore, senior managers' support is needed in order for the systematic use of learning technologies to be embedded in the institution. Development resources and costing need to be agreed alongside the academic staff time commitment; additionally, appraisal and promotion procedures need to make sure that teaching excellence is rewarded.

Laurillard's conversational framework has informed the research questions regarding staff development needs around TEL and regarding institutional approaches around TEL, but also has been discussed explicitly with the informants who were asked to provide their own perspective on Laurrillard's framework. It also directly informed the following interview questions: Do you find TEL is used more at the dialogic/discursive level where the focus is on theory, or the experiential level where the focus is on practice? Do you think that both levels can be facilitated equally well in the online environment? Subsequently, the main processes that learning is understood to occur – learning through acquisition, through practice and discovery, through discussion, through inquiry and through collaboration – have been applied to the data gathered in the interviews, as explained in the discussion – integration of findings chapter. Furthermore, Laurillard's framework for designing an effective organisational infrastructure has been taken up in the question regarding the support provided in the area of TEL by participating institutions, the questions regarding whether TEL should be part of the PGCLT course and the CPD framework for all staff, as well as the question regarding the costs associated with online courses.

This section has so far looked at some of the existing models/frameworks for TEL; these models have direct implications on staff development as, in order to teach effectively in the online environment, tutors need to be aware of the importance of the interactions between themselves, the learners and the content, they need to be flexible in adopting different instructional strategies depending on the context and their teaching approach needs to be holistic in order to encourage deep learning to take place. Furthermore, they need to foster online communities of practice that can extend learning beyond the classroom and support informal learning. These areas will be further addressed in the discussion – integration of findings chapter of this thesis. The ways these key areas - and the staff development needs related to them - are addressed by HE professional bodies in the UK are examined next.

The following sub-sections look closely at approaches to TEL and staff development by the Higher Education Funding Council for England (HEFCE), the Higher Education Academy (HEA) and the Staff Educational Development Association (SEDA), all important influencers of higher education practice in the UK. As a result of that, these sources have influenced some HeLs' approaches to TEL as discussed in the questionnaire findings – interviews' outline chapter and the discussion – integration of findings chapters.

2.6.1. The Higher Education Funding Council for England (HEFCE) strategy for e-learning/TEL

The HEFCE's strategy for e-learning (2005) sets out the strategy and implementation plan for supporting and embedding e-learning in HEIs. Following the UK e-University (UKeU) failure (Garrett 2004), HEFCE wanted to maintain the momentum around e-learning so that the possibilities of ICT to support learning would not be ignored. HEFCE recognised the fact that the use of ICT for learning is very diverse and that technology has the potential to provide opportunities for enhancement in a variety of ways, including on-campus, at home or at the workplace. For this reason they adopt a broad definition of e-learning in order 'to encompass the many uses of ICT that individual universities and colleges decide to adopt in their teaching and learning missions' (HEFCE 2009, p.5). In their revised strategy for e-learning named 'Enhancing learning and teaching through the use of technology' (2009), HEFCE focuses on enhancing learning, teaching and assessment through the use of technology. The term e-learning – with its strong connotations to distance learning – has now been replaced by the more inclusive term TEL.

2.6.2. Learning technologies and the UK Professional Standards Framework (UK PSF) - Staff Educational Development Association (SEDA)

The UK PSF, endorsed by the HEA, 'provides a general description of the main dimensions of the roles of teaching and supporting learning within the HE environment' (HEA UKPSF 2013). It recognises the professional standards for

those involved in teaching and supporting learning within UK HEIs, by benchmarking the main core activities and professional values of their practitioners as shown in Figure 2.5. The core knowledge category, which describes what is needed in order for the various teaching activities to be executed at a high level, includes 'the use and value of appropriate learning technologies' (HEA UKPSF 2011). While this is explicitly stated as a core knowledge needed, the uses of learning technologies also underpin and could further enhance most areas of activity outlined by the UK PSF such as 'design and plan learning activities and programmes of study', 'teach and/or support learning', 'assess and give feedback to learners' and 'develop effective learning environments and approaches to student support and guidance', as VLEs and other learning technologies are most often used in order to facilitate these practices. This is indicative of the fact that the use of learning technology to support, facilitate and enhance students' learning has now become standard practice and is no longer seen as a separate skill, as used to be the case in the early days of e-learning. The HEA's UKPSF has informed the research questions regarding lecturers' needs around TEL and the question regarding institutional approaches required for TEL to be effectively embedded in the curriculum. It has also been taken up by raising the interview questions on whether TEL should be a compulsory module in the Postgraduate Certificate in Learning and Teaching in HE and whether TEL should be part of the CPD framework for all academic staff.

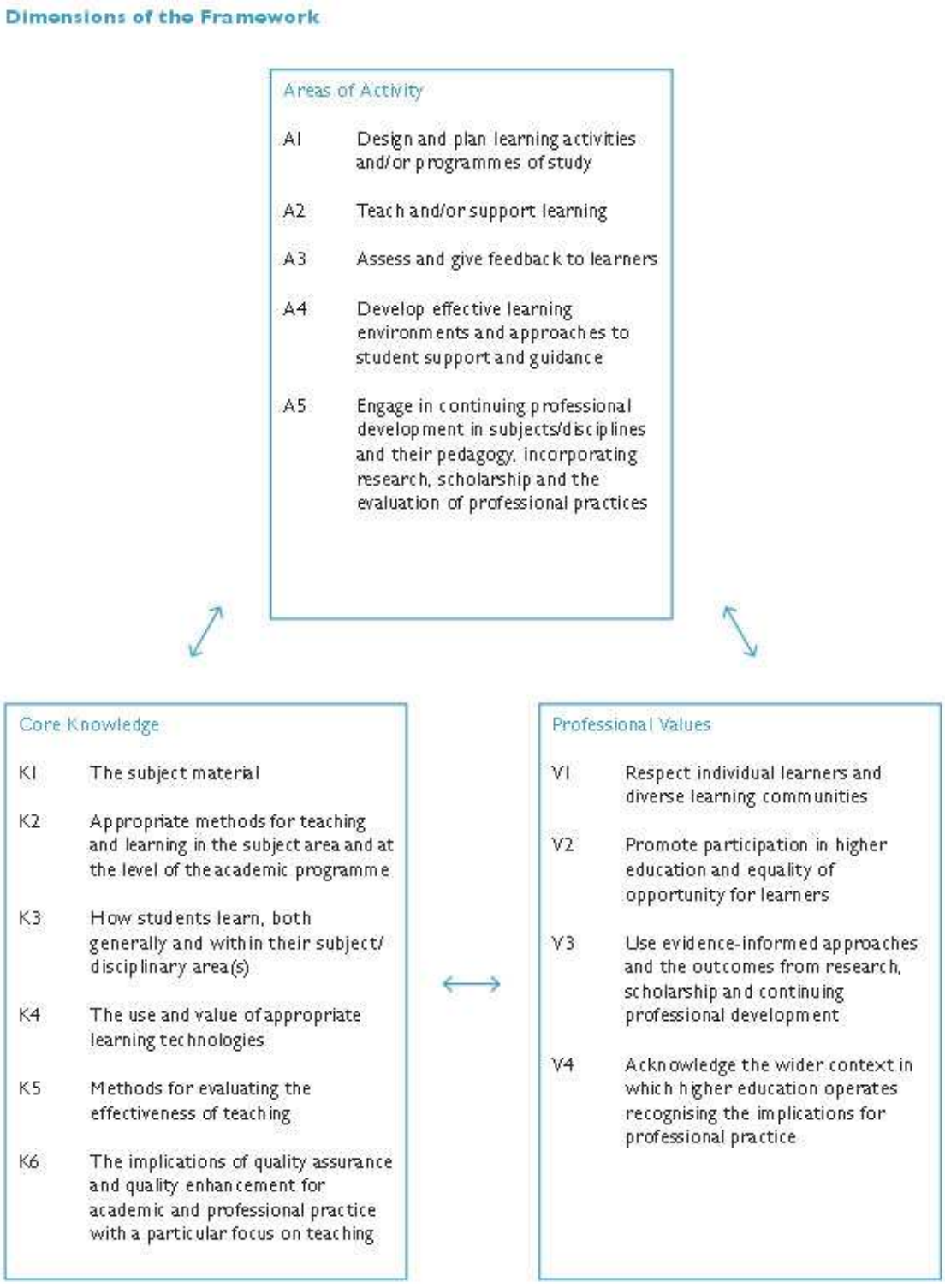

Figure 2.5. The UK's HEA Professional Standards Framework (UKPSF) – Source: HEA UKPSF (2011).

Furthermore SEDA, the professional association for staff and educational developers in the UK (SEDA 2013a) which promotes innovation and good practice in higher education, offers two CPD awards as part of their professional development framework (SEDA-PDF), which are related to the effective use of learning technologies: 'supporting learning with technology' and 'embedding learning technologies'. These awards aim to 'support individuals in embedding learning technologies effectively into the curriculum or support for learning', 'enhancing the student learning experience, particularly by enabling greater flexibility and widening opportunities' (SEDA 2013b, SEDA 2013c) and are aimed at teachers, educational technologists, educational developers and other learning professionals working in HE.

The UK PSF and the SEDA TEL-related awards focus on the needs of individual tutors; the following sub-section summarises developments by a UK specialist group, the quality assurance and quality enhancement special interest group, whose proposed toolkit can be used as a framework by course teams involved in blended or distance course delivery.

2.6.3. Quality Assurance/Quality Enhancement e-Learning Special Interest Group (QA/QE SIG)

A special interest group, with a focus on quality assurance and quality enhancement in e-learning, has produced a toolkit that can be used when technology is employed in blended and fully online distance courses. The aim is to enhance the students' learning experience making sure that quality assurance and quality enhancement procedures are appropriately addressed at all phases of a blended or online course from design and development to implementation, evaluation and redesign. This toolkit provides a framework that can be utilised by any course team involved in blended or fully online course delivery, from the planning and design phase to monitoring implementation and evaluation of the course. The staff development needs of the teaching staff are addressed from the early stages of the course design, from as early as the planning of the course.

According to the framework, a learning technologist is highly recommended to be included in the course team in order to support the development of the course, contribute to the preparation of the case for validation and provide on-going training and advice to the course team on various aspects such as e-assessment, web 2.0 tools for online communication and collaboration, guidance on facilitation of online group work and advice and training in all aspects of TEL.

The quality assurance e-learning toolkit has informed the research questions regarding staff development needs and institutional approaches to TEL; it has raised the interview question regarding whether there should be any formal requirements before academic staff get involved in online and heavily blended courses, as the toolkit emphasises the importance for staff development needs to be addressed from the early stages of the course design.

Having discussed factors affecting developments in the area of TEL, the following sub-section highlights some of the organisational barriers in the adoption of blended and online learning by campus-based HEIs.

2.6.4. Barriers in the adoption of blended and online learning

According to the recent UCISA TEL surveys (2010, 2012, 2014) the three main barriers to TEL adoption are lack of time, lack of money and lack of academic staff knowledge. These findings highlight the need for staff development provision in the area of TEL alongside a re-distribution or re-allocation of resources such as time and money. Academic staff need staff development in the use of new technologies for learning, provided often by learning technologists and other members of the teams that HeLs lead, but also need to be supported further – with time allowance for instance - in order to apply their newfound knowledge. Other barriers to lecturers' participation in online learning as identified in a study by Ellis (2000) included time release for course development, lack of promotion, incentives and rewards to participate, and expenses related to time and equipment in up-front development of courses.

Furthermore, the adoption of TEL by traditional HEIs requires 'a new kind of leadership that supports systemic change – which most institutions have not yet experienced' according to Garrison and Kanuka (2008, p.21). They acknowledge the fact that universities are complex organisations and that in times of change leadership needs to have an appreciation of the educational process, be fully engaged with the transformation and be prepared to be held accountable. While this is true for any transformation, this 'becomes even more challenging with online learning as it is less certain what it might look like and how to plan for the future' (Garrison and Kanuka 2008, p.21).

The issues and barriers around TEL adoption are discussed in the discussion – integration of findings chapter as they provide information regarding the HeLs' perspective on staff development on TEL and on institutional approaches required for effective TEL support implementation. The interview question 'What are the main issues and obstacles in the institution-wide implementation of TEL?' has been asked directly of HeLs with an aim to expand on these barriers in the participants' institutions. This interview question is preceded by a question focusing on the main goals/targets regarding the institution-wide implementation of TEL.

Another barrier for online learning is the fact that despite its recent growth and maturity, it might still be treated as 'second best' compared to traditional, face-to-face learning by a large proportion of academic staff. The 2014 Inside Higher Education large scale survey on faculty attitudes to technology, for instance (Jaschik and Lederman 2014), showed that only approximately a quarter of academics strongly agree or agree with the statement that 'online learning can achieve learning outcomes that are at least equivalent to those of in-person courses' at any institution (26%), while percentages increased slightly when the question was focused on the participants' own institution (32%), their department or discipline (28%) and their own classes (29%). The question whether according

to the HeLs' experience online learning was seen as second best by academic staff was added in the interview questions in order to discuss academics' attitudes to online learning in the participating institutions as this might be a barrier but also because it provides the HeLs' perspective on the research question regarding what lecturers need to know in order to deliver blended and online courses effectively.

A further area of concern around online learning is the debate on whether technology up-skills or de-skills the teaching profession. According to Feenberg (1999) online learning can enable new forms of dialogic interactions; however, there is a danger for technology, if used incorrectly, to lead to a de-skilling of the teaching profession, leading to an 'automated' education with the aim to cut costs. This danger has also been acknowledged by Salmon who suggests that 'the introduction of ICT in these complex territories (of constant change in education and society) can result in academic deskilling rather than enskilling' (2009, p.219), unless online tutors are enabled to 'tame' learning technologies. The question whether participating HeLs had any experience of online learning being accused of de-skilling the teaching profession has been added in the interview questions in order to explore this further. This question provides complementary information on the research questions regarding the HeLs' perspective on staff development needs around TEL and regarding what lecturers need to know in order to deliver blended and online courses effectively.

This section has looked at various theoretical and practical models in blended and online course design and staff development for TEL, that were developed in the UK and globally, and has briefly mentioned some of the barriers for the adoption of blended and online learning; the following section describes the results of desk-based research aimed to explore TEL-related staff development activities offered by various HEIs in the UK.

2.7. Desk-based research on staff development in TEL

Initially, preliminary desk-based research was undertaken to explore what TEL-related staff development activities are currently on offer from various universities by accessing their websites. It is worthwhile mentioning that while some universities provide this information externally, others do not; as these activities are mostly tailored to existing staff, in many cases the information is locked behind institutional logins in intranets. Therefore, only a few examples of universities who display this information externally are mentioned in this section in order to highlight the wide range of activities on offer; these data are not included in the statistical analysis of the research data gathered as part of this research.

University of Surrey (2011)
The Centre for Educational and Academic Development (CEAD) offers staff development opportunities in all aspects of learning and teaching, including technology-related half-day workshops delivered by learning technologists on aspects such as the use of e-portfolios, Turnitin, electronic voting systems and using online media in learning.

University of East London (2011)
The e-learning team in UEL provide a variety of staff development workshops for academic staff; these include scheduled and additional – on request – standard sessions on technologies such as the use of the VLE, Turnitin and Grademark and additional sessions on blogs, wikis, podcasts, smartboards, electronic voting systems and survey creation tools.

University of West London (2011)
TEL seminars are provided by the Institute for Teaching, Innovation and Learning which includes educational developers and learning technologists (INSTIL). They include e-portfolios, web 2.0 technologies, blogs and forums, plagiarism and

Turnitin and e-assessment. Furthermore, aspects of TEL are stated to be embedded in the PGCLT in Learning and Teaching and the MA in Learning and Teaching offered by UWL.

London School of Economics (2011)
The Centre for Learning Technology (CLT) delivers a wide range of training sessions (1.5 hours long) including Moodle VLE training, blogs, wikis, social media and video conferencing; they also deliver a series of lunchtime webinars on web tools to support research. Furthermore, they have developed a digital literacy programme with various short training courses that include blogging, Google docs, Facebook, Twitter, social bookmarking sites, as well as ways to organise research with rich site summary (RSS) and RSS feed readers.

University of the West of England (2011)
UWE provides an Online Learning Course (OLL) that runs over six weeks. The Electronic Development Unit offers advice, training and support to a wide range of e-learning activities such as delivery of materials, supporting students and assessment methods in distance, blended and face-to-face courses and programmes. Furthermore, an innovative MA in Education in Virtual Worlds is delivered in Second Life.

University of Exeter (2011)
The e-learning development team is part of the academic development team. A variety of workshops are offered to staff by learning technologists, including the use of Turnitin, Computer Assisted Assessment (CAA), Personal Response Systems (PRS), video-conferencing and the use of wikis in education.

University of Cambridge (2011)
Access to the Cambridge University's Learning Technology Service was disallowed and the information was locked behind an institutional login. However, access to the Centre for Applied Research in Educational Technologies

(CARET) was open. CARET says that it offers advice on different ways technology can be used in education and shares some of the latest and best solutions from around the world for their staff.

University of Liverpool (2011)
E-learning is part of the Educational Development division which sits within the Centre for Lifelong Learning at Liverpool and provides advice and training in the use of the VLE, Personal Learning Environment (PLE), multimedia and pedagogic support on embedding technology into teaching.

University of Newcastle (2011)
The educational resources support and development team 'provides support to staff in the use of learning and teaching technologies, and to design and develop high quality learning materials'. They are part of the Centre for Teaching and Learning (CTL).

Edge Hill University (2011)
The Solstice team in Edge Hill University has developed a TEL professional development (PD) framework which offers a holistic and consistent approach to staff development across the whole institution. The TEL PD framework is informed by the UK PSF for teaching and supporting learning in HE and from the learning and skills network professional framework for e-learning. The TEL PD framework aims 'to enhance the institution's performance in the deployment of TEL through a strategic, holistic and inclusive approach' (Edge Hill University 2009). Underpinning activities and resources include ICT skills training required for competent use of e-learning technology, guides and toolkits, briefings and overviews of institution-wide changes to e-learning infrastructure and practices as well as participation and consultancy offered by learning technologists and academic librarians to new academic team approaches to curriculum developments. The framework on TEL PD is part of the wider PD framework for teaching staff at Edge Hill and recognises the importance of securing 'buy in'

from management. It makes provision for a course-based TEL PD pathway, which offers a variety of events from workshops to modules in the PGCLT course and in the MA course in e-learning; it also makes provision for a practice-based TEL PD whose basic activities may include attendance at the annual internal conference seminars and symposia, open days, peer observation, membership of e-learning special interest group (SIG) and social networks, while the more advanced activities include facilitating internal workshops and seminars, presenting at the internal conference and extending to presentations at national and international conferences, peer reviewed publications and leading projects on TEL.

This section has described the desk-based research that was undertaken to explore what TEL-related staff development activities are currently on offer from various universities in order to highlight the wide range of activities on offer by learning technologists in the area of TEL. This desk-based research, alongside the UCISA survey on TEL, Laurillard's framework for an effective institutional infrastructure around the use of learning technologies, and Salmon's model on e-moderating, has informed the research question regarding the provision that UK HEIs make for staff development on TEL and has been taken up in the first part of this research (online questionnaire) as described, analysed and discussed in the questionnaire findings – interviews' outline and the discussion – integration of findings chapters of this thesis.

Following the desk-based research on staff development on TEL, the next section of this chapter looks at the costs associated with online learning; the pedagogically-effective course design already discussed in this chapter and the staff development on TEL are critical factors for the successful delivery of online learning; however, the issue of cost is also an important factor for its sustainability and viability and should not be neglected according to Laurillard's institutional framework for the effective deployment of learning technologies. The HeLs' views on this are discussed in the discussion – integration of findings chapter.

2.8. Cost of online courses

Online learning has been seen to have had a vast uptake in the last decade not only by distance learning institutions but also by institutions primarily involved in traditional, campus-based education (Garrison and Kanuka 2004, Inglis 2008). In fact, this shift has been partly due to advances in learning technologies but also partly due to the misconception that online education reduces costs. According to Inglis (2008, p132):

> *While the shift has been afforded by advances in information and communications technology (ICT), what seems more than anything to have been responsible for the shift has been a belief on the part of senior managers that moving to online learning offered a way of reducing costs. It is now realised that this belief was misplaced and that the relationship between costs and quality is far more complicated than was originally believed.*

Garrison and Kanuka (2008) claim that distance education approaches have begun to shift from organisational to transactional approaches, which have impacted on traditional institutions too. Inglis (2008) argues that savings can only be achieved through economies of scale - by increasing the number of students in online learning courses - provided that these are achieved under conditions that protect the quality of students' learning experiences.

There are many variables involved in estimating the cost of online learning; Rumble (2003) mentions five factors that drive the costs of online education: technology choice, course development, organisational structure, the curriculum, and the number of learners. He has recognised the fact that online learning, if not carefully costed, may end up being more expensive than campus-based learning and, ironically, price itself out of the market (Rumble 2003).

The costs of online learning are hard to generalise as they are dependent on the model; courses that require online facilitation and moderation would be equally demanding in staff time in an online and face-to-face environment. According to Bacsich and Ash (1999), staff time spent online in moderating online discussions or replying to emails are among the hidden costs in online learning. Courses that are mostly based around a problem-based learning approach where students are expected to work individually without much tutor intervention may be cheaper online, especially if they run quite a few iterations (Inglis 2008). Online courses, however, have a bigger upfront investment, compared to their face-to-face equivalent courses during the design phase of the course, due to platform and content development costs (Inglis 2008, Jung 2008).

Regardless of delivery mode, 'one of the most important aspects of quality is the time invested by the subject matter expert in the design of the materials' according to Inglis (2008, p.138). One way this cost could be minimised is by making use of reusable learning objects (RLOs) 'small self-contained components, designed in most cases to facilitate the attainment of a single learning outcome and capable of being combined in different sequences for different purposes' (Inglis 2008, p.144). Over the last decade, there has been an emphasis on the production of learning objects and subsequently, open educational resources (OERs) in the United States and in the UK. In the UK, many universities have been involved in the OER programme funded by JISC and the HEA (Open educational resources programme – phases 1, 2 and 3 2013). Open educational resources, usually licensed under the creative commons license, can be re-used and integrated in courses by other institutions without charge.

The cost of online learning and learning technologies in general forms part of what needs to be taken into account in order to design an effective organisational infrastructure according to Laurillard's framework for the effective use of learning technologies, and has informed the research question regarding the ways that the HeLs' perspectives compare to Laurillard's institutional framework and

subsequently taken up in the interview question regarding the costs of online courses in comparison with their face-to-face equivalent courses.

2.9. Summary

This chapter has provided detailed description of the background in the area of TEL and has summarised selected literature on staff development concerns, issues and needs for blended and online course delivery in the UK and globally. The various terms in the area of TEL practice were also clarified. The role of learning technologists in HE was highlighted and findings from desk-based research in the area of staff development for TEL in UK HEIs were described. Furthermore, this chapter has provided a brief outline of learning theories as these are likely to influence staff's attitudes to TEL. Laurillard's framework for the effective use of learning technologies and Salmon's 5 stage model have been discussed more extensively. Finally, the thorny issue of cost was also briefly reviewed as this may have a significant impact on the sustainability of blended and online courses. This width of background knowledge has informed the identification of the research questions for this thesis, as explained in this chapter; the research questions were also outlined in the introduction chapter and are described in more detail in the questionnaire findings – interviews' outline chapter. The review of the literature, from the research questions, informed the creation of the questionnaire and the interview questions, but also was subsequently used to enrich the discussion of the research results. In the following chapter, the research design and research methodology adopted, as well as the research methods utilised as part of this research, are explained and discussed in detail.

3. RESEARCH DESIGN - METHODOLOGY - METHODS

This chapter outlines the research design, methodology and methods employed in this research. It begins with an explanation of the researcher's worldview, which includes his ontological and epistemological stance before discussing the chosen research design and the ways it relates to the research questions. The researcher's worldview is important to be explicitly discussed as it guides the whole research design and the methodology followed in one's research. It then discusses data collection methods and the data analysis procedures that were followed. Ethical issues and the ways these were addressed are also covered and, finally, the status of the findings and their generalisability based on the chosen methodology and other limitations are discussed.

3.1. Worldview - ontology – epistemology

The researcher's ontological and epistemological worldview is of paramount importance in any research as it can dictate the research design, the main research questions and subsequently the chosen methodology and methods employed. Therefore, it is common for researchers to explicitly express their philosophical – ontological - stance and their epistemological worldview in order to frame their research and explain the chosen methodology. Creswell (2009) notes that although philosophical ideas remain largely hidden, they still need to be identified as they still influence the research practice. Furthermore, as Feilzer (2010, p.7) acknowledges:

> *The choice of research questions and methods, albeit sometimes dictated by research funders, is a reflection of researchers' epistemological understanding of the world, even if it is not articulated or made explicit.*

Therefore, in order to justify the selection of the mixed methods research (MMR) paradigm, a brief description of the advantages and limitations of two other

paradigms is going to be attempted in the following sub-section.

3.1.1. Discussion of research paradigms

Positivist/postpositivist assumptions have represented the traditional form of research (Creswell 2009) which is sometimes called the scientific method. Positivism dominated the westernised world following the French revolution and it was characterised by an overly confident belief that everything can be known through science (Cohen et al. 2007, Creswell 2009). The term postpositivism challenges the certainty of positivism arguing that we cannot be positive about the absolute truth of knowledge but we need to be able to replace established knowledge when new knowledge emerges, always following the scientific paradigm (Popper 2004). Postpositivists hold a deterministic worldview which emphasises the cause and effect relationship in studying various phenomena with experiments; postpositivists are also reductionists as they are trying to compartmentalise ideas in small sets of testable variables in order to test their hypotheses (Creswell 2009). According to Creswell 'postpositivists hold a deterministic philosophy in which causes probably determine effects or outcomes' (2009, p.7). For postpositivists research is the process of making claims and then refining or abandoning some of them for new claims in order to get closer and closer to the 'objective reality' that exists out there (Creswell 2009).

Despite positivism's/postpositivism's apparent success, especially in natural sciences, its ontological and epistemological base has been scrutinised due to its mechanistic and reductionist view of nature which, some critics have claimed, defines life in measurable terms rather than inner experience, undermining life itself (Cohen et al. 2007). One of the early critics of positivism in the 19th century was the Danish philosopher Kierkergaard who is regarded as one of the main originators of existentialism (Cohen et al. 2007). Kierkergaard adopted an Aristotelian view of the meaning of existence, according to which the meaning lies in realising someone's potential, and this cannot be reduced and measured against abstract conceptualisation. He recognised that many characteristics of his

time, such as democracy's trust in crowd mentality and the scientific and technological progress, contribute to the dehumanisation of the individual, giving people illusions. Objectivity, as perceived by the postpositivist paradigm, was a dangerous illusion that could reduce a person to an observer - in a Skinnerian behaviouristic way - trying to discover general laws governing human behaviour, according to Kierkergaard (Cohen et al. 2007). In the 20th century, other well-known thinkers who criticised positivism/postpositivism include Habermas, Horkheimer and Wittgenstein (Cohen et al. 2007). Habermas criticised the scientific mentality for being elevated almost to the level of religion, praising scientific knowledge alone and rejecting all other forms of knowledge such as moral, aesthetic, hermeneutic and creative, and reducing behaviour to technicism. Habermas, Horkheimer and Wittgenstein (Cohen et al. 2007) all argued that positivism/postpositivism is unable to address many important areas of life and that as scientific explanation seems to be the only means of explaining behaviour, it diminishes many of the characteristics that make humans human.

Contrary to the positivist/postpositivist paradigm, the constructivist/interpretivist paradigm puts an emphasis on the subjective experience and meanings that are multiple and varied. This paradigm holds the worldview that meanings are constructed by humans as they engage with the world and, in doing so, humans are influenced by social and historical perspectives (Creswell 2009). Meaning is generated socially for constructivists/interpretivists, a notion which challenges the main positivist idea that there is an objective truth 'out there'. Researchers who follow this paradigm are interested in detailed accounts about reality as it is constructed by certain individuals and they recognise that their own backgrounds shape their interpretations of the experiences of others. Sociologist Karl Mannheim was one of the founders of this approach (Cohen et al. 2007).

Criticisms of this approach include the view that subjective reports may be incomplete and misleading as anti-positivists have abandoned scientific procedures of verification (Cohen et al. 2007). Interpretivism has also been

criticised due to the fact that it often overlooks the fact that the process during which one interprets a situation is itself a product of the circumstances in which one is placed (Cohen et al. 2007).

Integrating quantitative and qualitative research strategies does not fall comfortably within one or the other worldview (Feilzer 2010). Purists of either side claim that quantitative and qualitative research belong to totally different paradigms and are underpinned by different philosophical positions in relation to ontology and epistemology; furthermore, purists claim that they address different questions, which dictate different approaches in data collection and analysis (Cohen et al. 2007, Creswell 2009, Feilzer 2010). At the other extreme, MMR literature can sometimes lead to the conclusion that by introducing an additional element in the research, some form of holism can be achieved; this, according to Bergman (2011) is not a valid assumption, as the additional element is not what makes MMR interesting but rather its fundamental characteristic; furthermore, it could be argued that no matter how many theoretical approaches, data sets and analyses are part of a project, a research question will never be addressed in all its complexity. The focus of MMR should be to improve on the findings of both quantitative and qualitative methods rather than illustrate the limitations of quantitative or qualitative methods per se (Bergman 2011).

According to Bergman (2011) MMR has generated a critical mass of both theoretical and empirical contributions in social sciences and education; however, there are still many theorists that consider this type of research as insufficiently rigorous (Bergman 2011). This apparent contradiction is, according to Bergman (2011), due to the absence of the right terminology and process description that characterised MMR before the 1990s, when the current generation of mixed methods researchers emerged. Some theorists have gone as far as to question the term ‘mixed’, claiming that the quantitative and the qualitative element are not really mixed but blended or meshed. As the term mixed is now established, moving away from it would most probably cause confusion rather than

clarification, according to Bergman (2011).

In MMR, the research methodology determines the philosophy rather than the other way around (Plowright 2011). The research design must be allowed to emerge during the research project rather than dictate it in advance. According to Strauss and Corbin (1999) sometimes it might be necessary to utilise quantitative methods while on other occasions qualitative data gathering and analysis may be more appropriate.

Denscombe (2008) also notes that MMR has developed significantly to be considered as a viable alternative to quantitative and qualitative paradigms, recognising that at the same time there are some inconsistencies within MMR that should not be ignored. This is pointed out in a positive light as it can assist MMR to further evolve and develop, rather than as a short term issue that needs to be immediately resolved. On the contrary, his aim is to highlight the need 'for a notion of paradigm that can be sufficiently flexible, permeable, and multi-layered to reflect the reality of social research in the 21st century' (Denscombe 2008, p.271).

While it cannot be argued that MMR is better than monomethod research in principle, MMR often offers considerable advantages compared to monomethod research. On the one hand, there are good reasons to limit a research project to a particular data set and a particular analysis, such as time and cost, complexity and ease of reporting the findings in print; but on the other hand, careful implementation of MMR can cross-validate and complement individual findings and the researcher can become more knowledgeable and critical towards research as they assess the possibilities and limitations of each research technique (Bergman 2011).

3.1.2. Worldview

Pragmatism is the philosophical underpinning for a mixed methods

methodological approach (Bergman 2011, Creswell 2009, Denscombe 2008, Feilzer 2010, Johnson, Onwuegbuzie and Turner 2007) as it focuses its attention on a particular situation and is utilising pluralistic approaches to derive knowledge about that situation. Pragmatism sidesteps the contentious issues of truth and reality; it accepts philosophically that there are both singular (positivism/postpositivism) and multiple (interpretivism/constructivism) realities out there that are open to empirical inquiry and focuses on solving practical problems in the real world (Feilzer 2010, Rorty 1999). Pragmatists often reject the representational view of the world that attempts to match epistemology with ontology and focus more on the experiential world with its different layers, some objective, some subjective and others both subjective and objective (Dewey et al. 1998).

Early progenitors of mixed research examples can be found in the work of cultural anthropologists in the first 60 years of the 20th century (Johnson et al. 2007). The term mixed methods was not coined until many years later. According to Johnson et al. (2007) it was Campbell and Fisk in 1959, Webb, Campbell, Schwartz and Sechrest in 1966 and Denzin in 1978 who formalised the practice of using multiple research methods, coined the term triangulation and outlined how to triangulate methods respectively.

MMR follows a pragmatic worldview as outlined by Pierce, James and Dewey and more recently by Rorty, according to Cherryholmes (1992), who traces the first explicit declaration of pragmatism to Pierce's maxim of logic that sought to clarify meanings of intellectual concepts by tracing their conceivable practical consequences. While Pierce's focus was on the concepts themselves, James and Dewey later shifted pragmatism's focus on the importance of the consequences of actions based upon particular conceptions. In any case, according to the pragmatic research paradigm, the focus is on actions, situations and consequences and there is a concern with applications and solutions to problems (Creswell 2009). For pragmatists, knowledge is contextual. Cherryholmes (1994, p.16) underlines the

relationship between ‘text and context’ in pragmatism:

> *Pragmatists are interested in consequences. But consequences cannot be estimated outside of context. We write texts about consequences, as it were, and textual meanings depend, in turn, upon the contexts in which texts are written, read, interpreted, criticised and employed.*

Denscombe (2008) has identified four facets of the way in which pragmatism underlies the practice of MMR. He states that these four facets are not necessarily mutually exclusive but a degree of overlap between them may be evident in various MMR projects. The first facet of pragmatism as the underpinning theory in MMR is that it can provide a fusion of approaches, challenging dualisms as sterile and unproductive and looking for a level of compatibility between them. The second facet is that pragmatism can provide a third alternative in cases where researchers decide that neither quantitative nor qualitative approaches alone will provide adequate findings in the particular research question they have in mind. The third facet of pragmatism is more radical and pragmatism is seen as:

> *…a new orthodoxy built on the belief that not only is it allowable to mix methods from different paradigms of research but it is also desirable to do so because good social research will almost inevitably require the use of both quantitative and qualitative research to provide an adequate answer (Denscombe 2008, p.274).*

Finally, the fourth facet of pragmatism is when the word pragmatic is treated in its common sense way as meaning expedient; this last facet is dangerous and can undermine the MMR as a paradigm where ‘anything goes’ (Denscombe 2008).

In this research study, the main way in which pragmatism has been adopted as the underpinning paradigm is the second way described above, coupled with some elements of the first; starting with questions that arose from professional

involvement with TEL, the ways in which it is deployed in the various UK institutions and the provision that these institutions make for staff development in the use of TEL from the point of view of HeLs, as well as comparing their views with Laurillard's institutional framework for the effective deployment for learning technologies, a conclusion was reached that the research questions would not be adequately addressed by either of the two dominant approaches. From that point on, the decision was made to focus on how these dual approaches could be both used together in order to address the research questions in a more comprehensive manner. According to Rorty, what really matters is not whether our ideas correspond to some external reality but more whether they help us carry out practical tasks and create a fairer and more democratic society (Rorty 1999). This research also aligns with Pierce's economics of research in the scientific methods employed; according to him, the whole meaning of a clear conception consists of its practical consequences and a meaningful conception must be related to possible empirical observations under specified conditions (cited in Burch 2010).

This research study follows the MMR paradigm. Both quantitative and qualitative approaches are seen as complementary rather than contradictory. This research is underpinned by the philosophical worldview of pragmatism; it does not attempt to resolve the paradigmatic war between the purists but it rather attempts to fit together the insights of both quantitative and qualitative research into a workable solution (Burke and Onwuegbuzie 2004). The mixed methods paradigm is seen as the 'alternative' or the 'third paradigm' as it allows both quantitative and qualitative approaches to bring their different perspectives to the study.

Quantitative and qualitative methodologies do not necessarily have to be seen as polar opposites or dichotomies according to the MMR paradigm. The mixed methods paradigm, or else the third paradigm, rejects the traditional dichotomy between quantitative and qualitative methodologies. In my view, 'reality' is beyond the duality of what happens in the mind or what happens out there; as a pragmatist researcher, my focus is on bringing to light institutional policies

around TEL, having a freedom to choose the methods that meet this purpose. As with many pragmatist researchers (Creswell, 2009), I also agree that research occurs in socio-political contexts and I also recognise postmodern influences in my research and in my choice of mixed methods methodology.

3.2. Research design

A research design has been selected in order to align with the main research questions of this study, which focus on the staff development needs of the academic staff involved in blended and online course delivery. The questions of this study are:

What provision do a range of UK HEIs make for staff development in the area of TEL?

What do HeLs think lecturers need to know in order to deliver blended and online courses effectively? Are these needs addressed by a range of UK HEIs?

According to HeLs, what institutional approaches are required for TEL to be effectively embedded in the curriculum?

How do HeLs' perspectives compare to Laurillard's conversational framework for the effective use of learning technologies?

A MMR design was adopted for this research as it can best address the complexity of these questions. The first research question is mostly addressed based on quantitative data gathered via an online questionnaire, while the second, third and fourth questions are addressed qualitatively, based on data gathered via semi-structured interviews with thirteen heads of e-learning (HeLs). The sequence for data gathering used was: the questionnaire was sent out in late October 2011 and it was open for three weeks until the middle of November 2011, while the initial

set of interviews (eight) took place between January and March 2012. Five additional interviews were carried out in January and February 2015. Both data collection methods used the same informants, the HeLs, for consistency purposes, as the study is focused on the HeLs' perspectives on TEL. However, the interviews used a smaller sample – thirteen – compared to the questionnaire, which returned 27 responses. More details on the informants of this research, and the specifics of the triangulation mixed methods design used in this research, are discussed below.

The informants of this research were the heads of e-learning in various UK HEIs. Most UK HEIs have a nominated contact to that group which meet on a quarterly basis and use a closed mailing list to communicate. I attended one of those meetings when the nominated person in my institution could not go, but prior to that I had met some HeLs in other TEL-related conferences or seminars and decided to do my research with members of that group. An email was sent to the 'heads of e-learning forum' mailing list inviting them to participate in the research by filling out an online questionnaire. One hundred and eighteen (118) UK institutions each have a single representative as a member of that group (HeLF Membership 2013). The questionnaire was completed by 27 participants, eight of which were subsequently interviewed. Purposive sampling was used in the first round of the interviews as eight volunteers from those who completed the questionnaire were interviewed with an aim to achieve representativeness of both pre-1992 and post-1992 institutions, as purposive sampling techniques involve selecting certain units or cases 'based on a specific purpose rather than randomly' (Tashakkori and Teddlie 2003, p.713). Convenience sampling which 'involves drawing samples that are both easily accessible and willing to participate in a study' (Teddlie and Yu 2007, p.78) was used during the second round of the five additional interviews as these interviewees were selectively targeted directly via email.

Quantitative and qualitative methods were deployed as part of this research: data

handled in a quantitative way were gathered via the online questionnaire and qualitative data were gathered via the semi-structured interviews, but also via some open-ended questions of the questionnaire. The whole research design is depicted diagrammatically in Figure 3.1.

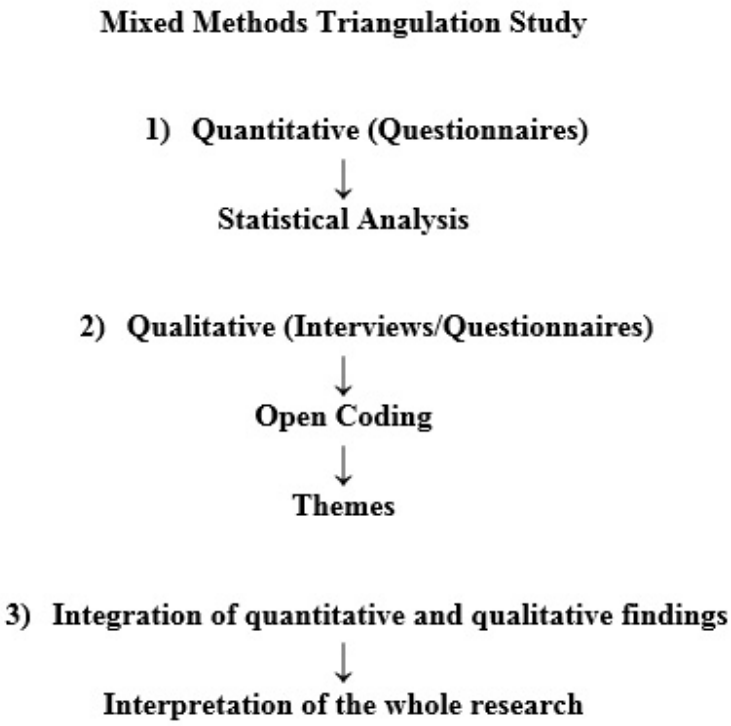

Figure 3.1. Research Design – Methodology – Methods.

Keeping the research data gathering to a specific group of people (HeLs) made the research more manageable. The selection of the heads of e-learning to be informants of this research provided a number of advantages such as fair representation of UK HEIs, as each UK institution can have only one representative in the heads of e-learning group. This means that the responses to the questionnaire reflect the perceived approach to e-learning by HeLs of 27 UK HEIs. Furthermore, the selection of the HeLs as informants of this research also provided expert input in the way TEL is approached institutionally in a number of HEIs in the UK, as these people are likely to be the most knowledgeable in terms

of their own institution's approach to TEL, including staff development and other wider institutional issues around TEL implementation, due to their most senior position in the specific post areas they hold.

3.3. Data collection methods

Data were gathered sequentially, in two phases. The first part of the research utilised an online survey; following some initial desk-based research, a questionnaire was the main tool for data gathering. The questionnaire was first piloted with two people in order to be tested for clarity as well as fitness for purpose. Taking into account the feedback provided by those who piloted the questionnaire, minor amendments in the wording of a couple of the questions subsequently took place for clarity.

This questionnaire, which was emailed to the HeLs in UK HEIs, was asking for factual information on the training sessions, workshops, seminars, courses and support offered to academic staff in their institution in the area of TEL. The questionnaire also tried to establish whether there were any staff development requirements for academic staff before they get involved in blended or fully online courses and attempted to highlight the relationship between TEL and academic practice through TEL's integration within the PGCLT/PGCAP course. Most questions asked for responses that could be handled in a simple quantitative way, asking informants to identify whether their institutions were offering specific sessions and events or not; additionally, open-ended questions were part of the questionnaire where informants could provide more information about duration, uptake and frequency of those events as well as general comments about CPD in the area of TEL in their own institution.

During the second part of the research, utilising semi-structured interviews, the area of staff development in online learning was explored in more depth, to allow creation of, initially, eight illustrative case studies on how those HEIs in the UK

were tackling the issue of staff development in TEL. These interviews with the HeLs focused on developing further understanding in the area of blended and distance learning provision, including staff development for TEL. The interviews were semi-structured in order to allow for more detailed data to be collected. The questions tried to explore the main targets and obstacles in the institution-wide implementation of TEL, to articulate the main ways that TEL is currently used and the staff development needed in order to enable academic staff to make the most of TEL. Furthermore, the interview questions approached other TEL-related issues such as staff's attitudes towards TEL and e-learning costing models. Subsequently, five additional interviews took place at a later stage that included additional questions in order to gain more clarity about the ways the HeLs' perspectives compare to Laurillard's organisational infrastructure for the effective institutional deployment of learning technologies. More information on this can be found in the next chapter.

Equal emphasis was placed on both the wide survey and the selective in-depth interview data and it was initially thought that both types of data would be gathered concurrently, as this is common in triangulation mixed method designs (Creswell and Plano Clark 2007). However, this was not possible due to time limitations, as the whole research was conducted by a single researcher; furthermore, by administering the online questionnaire first, the informants for the interviews could be self-selected on a voluntary basis, by optionally providing their e-mail address at the end of the questionnaire. A possible disadvantage of this could be that the self-selected informants might not have been representative of different UK institutions. It turned out that this was not the case, as the interview participants were equally split between pre-1992 and post-1992 universities, but also represented institutions that differed in many other ways, including, size of the institution in terms of student and staff numbers, geographical location and mission, as some were research-led while others were teaching-led, with a focus on vocational subjects. This plurality in terms of the participating institutions represents the different types of UK HEIs.

This research employed electronic methods for data gathering; the survey was delivered electronically to the heads of e-learning via a link which was embedded in the email-invitation to the research. All interviews took place via Skype.

3.4. Data analysis

Initially, quantitative data were gathered on the various ways that the staff development needs of the lecturers in blended and online learning had been addressed by UK HEIs. Simple frequencies and cross tabulations were applied to the data. As no individual universities are named, HEIs are divided into two groups, pre-1992 and post-1992 institutions.

The interview case studies have been written as descriptive narratives first and following that, the interview data were coded by open-coding, a procedure by which the data were conceptualised. Subsequently, a list of conceptual categories was created (Strauss and Corbin 1997). That way it was felt that the individual approaches are most likely discovered and explored, allowing for detailed analysis of the data gathered. Verbatim quotes have been included in order to keep the flavour of the original data. Key emerging issues have been highlighted and any commonalities, similarities and differences among the case studies are further discussed. Open coding was used initially to uncover, develop and name concepts in order to open up text and expose the thoughts and ideas contained within them. The interview transcripts were coded on a question-by-question basis; the codes were constantly refined as each transcript was added in order for the data to be organised into meaningful groupings. Following that, broader categories (themes) have been developed. Once saturation occurred in categories and no more information was able to be extracted, categories were then integrated and refined.

Findings from the questionnaires are first described in the questionnaire findings – interviews' outline chapter in which the interview questions and the way they

developed is detailed and findings from both phases of the study are then integrated in the discussion – integration of findings section of the thesis in which the two data sets are merged by bringing the separate results together through interpretation. The quantitative data analysis proceeded from descriptive to inferential analysis in order to build a more refined analysis. Qualitative data analysis began with coding and proceeded in creating categories (themes). This is in line with Creswell and Plano Clark (2007, p.137) according to whom:

> *Two techniques are available for merging the quantitative and qualitative data: Transform one type of data to make the qualitative and quantitative datasets comparable and then compare the datasets, or compare the data without transformation through a discussion or a matrix.*

The latter way of merging qualitative and quantitative data – through discussion – was followed in this research due to the fact that some of the data gathered were complementary rather than directly comparable.

3.5. Ethical issues

This research did not involve any vulnerable individuals, or any psychological experiments with its subjects, so no major ethical issues were involved. The main ethical-related issue was confidentiality, which was guaranteed by the researcher to those who volunteered to be interviewed. Questionnaire respondents remained anonymous to the researcher, apart from those who provided their email address in order to be contacted for an interview. Participants' confidentiality was discussed with the interview informants both in writing and at the beginning of the interview. All interviews were recorded using the Skype (Moving Picture Experts Group Layer – 3 Audio (mp3)) recorder and the audio files were subsequently safely stored. Full transcripts were sent back to the participants whose approval was requested in order for the data to be used in the research, both in parts, as verbatim quotes, but also summarised and paraphrased. All information that could

possibly identify them or the institution they were working for was removed from the transcript and not included in this thesis.

3.6. Generalisability of the research - legitimacy – validity – reliability

The validity of the data and the results is an important component of research. According to Creswell and Plano Clark (2007) 'in quantitative research, validity means that the researcher can draw meaningful inferences from the results to a population'. In this context, the quantitative data gathered via the online questionnaire are indicative as the 27 participants out of a possible 118 represent approximately 20% of the HeLs who subscribe to the HeL forum in the UK. As the questionnaire was e-mailed to all HeLs twice, there was no selection bias either. In terms of self-selection bias, it could be a possibility that those with the stronger views on e-learning might have volunteered themselves to participate in further research and be interviewed. The interviews aimed for in-depth data to be gathered, knowing that due to their small number, interview findings would be illustrative rather than representative.

In terms of the qualitative data gathered through the interviews, 13 of the questionnaire respondents volunteered to participate, providing their institutional email address in order to be contacted for an interview. Ten out of them were contacted based on the richness of their responses to the open-ended questions in the questionnaire, and the eight who responded were interviewed via Skype. The informants represented a wide range of UK HEIs, as there was an equal split between pre-1992 and post-1992 institutions, with four participants of each. Participants represented institutions that included members of the Russell group and other research-orientated institutions, but also, other more teaching-focused institutions from different parts of England and Wales. The four pre-1992 institutions were described as research-led by the informants; one of them described their institution as research-led with an emphasis on teaching excellence. The four post-1992 institutions were described as teaching-led;

however, two of the informants of the post-1992 institutions mentioned that they had aspirations to become more research active and that they seek to reposition themselves as more research-led respectively. All interviews were transcribed in full and sent back to the informants for their approval. Five additional interviews were conducted at a later stage; these included two pre-1992 research-led universities while the remaining three were post-1992 universities.

As this is a mixed methods study, validity is defined as the ability to draw meaningful and accurate conclusions from all the data in the study. Thus validity in this context denotes the 'inference quality', the accuracy with which the researcher draws inductive and deductive conclusions (Tashakkori and Teddle 2003). The results of this research are indicative, as this research discusses the situation of how TEL is approached by approximately 20% of informants (HeLs who subscribe to the HeL Forum) through questionnaires and by approximately 10% through in-depth interviews.

3.7. Summary

A mixed methods approach has been adopted in this research in order to provide both breadth and depth in understanding institutional practices around staff development in TEL. MMR has been adopted in an attempt to utilise the best tools available to address the research questions, rather than imposing some strict ontological views to the research itself, limiting in that way the possibilities to get both breadth and depth instead of either one of them. MMR recognises the fact that both quantitative and qualitative research are important and useful. According to Oliver (2002), if one is pluralistic in the way one approaches theory and research methodologies, one may risk being superficial, but on the other hand, if one 'believes and lives' in a chosen theory or methodology, one risks being dogmatic.

This chapter has provided an outline of the research design, methodology and

methods employed as part of this research. The researcher's worldview, which includes his ontological and epistemological stance, was discussed first. Following that, the chosen research design, data collection methods and data analysis procedures were described. Ethical issues and the way these were addressed were also covered as was the legitimacy and generalisability of this research.

The choice of research design as discussed in this chapter provides the backbone of this research, informing the research questions and the selection of the methods used to address these. Furthermore, the research design has dictated the ways in which the findings of this study are approached and discussed in the questionnaire findings – interviews' outline and discussion – integration of findings chapters that are coming next.

4. QUESTIONNAIRE FINDINGS – INTERVIEWS' OUTLINE

This chapter shows how the online survey and the interviews were used to gather complementary data in order to address the research questions. Following that, it describes and analyses the research findings from the online questionnaire and provides information about the interviewees in two phases outlining the way the interview questions were developed over time. Further discussion, integration and interpretation of these findings takes place in the discussion – integration of findings chapter, following this chapter.

The way the individual questionnaire and interview questions relate to the main research questions is depicted in Table 4.1 following.

	Staff Development Needs around Technology Enhanced learning in Higher Education Institutions in the United Kingdom; the Heads of e-Learning perspective	***What provision do a range of UK HEIs make for staff development in the area of TEL?***	***What do HeLs think lecturers need to know in order to deliver blended and online courses effectively? Are these needs addressed by a range of UK HEIs?***	***According to HeLs, what institutional approaches are required for TEL to be effectively embedded in the curriculum?***	***How do HeLs' perspectives compare to Laurillard's conversational frame work for the effective use of learning technologies?***
Questionnaire questions					
Is the university a pre-1992 or a post 1992 university?	√	√			
Does the university offer any of the following hands-on training sessions on how-to-use the following tools? Please tick all that apply: VLE training sessions E-assessment tools training sessions Plagiarism prevention and detection Personal response systems (electronic voting systems) Web 2.0 tools E-portfolios Web conferencing Virtual worlds Other (please specify)	√	√			
Please provide some information regarding the above training sessions on offer such as duration, frequency (how often the sessions are offered) and uptake of the sessions.	√	√			

	Staff Development Needs around Technology Enhanced learning in Higher Education Institutions in the United Kingdom; the Heads of e-Learning perspective	***What provision do a range of UK HEIs make for staff development in the area of TEL?***	***What do HeLs think lecturers need to know in order to deliver blended and online courses effectively? Are these needs addressed by a range of UK HEIs?***	***According to HeLs, what institutional approaches are required for TEL to be effectively embedded in the curriculum?***	***How do HeLs' perspectives compare to Laurillard's conversational frame work for the effective use of learning technologies?***
Does the University offer any workshops/seminars/internal events or internal conferences on the pedagogically effective use of the following learning technologies? Please tick all that apply: Effective use of the VLE Implementing e-assessment for diagnostic, formative and/or summative assessment Plagiarism prevention and detection Web 2.0 seminars Using e-portfolios/personal learning environments Web conferencing Virtual worlds Other (please specify)	√	√			
Please provide some information regarding the workshops/seminars/internal events or conferences on offer such as duration, frequency and uptake of the sessions.	√	√			

	Staff Development Needs around Technology Enhanced learning in Higher Education Institutions in the United Kingdom; the Heads of e-Learning perspective	***What provision do a range of UK HEIs make for staff development in the area of TEL?***	***What do HeLs think lecturers need to know in order to deliver blended and online courses effectively? Are these needs addressed by a range of UK HEIs?***	***According to HeLs, what institutional approaches are required for TEL to be effectively embedded in the curriculum?***	***How do HeLs' perspectives compare to Laurillard's conversational frame work for the effective use of learning technologies?***
Does the University offer any online case studies on the pedagogically effective use of the following learning technologies? Please tick all that apply: Effective use of the VLE E-assessment Plagiarism prevention and detection Personal response systems (electronic voting systems) Web 2.0 tools E-portfolios Web conferencing Virtual worlds Other (please specify)	√	√			
Is technology enhanced learning (or online, distance, e-learning) included as a module in the University's Post Graduate Certificate in Teaching and Learning in Higher Education?	√	√			
If you answered no to the previous question, do you know if any aspects of technology enhanced learning are embedded in any of the modules of the PGCLT in Teaching and Learning in HE?	√	√			

	Staff Development Needs around Technology Enhanced learning in Higher Education Institutions in the United Kingdom; the Heads of e-Learning perspective	***What provision do a range of UK HEIs make for staff development in the area of TEL?***	***What do HeLs think lecturers need to know in order to deliver blended and online courses effectively? Are these needs addressed by a range of UK HEIs?***	***According to HeLs, what institutional approaches are required for TEL to be effectively embedded in the curriculum?***	***How do HeLs' perspectives compare to Laurillard's conversational frame work for the effective use of learning technologies?***
Are there any other Continuing Professional Development (CPD) activities offered to academic staff in the area of blended and online learning? If yes, could you briefly describe them using the space below?	√	√			
Are there any formal staff development requirements for academic staff before they get involved in blended or fully online (distance) course delivery? Could you please briefly describe any requirements - or lack of - for academics in order to teach in a blended or fully online course?	√	√			
What other provision does the University make for academic staff development in blended and online learning? Please add anything that has not been covered above	√	√			
Interview questions					
Could you please talk a bit about the support your team provides in the area of TEL? If you are providing support centrally, are you aware of other, faculty or department based support in the area of TEL?	√	√			

	Staff Development Needs around Technology Enhanced learning in Higher Education Institutions in the United Kingdom; the Heads of e-Learning perspective	***What provision do a range of UK HEIs make for staff development in the area of TEL?***	***What do HeLs think lecturers need to know in order to deliver blended and online courses effectively? Are these needs addressed by a range of UK HEIs?***	***According to HeLs, what institutional approaches are required for TEL to be effectively embedded in the curriculum?***	***How do HeLs' perspectives compare to Laurillard's conversational frame work for the effective use of learning technologies?***
What are the main goals/targets in your institution regarding the institution-wide implementation of TEL?	√	√			
What are the main issues and obstacles in the institution-wide implementation of TEL?	√			√	
In your experience, do you find TEL is used more at the dialogic/discursive level where the focus is on theory, or the experiential level where the focus is on practice?	√		√	√	√
Do you think both levels can be facilitated equally well in an online environment?	√			√	√
According to Laurillard's framework, learning is understood to occur through acquisition, inquiry, practice and discovery, discussion and collaboration; could you provide examples where TEL is used to support each one of these processes at your institution?	√				√
As far as you are aware, are your online programmes following a specific online learning theory or model?	√			√	

	Staff Development Needs around Technology Enhanced learning in Higher Education Institutions in the United Kingdom; the Heads of e-Learning perspective	***What provision do a range of UK HEIs make for staff development in the area of TEL?***	***What do HeLs think lecturers need to know in order to deliver blended and online courses effectively? Are these needs addressed by a range of UK HEIs?***	***According to HeLs, what institutional approaches are required for TEL to be effectively embedded in the curriculum?***	***How do HeLs' perspectives compare to Laurillard's conversational frame work for the effective use of learning technologies?***
In your opinion, what do lecturers need to know in terms of online moderation/facilitation?	√		√		
What are the key technical skills that are needed by academics who teach online?	√		√		
Should TEL be a compulsory module in the Postgraduate Certificate in Learning and Teaching in HE course?	√			√	
Should TEL be part of the CPD framework for ALL academic staff?	√			√	
Should there be any formal requirements before academic staff get involved in online or heavily blended courses?	√			√	
To sum up, what do lecturers need to know in order to deliver blended and online courses effectively?	√		√		
In your experience, is online learning seen as 'second best' by academic staff?	√		√		

	Staff Development Needs around Technology Enhanced learning in Higher Education Institutions in the United Kingdom; the Heads of e-Learning perspective	***What provision do a range of UK HEIs make for staff development in the area of TEL?***	***What do HeLs think lecturers need to know in order to deliver blended and online courses effectively? Are these needs addressed by a range of UK HEIs?***	***According to HeLs, what institutional approaches are required for TEL to be effectively embedded in the curriculum?***	***How do HeLs' perspectives compare to Laurillard's conversational frame work for the effective use of learning technologies?***
According to Feenberg, there is a danger for technology, if used incorrectly, to lead to a de-skilling of the teaching profession, leading to an 'automated' education with the aim to cut costs. What is your own experience regarding online learning being accused of de-skilling the teaching profession?	√		√		
From your experience, do you think that an online course is cheaper, the same as or more expensive compared to an equivalent face-to-face course?	√			√	

	Staff Development Needs around Technology Enhanced learning in Higher Education Institutions in the United Kingdom; the Heads of e-Learning perspective	***What provision do a range of UK HEIs make for staff development in the area of TEL?***	***What do HeLs think lecturers need to know in order to deliver blended and online courses effectively? Are these needs addressed by a range of UK HEIs?***	***According to HeLs, what institutional approaches are required for TEL to be effectively embedded in the curriculum?***	***How do HeLs' perspectives compare to Laurillard's conversational frame work for the effective use of learning technologies?***
According to Laurillard's framework, for the successful implementation of learning technologies in an institution, there is a need for an appropriate organisational infrastructure and a supportive culture to be in place. To what extent do you think that each of the following requirements is met by your institution? a) Sharing tacit knowledge b) Establishing a programme of staff development in the effective use of learning technologies c) Setting up multi-skilled development teams d) Agree development resources and costing e) Agree staff time commitment f) Ensure that appraisal and promotion procedures reward teaching excellence	√			√	√

Table 4.1. Survey and interview questions alignment with research questions.

4.1. Questionnaire findings

The data analysed in this section were gathered via an online survey emailed to the HeL forum, which is a network comprised of one senior member of staff per UK HE institution who leads the enhancement of learning and teaching through the use of technology, as explained in the literature review chapter. The online survey received 27 responses, over 20% of all UK HEIs subscribed to the HeL forum list (118 is the total number). Both pre-1992 (16 in number) and post-1992 universities (11 in number) were represented in the survey. Findings indicate the way this sample of UK HEIs is approaching staff development in the area of TEL. The survey's main research question was 'what provision do UK HEIs make for academic staff development in the area of technology enhanced learning'. Eleven questions, both closed and open-ended, were devised in order to gather information about how staff development needs in the area of TEL are addressed by different UK institutions.

This questionnaire focused solely on the staff development activities currently on offer by HEIs in the UK and aimed to capture detailed information on both technical and pedagogical training in the area of TEL, as well as examples of effective practice in the form of case studies and CPD activities offered to academic staff in this area.

4.1.1. Hands-on training

The vast majority of the HeLs that completed the survey reported that their universities offer a wide variety of staff development sessions/events for their academic staff. Regarding hands-on training, sessions on how to use the institutional virtual learning environment (VLE) were the most popular across the 26 responses to this question (26 out of 26), followed by sessions on e-assessment (22 out of 26), plagiarism prevention and detection (22 out of 26) and e-portfolios (19 out of 26). Web 2.0 tools (17 out of 26), personal response systems (17 out of 26) and web conferencing sessions (16 out of 26) were also very popular among participating institutions. The only one option offered in the survey question that proved to be less popular among training sessions on offer was Second Life (3 out of 26) as shown in Figure 4.1. Other sessions offered included: lecture capture (3), online media (4), audiovisual equipment (2), office tools (1), podcasting (1), iTunes (1) and screencasting (1).

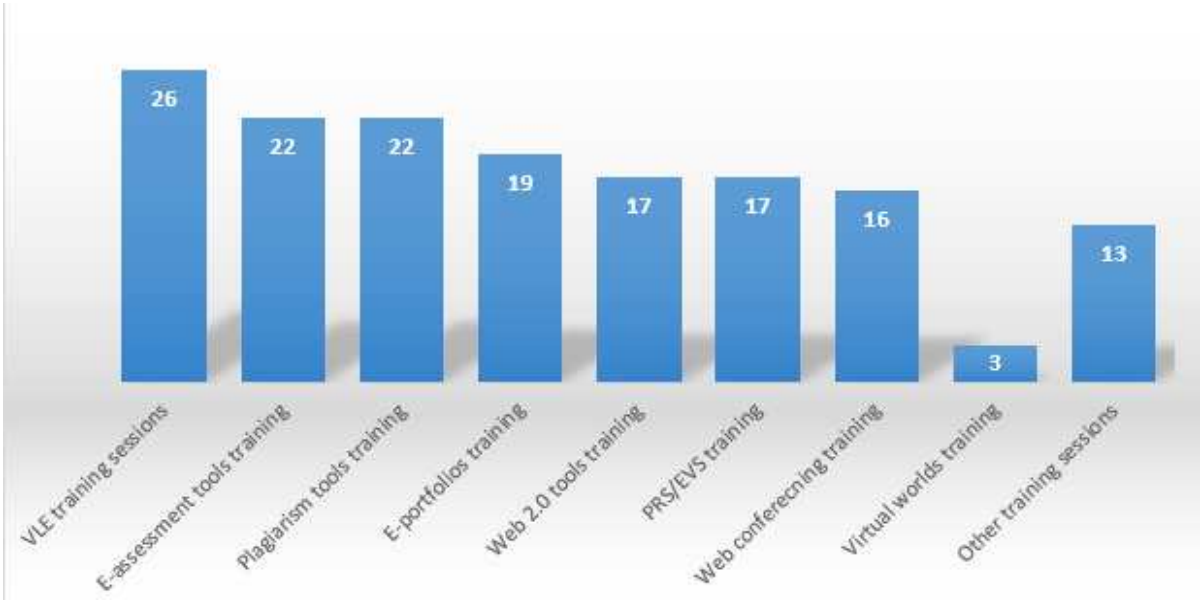

Figure 4.1: Responses to the question 'Does the university offer any of the following hands-on training sessions on how to use the following tools? Please tick all that apply'.

The duration, frequency and uptake of the training sessions varied widely. These are summarised below.

Duration

Eleven of the comments included some information on the duration of the hands-on training sessions. Duration varied between 30 minute taster sessions and 3-hour-long workshops; most commonly – 7 out of 11 cases – training sessions lasted between 1 and 2 hours. The remaining cases were divided between shorter – 30 and 45 minutes respectively – and longer sessions – between 2 to 3 hours and 3-hour-long sessions.

Frequency

Twenty-three (23) of the twenty-five (25) responses offered some information on the frequency of these training sessions. Training sessions varied from 'once or twice a year' to '2 x per week'. In some cases (5), training sessions for staff were scheduled only once or twice a year; however, in most of these cases (4), sessions were also offered on demand to school and course teams. On-demand training sessions were reported to take place in 10 cases; 2 more reported one-to-one training availability and 1 reported instant service and support. The remainder reported that training varied depending on need; furthermore, the frequency of the sessions on offer varied depending on the subject covered; and training on main systems such as the use of

the VLE and plagiarism detection software were offered more than other sessions, as pointed out by two respondents.

Uptake

Twelve (12) of the comments covered some aspects of the uptake of the sessions; three responses indicated between 4 and 10 attendees, while others described attendance as 'variable', 'small uptake', 'little uptake', 'limited uptake for the timetabled sessions' and 'mediocre uptake'. A 'take five' approach was used by another institution where 5 members of staff needed to request specific/bespoke training before it was run. In one case where sessions were offered twice a week, it was reported that 'about half the timetabled sessions run' while in another case attendance was described as 'generally good; falls off after first batch of sessions'.

4.1.2. Pedagogical staff development approaches to TEL via workshops/seminars/internal events

In terms of staff development events such as workshops/seminars on the pedagogic use of various learning technologies, 25 out of 26 respondents indicated they offer such events in the 'effective use of the VLE', 22 respondents ticked the 'implementing e-assessment for diagnostic, formative and/or summative assessment' option, while 21 of them ticked the 'plagiarism prevention and detection' option, as shown in Figure 4.2. Web 2.0 seminars were provided in approximately two-thirds of the participating institutions as 17 out of the 26 offered them. Around half of the institutions – 14 out of 26 – offered seminars on 'using e-portfolios – personal learning environments'; web conferencing was not far behind with 12 responses. Seminars on virtual worlds were run by 4 institutions. Other workshops/seminars included: lecture capture (2), podcasting (2), online media (1), video (1) and screencasting (1).

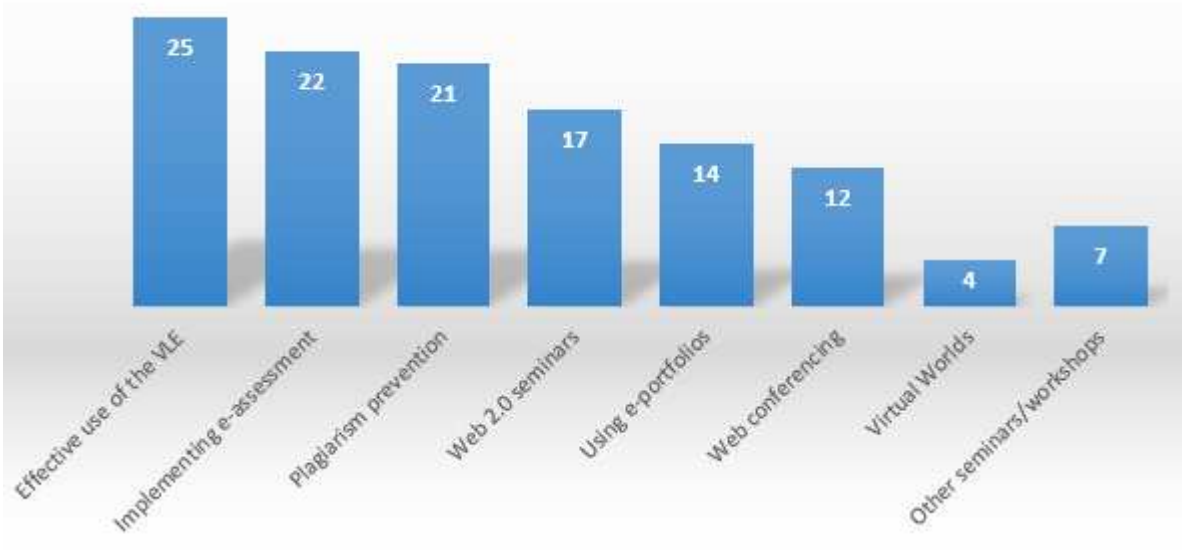

Figure 4.2: Responses to the question 'Does the university offer any of the following workshops/seminars/internal events or internal conferences on the pedagogically effective use of the following learning technologies? Please tick all that apply'.

These workshops/seminars/internal events or conferences on the pedagogically effective use of learning technologies were in some cases less frequent than the hands-on training sessions and varied from annual or bi-annual events to monthly thematic school-specific events to fortnightly sessions on a specific pedagogy. In eight cases – out of a total 25 - both pedagogy and hands-on training were integrated in the same sessions. Workshops and seminars were reported to be both scheduled and tailor-made, on-demand sessions. In two cases it was reported that these sessions were run by a different team from the learning technology team – an academic enhancement and academic development unit respectively.

4.1.3. Online TEL-related case studies

Online case studies on the pedagogically effective use of learning technologies were also provided by many HEIs. Case studies on the effective use of the VLE (18), e-assessment (13), web 2.0 tools (13), plagiarism prevention and detection (11), personal response systems (10), e-portfolios (7) and web conferencing (6) were commonly made available online, aiming to provide flexibility of access to academic staff interested in TEL practice. This question was answered by 20 respondents and responses shown in Figure 4.3 are from a total response count of 20. Other responses included: online media (2), screencasting (1), 'anything that staff is willing to share'

(1), ‘offered as a service by Epigeum’, which is a spin-off company from Imperial College aiming at providing online skills training to students and staff in higher education (1), and ‘we are currently working on this’ (1).

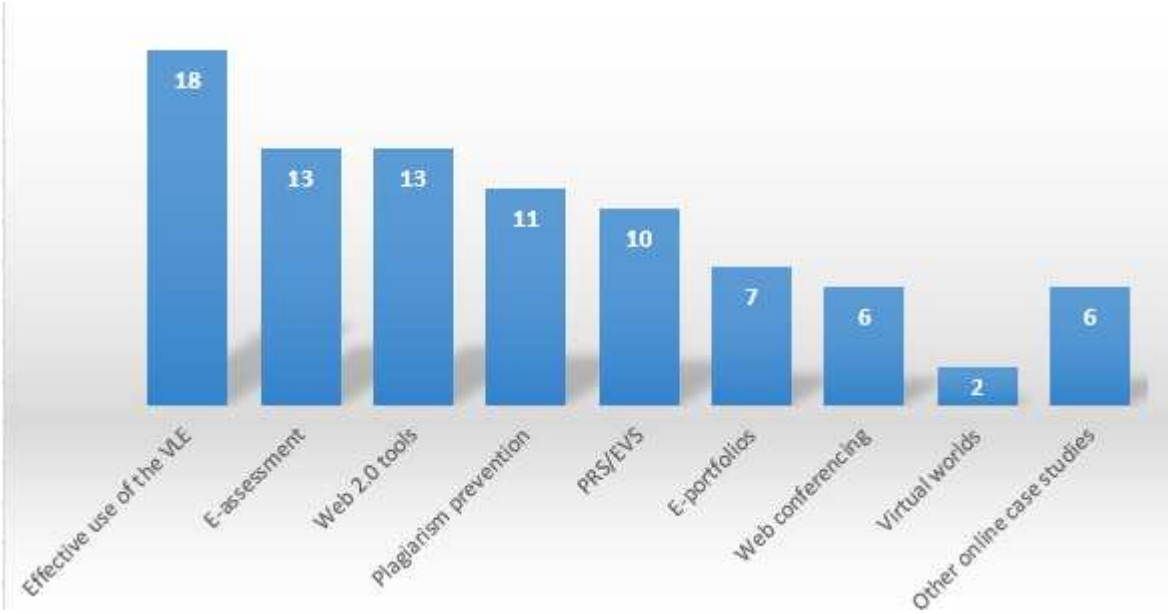

Figure 4.3: Responses to the question ‘Does the university offer any online case studies on the following learning technologies?’.

4.1.4. TEL as part of the postgraduate certificate in learning and teaching

In almost half of the cases – 13 out of 27 – TEL was reported to be the focus of one of the modules of the Postgraduate Certificate in Learning and Teaching in Higher Education (PGCLT in HE). Four of the remaining 14 informants stated that they did not know whether TEL was offered as a module of the aforementioned course while 10 gave a negative answer, as shown in Figure 4.4. Apart from those who stated that TEL was the main focus of a PGCLT module, all the rest but one mentioned that some aspects of TEL were embedded in this course.

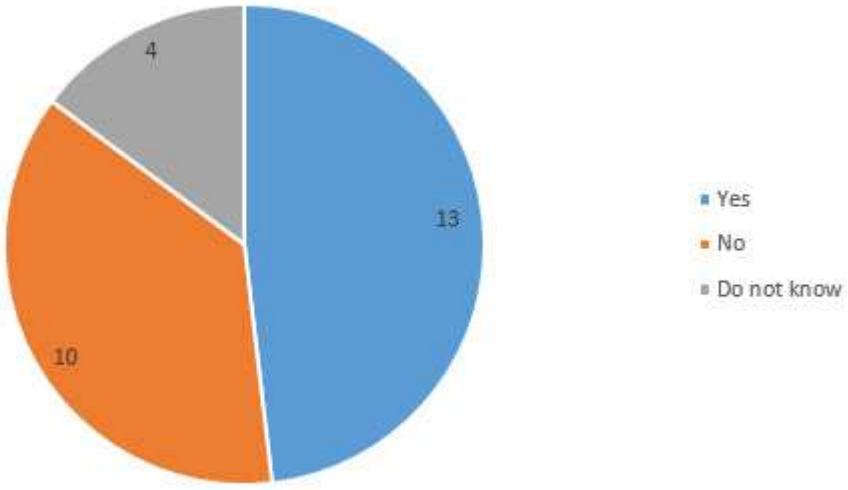

Figure 4.4: Responses to the question 'Is technology enhanced learning (or online, distance, e-learning) included as a module in the University's Postgraduate Certificate in Teaching and Learning in Higher Education?'

4.1.5. TEL continuing professional development activities

Various CPD activities in the area of TEL were provided by a number of institutions including e-moderating/e-facilitating short courses that were 3- to 5-weeks long, e-facilitation courses certified by the Staff and Educational Development Association (SEDA), application and portfolio development towards Certified Membership of the Association for Learning Technology (CMALT) for academic staff, a module on the PGCLT course and other Masters' level modules with an emphasis on e-learning that could also be taken as stand-alone modules. Furthermore, one university reported that they have academic staff registered for a doctorate of philosophy (PhD) degree in the area of TEL. Other provision in the area of TEL includes faculty-sponsored workshops, invited external speakers, on-demand training as well as experiential training in new technologies in a 'learning hub', tailor-made training for individual subject areas, departments, or faculties and one-to-one advice and consultation.

4.1.6. TEL as a prerequisite for blended and fully online courses

The question regarding whether there are any formal TEL staff development requirements for academic staff involved in the delivery of blended/distance learning courses returned a wide range of responses; in most cases – 15 out of 23 – there were no requirements. Among those, however, one informant stated that their institution is currently considering making it a requirement; two respondents stated that this is

monitored via the course validation process as staff involved in heavily technologically-mediated courses have to be qualified to do so or commit to training. In two other cases, although this was not a requirement, staff involved in blended/online courses were strongly encouraged to take the e-moderation and the e-facilitation online short course respectively.

In the remaining 8 cases there were some requirements; three respondents reported that new academic staff were expected to undertake VLE training as part of their induction. In one case, the first module of the MA in Academic Practice was a requirement for staff and in two other cases it was mentioned that distance learning programmes had their own training initiatives and academic staff involved in these undergo a formal induction process focusing on tutoring techniques and other competencies related to TEL. In another case staff involved in fully online courses were required to complete a 10-credit module offered to new lecturers, while another one reported that there were no formal requirements for blended courses but for fully online courses staff have to go through formal induction due to the increased standard of development and delivery in online courses.

The following section provides information about the interviews in both phases, outlining the way the interview questions were developed over time.

4.2. Interviews' outline

Interviews were initially conducted with eight participants out of the thirteen who had expressed an interest to participate in further research during the first phase of data collection via the online questionnaire, the last question of which asked those who 'might be willing to participate in further research' to provide their email address. Ten of them were contacted gradually via an email and were invited to participate in a 30-45 minute, semi-structured interview. Priority was given to those who had provided more information in the open-ended questions in the survey and a balanced representation between pre-1992 and post-1992 institutions was achieved. The first interview was treated as a pilot and took place in mid-December 2011 and the remaining seven interviews took place between late January and mid-March 2012. All interviews were arranged via email and took place on Skype, were recorded using Skype mp3 recorder, then transcribed and returned to the informants

within three weeks for their approval. Five additional interviews with HeLs were conducted at a later stage (February 2015); this raised the total number of interviews to thirteen.

The pilot interview comprised the following questions:

1) What do lecturers need to know in terms of online moderation/facilitation?
2) What do you think are the key technical skills needed by academics in order to teach online?
3) Do you think that TEL should be a compulsory module in the Postgraduate Certificate in Teaching and Learning in Higher Education?
4) Similar question to this one: should TEL be part of the CPD framework for all academic staff?
5) Should there be a formal requirement, a prerequisite, for academic staff to get involved in online or heavily blended courses? What do you think on that?
6) In your experience, do you find TEL has been used more to support dialogue/conversations online or to support experiential learning? By experiential I mean any simulations or any type of field trips where they make use of technology.
7) Do you think that if there is a need technology can facilitate equally well both dialogic and experiential learning?
8) Do you have any experience of online learning being seen as 'second best' by academic staff?
9) Do you have any experience of online learning being accused of de-skilling the teaching profession in academia?
10) Do you think that an online course is cheaper, more expensive or the same compared against a similar equivalent course delivered face-to-face?
11) What are the main goals and targets now in your institution regarding the wider implementation of technology enhanced learning?

12) What are the main issues or obstacles that you find in implementing that strategy if any?

The pilot interview provided rich data but more importantly, gave the opportunity to test various aspects such as the order, the flow of the questions and the duration. The pilot interview was kept in the data analysis as it provided rich data that addressed the research questions and as the interview questions subsequently changed only marginally, it was felt that this would not affect the quality of the evidence gathered. Upon reflection, however, and following a discussion with the supervisor, some tweaks and modifications to the interview questions were implemented; first of all the order of the questions was changed as it was felt that the question 'What do lecturers need to know in terms of online moderation and facilitation' was too important to be the first question in the interview and was moved to the middle of the questions; other questions were reordered too in order for the interviews to flow more smoothly. Furthermore, three questions were added, bringing up the number of interview questions from 12 to 15. These 15 questions were divided into four groups. A warm-up question was also added at the beginning to give an opportunity for informants to put things in context and talk about their institution. An opportunity for any final comments was also provided at the end.

The 15 interview questions asked of the seven interviewees after the pilot interview were the following:

Warm up question:
Could you please say a few things about the university you are working at? Is it mainly research-led or teaching-led? Does it offer any blended/fully online courses?

1) Could you please talk a bit about the support that your team, as an e-learning team, provides in the area of TEL and is it a central team or do you have people in the faculties as well?

2) What are the main goals/targets in your institution regarding the institution-wide implementation of TEL?

3) What are the main issues and obstacles in the institution-wide implementation of TEL?

4) In your experience, do you find TEL is used more at the dialogic/discursive level where the focus is on theory, or the experiential level where the focus is on practice?

5) Do you think both levels can be facilitated equally well in an online environment?

6) As far as you are aware, are your online programmes following a specific online learning theory or model?

7) In your opinion, what do lecturers need to know in terms of online moderation/facilitation?

8) What are the key technical skills that are needed by academics who teach online?

9) Should TEL be a compulsory module in the Postgraduate Certificate in Learning and Teaching in HE course?

10) Should TEL be part of the CPD framework for ALL academic staff?

11) Should there be any formal requirements before academic staff get involved in online or heavily blended courses?

12) To sum up, what do lecturers need to know in order to deliver blended and online courses effectively?

13) In your experience, is online learning seen as 'second best' by academic staff?

14) According to Feenberg, online learning can enable new forms of dialogic interactions. However, as he points out, there is a danger for technology, if used incorrectly, to lead to a de-skilling of the teaching profession, leading to an 'automated' education with the aim to cut costs. What is your own experience regarding online learning being accused of de-skilling the teaching profession in academia?

15) From your experience, do you think that an online course is cheaper, the same as or more expensive compared to an equivalent face-to-face course?

An interview from phase one is presented in Appendix B as a descriptive narrative, question by question; verbatim quotes are used in order for the reader to get a sense of the detail and form of the data.

Additional Interviews

Five additional interviews were conducted at a later stage in order to increase the sample and ask some additional questions that would provide more examples on ways TEL is used in the participating institutions to support learning and compare the approaches of these institutions against Laurillard's organisational infrastructure for the effective implementation of learning technologies across the whole institution. The two data sets were combined in the data analysis as the majority of the questions were similar; furthermore, the time difference between the data gathering was not seen to have made a substantial difference to the issues being considered and raised by the HeLs. The additional questions were the following:

- According to Laurillard's framework, learning is understood to occur through acquisition, inquiry, practice and discovery, discussion and collaboration; do you have any examples where TEL is used to support each one of these processes at your institution?

- According to Laurillard's framework, for the successful implementation of learning technologies in an institution, there is a need for an appropriate organisational infrastructure and a supportive culture to be in place. To what extent do you think that each of the following requirements is met by your institution?

a) Sharing tacit knowledge

b) Establishing a programme of staff development in the effective use of learning technologies

c) Setting up multi-skilled development teams

d) Agree development resources and costing

e) Agree staff time commitment

f) Ensure that appraisal and promotion procedures reward teaching excellence

The following section summarises the roles, backgrounds and responsibilities of the HeLs who participated in the interviews. All names have been changed and pseudonyms are used instead.

4.3 HeLs' roles, backgrounds and responsibilities

As shown below, the HeL group is a diverse group of people with a range of backgrounds, roles and responsibilities. The HeLs' backgrounds and their past experiences are of crucial importance as these might dictate their understanding of learning, which in turn might impact on the way they lead the enhancement of learning within an educational setting (Anagnostopoulou 2010).

Furthermore, HeLs' positions within the organisation may vary between institutions, particularly with regards to level of authority, power and ability to influence developments. Therefore, this section aims to provide some detail about the background, roles and responsibilities of the HeLs who volunteered to be interviewed. Their actual names have been replaced by pseudonyms in all cases.

A variety of backgrounds, roles and responsibilities of the heads of e-learning in UK HEIs is reflected in the sample used in this research; some HeLs come from a learning technology/IT background while others have an academic background. It is important to note that the term 'head of e-learning' used throughout this thesis refers to the nominated institutional representative who participates in the heads of e-learning forum and not to the actual job titles of these staff members, which sometimes happen to be heads of e-learning or similar, but may also be an academic member of staff whose partial role is to promote TEL in their institution. Those whose head of e-learning is their actual job title often have a managerial role and their teams usually manage the VLE and other learning technologies and organise training/workshops on the effective use of these learning technologies. The responsibility of those who are academics or educational developers focus more on spreading pedagogic practice in the area of TEL and embedding it in the curriculum. It is worth noting, however, that representatives of both groups were very enthusiastic about the potential of technology to enhance the student learning experience and that all HeLs, regardless of background, showed an appreciation of technology to be used not for its own sake, but in a pedagogically sound way that enhances students' learning.

Pilot Interviewee (Malcolm)

Malcolm has worked in the area of TEL for more than a decade; before he became a HeL he worked as a learning technologist and as a senior learning technologist in another university. Although he does not have any teaching experience or responsibilities, he has undertaken the PGCAP course and is a Senior Fellow of the HEA. The team managed by him is providing VLE support and training, support for computer assisted assessment, plagiarism prevention and detection, e-learning content development and runs a series of workshops on TEL to demonstrate good practice. Head of e-learning is his actual job title.

Interviewee 2 (Christina)

Christina is nominated to represent her university in the heads of e-learning forum; however, her position is rather academic with an emphasis on promoting sound e-learning practice in her institution. She is based in an educational development team with educational developers and learning technologists. She contributes to the teaching of the PGCLT in HE course, as well as other staff development activities, is involved in various internal and external projects and sits on various university committees and advises on e-learning policy and implementation.

Interviewee 3 (Ben)

Ben has a background in e-learning as an adviser and lecturer and leads an academic-orientated team on TEL. HeL is his actual job title and he has a strategic role in leading TEL initiatives and implementing and evaluating TEL projects. He and his team are part of the educational development team supporting learning and teaching and their posts are academic.

Interviewee 4 (Carl)

Carl has a lecturing background and has taught in the PGCLT course as well. His actual job title is HeL and he manages a TEL team which is part of a wider educational development team. He has extensive experience of managing various internal and external projects funded by JISC and the HEA. His responsibilities include managing TEL projects and a central team which includes technicians who provide technical support, trainers that provide staff training in the use of learning technologies and academic staff whose focus lies on the pedagogical aspects of using

technology in learning.

Interviewee 5 (Robert)

Robert has a background as both researcher and lecturer, with extensive experience of supporting learning technology developments within the higher education sector. He is an e-learning manager of a team that provides training and technical support; the team includes technical support staff and learning technologists and offers a range of training sessions and workshops. Furthermore, the team contributes to the PGCLT course.

Interviewee 6 (Ken)

Ken is an associate head of TEL in his institution with experience in e-learning as a trainer. He and his team run a series of staff development sessions and one-to-one sessions on the effective use of various learning technologies.

Interviewee 7 (Derek)

Derek is the director of the Centre for Excellence in Teaching and Learning (CETL) and his institution's representative in the heads of e-learning forum. He has a diverse background in academia as he has worked as a senior lecturer in marketing, as well as a principal lecturer in blended learning curriculum and assessment development, before moving on to become head of blended learning. His current responsibilities as director of the CETL include enhancing the quality of the learning, teaching and assessment especially with respect to the use of technology and engagement with new pedagogical approaches. Derek is also research active and has managed various projects.

Interviewee 8 (Karina)

Karina was an academic member of staff who was head of her School. Promoting the use of e-learning was only part of her role; however, she was her institution's representative in the HeLF. Her institution had a small, central TEL support group providing technical advice and learning technology advisers based in the departments.

Interviewee 9 (Diane)

Diane is the head of e-learning unit; she has a background in educational

development and she and her team support staff in the pedagogically effective use of learning technologies to enhance teaching and learning. Her team works across the university with all faculties, one of which has additional learning technologist support. She also contributes to the strategic implementation of TEL in her institution.

Interviewee 10 (Lisa)

Lisa is the head of blended learning and leads the strategic implementation of blended learning across her institution. She manages a small central team that co-ordinates strategy and has input to policy and works together with the school-based learning technologists and the blended learning academic champions within each school.

Interviewee 11 (Alan)

Alan is an e-learning development manager who manages the central small e-learning team plus one member of staff who is locally deployed within a school department. The team's main focus is on staff development and curriculum development. Alan also contributes to the PGCLT course and to an MA in learning and teaching.

Interviewee 12 (Kate)

Kate is head of e-learning and manages a central team that provides user support, both technical and pedagogical. The team also provides coaching and mentoring to academic staff and influences strategy.

Interviewee 13 (Sam)

Sam is the technology enhanced learning manager and manages a media team whose focus is on production of digital artefacts for learning and teaching and a learning technology team, which includes learning technology developers and learning technology advisers.

The participants' background, role and responsibilities is summarised in Table 4.2.

Interviewees	Background	Role	Responsibilities	Years in the job	Pedagogical and/or Technological focus
Malcolm	Learning technologist	Head of e-learning	Manages a team that provides VLE support and training, e-learning content development and runs a series of workshops on TEL to demonstrate good practice.	5	Technological and Pedagogical
Christina	Teaching/project management	Educational developer – senior e-learning adviser	Promotes sound e-learning practice; teaching in the PGCLT course; involved in various internal and external projects; sits on various university committees and advices on e-learning policy and implementation.	6	Pedagogical
Ben	E-learning adviser/ lecturer	Head of e-learning	Strategic role in leading TEL initiatives. He and his team are part of the educational development team supporting learning and teaching and their posts are academic.	1	Pedagogical
Carl	Lecturer	Head of e-learning	Managing TEL projects and a central team which includes technicians, trainers and academic staff.	7	Technological and Pedagogical
Robert	Researcher/	E-learning	Manages a team of	8	Technological and Pedagogical

Interviewees	Background	Role	Responsibilities	Years in the job	Pedagogical and/or Technological focus
	lecturer	manager	technical support staff and learning technologists which offers a range of training sessions and workshops. Furthermore, the team contributes to the PGCLT course.		
Ken	IT/e-learning trainer	Associate head of TEL	He and his team run a series of staff development sessions and one-to-one sessions on the effective use of various learning technologies.	1	Technological and Pedagogical
Derek	Lecturer/ head of blended learning	Director of CETL	Enhancing the quality of the learning, teaching and assessment especially with respect to the use of technology; engagement with new pedagogical approaches.	5	Pedagogical
Karina	Lecturer	Head of School	Part of her role to promote TEL in her department.	6	Pedagogical
Diane	Academic developer	Head of e-learning unit	Manages a team that support staff in the pedagogically effective use of technology. Contributes to the strategic implementation of TEL in the institution.	5	Pedagogical

Interviewees	Background	Role	Responsibilities	Years in the job	Pedagogical and/or Technological focus
Lisa	Secondary teacher and lecturer	Head of blended learning	Leads the strategic implementation of blended learning. Manages a small central team.	8	Pedagogical
Alan	Lecturer, learning technologist, VLE manager, head of e-learning	E-learning development manager	Manages a small central team whose focus is on staff development and curriculum development. Contributes to the PGCLT course and MA in learning and teaching.	4	Pedagogical
Kate	Learning technologist	Head of e-learning	Manages a central team that provides user support, both technical and pedagogical.	4	Technological and Pedagogical
Sam	Project manager	Technology enhanced learning manager	Manages a media team whose focus is on production of digital artefacts for learning and teaching and a learning technology team, which includes learning technology developers and learning technology advisers.	4	Technological and Pedagogical

Table 4.2: Heads of e-learning backgrounds, roles and responsibilities.

4.4 Summary

This chapter has aligned the survey and interview questions to the research questions and provided some initial analysis and a description of the data gathered via the online questionnaire as part of this research; the first part of this chapter provided an analysis of the data gathered on staff development provision in the area of TEL, while the second provided an outline of the interviews and provided some information about the HeLs who were interviewed as part of this research, including their background, roles and responsibilities. As this research focuses on the HeLs' perspective around TEL, this information was considered in order to place their views in context. The following chapter discusses these findings further and seeks to integrate and interpret them as a collective, by bringing together the results from both the interviews and the questionnaire.

5. DISCUSSION – INTEGRATION OF FINDINGS

Following the statistical presentation of the questionnaire responses and outlines of the interview questions, together with details of the interviewees' backgrounds, roles and responsibilities in the questionnaire findings – interviews' outline chapter, an analysis and interpretation of the whole body of research findings is developed here; data gathered via interviews are thematically discussed and interpreted first, followed by a discussion/integration of both phases of this research at the end of this chapter.

5.1. Discussion of interviews' findings

This section discusses the interview findings using a thematic analysis which emerged from the interviews. Open coding was used initially to uncover, develop and name concepts in order to explore points within the text and expose the thoughts and ideas contained within them. Once a full set of codes was generated, these were organised and collated into themes. An iterative process of reviewing and redefining the themes took place until saturation was reached. For instance, e-*submission and e-assessment* was one of the themes that emerged as a TEL-related target from the interviews as it came up in six responses. In two of those cases complete 'e-submission for all students' work' was an institutional target, while in another one it was 'a target in some departments but not in others'. In one case 'making technology integral to assessment' was one of the strategic goals of the institution and in another the goal was for students to develop 'real-world skills in technology via real-world assessments and authentic tasks'. 'E-assessment with quizzes and online submission' was named as a TEL target in another case. The aforementioned statements in inverted commas were coded under the e-*submission and e-assessment* theme as explained in the research design – methodology - methods chapter (in Figure 3.1). Examples of the codes used and the themes/categories that emerged can be found in Appendix B. All emerging themes from the interviews are discussed in this section on a question-by-question basis.

5.1.1. Participating institutions

Among the thirteen HeLs who participated in the interviews – including the pilot interview - six were working in pre-1992 and seven in post-1992 institutions. All participating institutions were offering some fully online distance learning courses or

mostly online with minimum residential attendance on campus, but in most cases, the emphasis was on blended learning on-campus.

Three of the participating institutions had already established a strong online distance learning portfolio. One of these universities had a strong online course provision with 10% of their portfolio delivered online and a further 10-15% mostly online coupled with a few seminars on campus. The same university was using a blended delivery for the vast majority of their campus-based courses too, with all but 5% of their courses making some use of technology. Two other institutions also had a strong portfolio of online postgraduate courses, which were delivered in collaboration with external private companies.

In the other institutions, campus-based courses were in some cases 'web supplemented' and in others 'blended' with the former denoting that the VLE was used mostly as a repository while the latter referred to a more integrated use of technology with face-to-face teaching, as discussed in the literature review chapter.

5.1.2. TEL support

TEL academic support was provided in all cases via a centralised unit; this unit was either a standalone team, or part of a bigger team, whose focus was on educational development, or was part of IT services. In some cases, on top of the centralised team, support was provided locally, usually via dedicated school or faculty-based learning technologists. In one of those universities where additional support was provided locally, learning technologists were employed only in some faculties. This fact shows that while all participating institutions had centralised TEL support, in some cases there is additional, more specialised TEL provision and support locally, within the faculties.

5.1.3. TEL goals and targets

Recurring themes from the interviews included the student experience, improving TEL uptake, e-submission and e-assessment, staff competence and student competence. Other themes were to do with innovation, content creation, repository creation, learning spaces and VLE minimum standards. Each of these themes will be discussed separately.

Student Experience

Improving the student experience was one of the most common threads among responses from participating HeLs. The term 'student experience' was stated in seven interviews; in some cases the focus was on consistency, in others it was on enhancement and support. Christina, for instance, mentioned that her institution's focus was on the consistency of the student experience:

> *I think from senior management's point of view [it] is probably the consistency of the student experience because in the students' surveys the students' perceptions are driving everything.*

Robert mentioned that his unit asks the departments each year to outline the ways they use learning technology to support the student experience:

> *What we do ask is that each department on an annual basis develops a strategy which outlines their approach to learning technology and how it will be used to support the student learning experience.*

Ben's unit focused more on improving the student experience exploiting both the administrative and the educational benefits of TEL:

> *Improving the educational experience of the students looking at some of the administrative benefits that may be gained as well as a kind of flexibility that you can engage when you want to, where you want to. In terms of the educational benefit, specifically things we highlight are like the opportunity to develop real work skills in technology... the ability to do more real-world assessments or authentic tasks, new collaborative opportunities potentially with people outside the classroom but also with peers and tutors outside the classroom.*

It is worth noting that when HeLs were referring to the student experience – which since the rise in students' fees seems to be an important driver in UK HE (Willetts 2011) – they were not talking only about the learning experience but also about administrative convenience, and the side-benefits of using technology such as becoming digitally literate and developing real-world skills in technology.

Improved TEL Uptake

Alongside the student experience, improved TEL uptake was the most common theme among TEL aims and targets. Improving TEL uptake was linked with providing more blended learning, increasing the amount of fully online courses, or in some cases it was a general target.

In some cases improving TEL uptake was linked to blended learning:

> *One of our aims is to develop quality assured blended learning programmes (Malcolm).*

> *We have a target around TEL that all modules and programmes will be delivered using technology and those who are currently beginning to engage in the use of technology will increase the way they use it (Derek).*

> *So the expectations would be that when course teams validate or re-design, there should be a component of technology enhanced learning (Alan).*

> *The expectation is that by 2020 every module and every programme in the university will be fully blended (Lisa).*

Improved uptake was in some cases linked with the development of fully online courses:

> *We have a target of increasing the amount of distance online delivery particularly postgraduate distance online delivery by 15% more than we are currently delivering (Derek).*

> *We've also got targets for online learning. The expectation then is that over the next few years we'll increase our capacity in online learning, and by 2020 we'll have minimum about 20 completely online postgraduate programmes (Lisa).*

Improved uptake was also linked with plans to integrate technology fully in the curriculum:

The strategic goals are to make technology integral to teaching, learning, assessment and curriculum design (Malcolm).

Finally, there were cases where improving the uptake of TEL was a general target:

TEL implementation and use should increase, whatever that means (Diane).

To improve uptake, generally; with a view, primarily to enhance the student experience (Ken).

Improving the uptake of TEL seems to be one of the founding principles on which the teams led by HeLs are based; the use of TEL in the curriculum is also endorsed by the UK PSF as discussed in the literature review section.

E-submission and e-assessment

Following the 'student experience and the improved uptake of TEL' theme, 'e-submission and e-assessment' was also a popular target among participating institutions.

Moving towards e-submission, and in some cases e-feedback too, was an institutional target in some cases:

We are moving towards a complete e-submission of assessed work for 2013, we are doing a lot of work in that area (Carl).

There is a requirement for all tutor-marked assignments if they are text-based to be submitted electronically (Christina).

There's an expectation that we will move much more towards e-submission, e-assessment, and e-feedback and we're in the process of writing some policy and guidelines around that just now (Lisa).

We've got a joined up now, central model for electronic management of assessments, from e-submission, e-marking, e-grading and e-feedback, so that's the other expectation (Alan).

‘Streamlined, improved assessments online’ was mentioned to be a target by Malcolm, while Christina stated that “There is more interest now in e-assessment through something like QuestionMark Perception” which is specialised software to deliver exams electronically. Ben emphasised ‘the ability to do more real-world assessments or authentic tasks’ using technology.

It became apparent from both the questionnaires and the interviews that the electronic management of assessments is one of the key areas of focus in many participating HEIs as technology can facilitate the whole assessment cycle, but also, arguably, enhance and transform the assessment and feedback process (JISC Design Studio 2015)

Staff Competence

Developing ‘staff competence’ was another theme that emerged in four cases to be an institutional target around TEL; this initially seems to be surprisingly low as staff development is not only crucial for the successful implementation of any TEL-related project, but also it is usually one of the main functions of the team HeLs lead. This, however, could be explained by the fact that in some cases staff development was devolved to the faculties with localised experts. Furthermore, in a few other cases it may have not been discussed due to the fact that it was mentioned elsewhere and it could have been seen as a core function of the team rather than as a target.

Upskilling the staff body as a whole was a target in one case:

> *There are all sorts of plans at the moment to up-skill the staff body as a whole. Particularly, there is a push towards a kind of a digital driving license, like the European driving license, so that academic staff at least have the basic technical capacity to be able to use things like the VLE and the streaming server and so forth (Karina).*

Malcolm and Derek also mentioned that developing competence in staff was one of their current goals, while Sam mentioned that they are running a programme on digital literacies for both staff and students. Improving the digital literacy levels of staff is critical for the successful implementation of TEL and was mentioned to be

one of the obstacles as discussed below in the TEL issues and obstacles sub-section.

Student Competence

Developing student competencies in the use of technology was another theme that emerged as an institutional target around TEL with a focus on providing real world skills in technology, so that graduates are employable:

> *(We aim to) develop digital literate graduates making sure that our graduates are employable (Malcolm).*
>
> *Specifically things we highlight are like the opportunity to develop real work skills in technology (Ben).*
>
> *We have a programme running around digital literacy (Sam).*

The need for students to be supported in some areas of digital practice has been recognised by JISC who has produced guides on good practice in this area (JISC Developing Students' Digital Literacy 2014) and has funded various programmes and has run a 'Developing Digital Literacies' programme in order to improve the digital capabilities of both staff and students (JISC Developing Digital Literacies Programme, 2013).

Other aims that emerged around TEL institutional targets included innovation (promote innovation and creativity in the use of TEL; innovate with TEL; identify and develop innovative technologies), content creation (develop materials; creation of materials), repository creation (content management system; create infrastructure for sharing content), learning spaces (technology enhanced learning spaces; technology enabled learning spaces) and minimum VLE standards (VLE minimum standards; minimum content). Furthermore, creating culture for sharing content and making use of VLE analytics were also mentioned.

Improving the student experience and improving TEL's uptake were reported to be the main TEL targets among participating institutions. E-submission and e-assessment and staff and student competence were also commonly-mentioned aims. The following sub-section looks at the main issues and obstacles around TEL, as perceived by participating HeLs.

5.1.4. TEL issues and obstacles

Recurring themes here included staff reluctance/staff resistance and staff engagement, lack of skills, strategic buy-in, communication and dissemination, time limitations and the fact that TEL was used more for administrative benefits.

Staff reluctance/resistance and staff engagement

Staff reluctance and resistance and lack of staff engagement was the most popular theme in terms of issues and obstacles around TEL that were faced by participating institutions:

> *...I think also staff resistance to change, they perceive other things as a priority such as research (Malcolm).*

> *…At the school level the biggest obstacle is staff resistance and staff reluctance (Karina).*

Staff engagement in TEL is a challenge as it often requires buy-in in a fundamental theoretical approach, as reported by Ben:

> *To get someone thinking about technology in a different way, replacing their lecture with other things, that's more challenging and I think that requires persuasion but also requires buy-in in a more fundamental, theoretical approach around what is teaching and learning and what's my role as a teacher and things like that, that are very challenging. So, I think the way we get staff to engage is always challenging (Ben).*

The misconception that by posting materials students will not attend resulted in poor staff engagement in one case; as Carl mentioned, there is still a belief amongst the academic community that by posting learning materials in advance, students will not attend lectures. The argument that if materials are posted online in advance, students will not attend lectures has often been used to justify some tutors' reluctance to get involved with TEL; however, this assumption is not supported by the literature on the subject. A study focusing on the impact of audio-recorded lectures on the student experience and attendance (Larking 2010) showed that attendance remained high throughout the semester and that 'contrary to popular belief, generation Y students in

general, do not aspire to replace lectures with downloadable, online versions' (Larking 2010, p.238). Furthermore, another study on lecture availability in introductory psychology (Hove and Corcoran 2008), which compared two groups of students, one of which had access to online lecture materials, showed that while there was no significant difference in terms of attendance between the two groups, 'students with unlimited access to lecture presentations earned significantly higher grades than students who did not have similar access' (Hove and Corcoran 2008, p.91).

Another reason behind staff's reluctance and resistance to use TEL could be the fact that teaching is not rewarded by HEIs and therefore not high enough in staff's priorities. According to the 'Reward and recognition in higher education - Institutional policies and their implementation' report by The Higher Education Academy and the Genetics Education Networking for Innovation and Excellence (GENIE) CETL, University of Leicester (2009), teaching is not rewarded in higher education and lecturers are feeling the pressure to have more research output in order to participate in the research assessment framework (REF) and attract more research funding: 'By and large, academics believe that teaching is not recognised to the same extent as research' (Cashmore and Ramsden 2009a, p.22). As TEL is more related to teaching and learning practices, it is apparent that it may not be a priority among many academics. Their interim report (Cashmore and Ramsden 2009b), which included data gathered from 2,700 academics, demonstrated that most academics feel that teaching and learning is important but that it is undervalued and their final report demonstrated that the inclusion of teaching in promotion criteria in UK HEIs is inconsistent and often absent (Cashmore and Ramsden 2009a).

Lack of skills

The lack of skills needed by academic staff to use TEL effectively was mentioned as one of the barriers in some cases:

> *Some of them are struggling with the skills needed to use it efficiently and effectively (Christina).*

> *'... up-skilling staff so they move beyond content delivery and using technology in a more progressive fashion to support active student learning, skills*

development and collaborative learning' (Robert).

In one case, the lack of skills around TEL was linked to lack of time to build those skills, which created a vicious circle:

> *We've just recently done a survey around digital literacy actually, which fits into this vaguely. The first one is just time to learn new things and investigate new tools. Then that's quickly followed on by the lack of confidence and the lack of skills. So it's having the time to build the skills, but then also not having the skills to build. It's a bit of a vicious circle really but that generally is the biggest challenge (Sam).*

The need for this lack of skills to be addressed by the discipline area was highlighted by Lisa:

> *There are other things though in relation to staff development, so I think there's still a need for digital literacy skills among staff. There are different cultures across different discipline areas, and different levels of engagement, with blended and online learning, so we have to work within different parameters across different discipline areas.*

There is an attempt to address this lack of skills both internally by each institution, as discussed earlier in the questionnaire responses and later during the integration of the findings. Skills development around TEL is also supported by the HEA's Professional Standards Framework (HEA UKPSF 2011), which has been discussed in the literature review chapter of this thesis.

Strategic buy-in

Lack of strategic buy-in was mentioned to be an important barrier for the successful implementation of TEL in some cases, as, according to Malcolm, an 'institutional appetite to make those changes through very good change management processes' is needed. Similarly, Christina mentioned that 'lack of vision' around TEL is a big barrier, which underlines the importance of senior management's support for the successful deployment of TEL related projects.

The lack of a senior institutional champion was mentioned as an important institutional barrier by Diane and Lisa:

> *One of our biggest problems really, that we never tackled properly is how to make sure that senior managers understand what TEL is and what it could do… it's sort of something that grows from the bottom up but never really has the level of support that it needs at the top; we certainly don't have an institutional champion (Diane).*

> *I think one of the key things as well is to get buy-in at senior management level. So we need to have a strong champion to lead this at senior executive level. We've had a number of changes at our exec level over the last two or three years, so we're hoping that things will move forward a bit more quickly now (Lisa).*

Karina mentioned that 'leading upwards' is a big challenge for HeLs:

> *HeLs are in a very unique position because of the leadership below but also leading upwards as well in terms of providing that strategic input and so on. So in terms of trying to create those targets, it has been quite difficult.*

Strategic buy-in seems to be a critical factor for the successful implementation of TEL, according to some HeLs, and is supported by current literature on the subject, as discussed in the literature review chapter.

Communication/dissemination

Communication and dissemination of the TEL strategy across all departments was also brought up in a few cases; an organisational barrier was mentioned to be the 'highly devolved nature of the institution', which made the implementation of institution-wide policies hard, according to Karina. Robert and Ken also mentioned that communication and dissemination was a barrier:

> *Well for sure, I mean we are no different from any other institution; the department may have a strategy but how well is that disseminated across the department is a different thing (Robert).*

> *…communication in terms of getting the message out to the schools effectively, to get them to act on it, from the Dean level, to push it down to practitioner level (Ken).*

Again, the issue of communication and dissemination seems to be closely related to the need for organisational commitment to change.

Time limitations

Time limitations were reported to be an important barrier as it was a pragmatic reason that prevented staff from engaging with TEL, even if they were willing to do so, according to Ken:

> *We've all got so many hours in the day to do the job so it's actually like firefighting all the time. They want to use the tools effectively or innovatively, but they end up using the tools to just try and do their job a little bit quicker (Ken).*

In one case, staff were no longer resistant to TEL but still 'sometimes find it difficult to find the time it takes to do it', according to Derek. Sam reported that time was the biggest barrier for TEL adoption by academics and the lack of time together with the lack of skills created a vicious circle around TEL use.

TEL is used more for administrative benefits

The fact that TEL is used more for administrative benefits rather than to its full educational potential was highlighted as another barrier in some cases. This was pointed out by Ben who claimed that a theoretical approach around learning and teaching is required in order for technology to be used in pedagogically effective ways.

Furthermore, Christina stated that 'TEL is used more for its administrative benefits rather than in a more sound way to transform students' learning experience based on educational theory'. Similarly, the need to up-skill staff 'so that they move beyond content delivery and use technology in a more progressive fashion to support active student learning, skills development and collaborative learning' was underlined by

Robert.

Other barriers

Funding, or rather a lack of, was mentioned once as a barrier; it is worth noting that in UK universities some TEL-related projects but also TEL-related posts such as those of learning technologists, started in the previous decade as funded projects by HEFCE (HEFCE 2005), but nowadays due to the fact that TEL is mostly considered an established practice which sits at the core of the institution and also due to the current economic climate, funds are becoming more of a rarity. Other institutional barriers around TEL - mentioned once each - were the lack of streamlined university systems, cultural issues of support team members not always understanding what teaching is about, students' perception of blended learning, and visibility of TEL projects and initiatives.

It becomes evident from this study that strategic buy-in is very important for the successful implementation of TEL in HEIs. There are many reasons reported in this study that prevent academics from engaging with TEL, such as lack of time, skills and motivation. These barriers are also expressed in the recent UCISA surveys on TEL (UCISA 2010, 2012, 2014). If TEL implementation is left to staff's discretion, then only innovators and early adopters might get involved and TEL practices may not become mainstream. On the contrary, if this is seen as something strategic and there is a top-down, systematic approach to it, then staff are more likely to engage with it. This was evident in this research, as the one university which is quite advanced in implementing TEL had taken a strategic decision to utilise TEL approximately ten years ago. Furthermore, Laurillard's conversational framework for the effective use of learning technologies (2003) underlines the importance of an effective organisational infrastructure to be in place which includes strategic developments in learning and teaching, policies and management mechanisms in order to ensure effective teaching through ICT. Laurillard's organisational infrastructure for the effective deployment of learning technologies is discussed more extensively later in this chapter.

5.1.5. Dialogic/discursive and experiential use of TEL

In most cases, TEL was reportedly used in both dialogic and experiential ways. In some cases, TEL was used more in support of dialogic/discursive learning compared

to experiential learning. In two of those cases, this was attributed to the nature of the institutions that had a more 'traditional' portfolio of courses without a strong vocational element. However, the way technology was used was dependent on the discipline as implied in some cases. Derek's and Lisa's responses were the most explicit on that matter:

> *'...you will find a lot of discursive, dialogic activity in the social sciences, in business and the humanities. In the STEM subjects as well as in creative industries such as drama, media production and television production technology is used more in an experiential practical sense' (Derek).*

> *It goes back to the differences in disciplines, and different approaches to teaching and learning. So in some areas the focus is very much on practice and simulation. In others it's about discussion, collaboration, exploration, which involves a bit more interaction online and text-based discussions, or reflective blogs with contributions from others. So I think there's a whole range of examples across the university. I don't think I could say one way or the other that one is more prevalent. It depends on the subject, yes, and the approaches to teaching (Lisa).*

Kate and Sam claimed that the more interesting and innovative uses of TEL take place when it is used to support experiential learning:

> *I think we've seen both; we've seen more of the discussions going on, because it's easier, it's less intrusive it doesn't necessarily require an academic to change their practice, they can just have these discussion boards going alongside and influencing a bit of peer support and so on but the really interesting, exciting, innovative things I find, are more on the experiential side (Kate).*

> *I think it's a mixture of the both. I think where it's linked to experiential learning it's generally more rewarding. The payback is more obvious, you get more engagement. So if you are out in the field and somebody is using video to record things, and GPS to record where they are, and then building that into a blog, there's a lot more benefit than sitting in a classroom talking about*

Maslow's Theory of whatever, and doing practical work in a classroom (Sam).

It is worth noting that three informants mentioned that TEL is mostly used as a content repository and for passing information on to students. Ben, for instance, mentioned:

> *'Putting aside the majority who do not use it for either of those (dialogic and experiential learning) and use it in a 'monological' way to deliver information to students, it is used more for online discussions and not much for simulations which are only used in a specific area'.*

The responses to this question showed that while discursive learning might be more widespread than experiential learning in participating institutions according to HeLs, this might be due to the disciplines that employ TEL as different subjects have different requirements but also because supporting dialogic learning online may in some cases be more straightforward compared to experiential learning.

5.1.6. Ease of facilitating online dialogic and experiential learning

The ease of facilitating online dialogic and experiential learning was questioned too. All informants claimed that online learning can be done equally well in either way, both dialogic and experiential; most of them mentioned that it is a matter of effective pedagogic design and that it also depends on the facilitator's skills. In comparing the two, it was mentioned that the experiential learning depends on how well the resources are developed - as stated in two cases - and that it can be more expensive as it requires more specialised and coordinated applications than the discursive, as stated in another case. Furthermore, in terms of a managerial perspective, it is easier to understand and control the dialogic elements while for experiential learning one needs to be more innovative as 'the tools used may not come out of the box', as stated by another informant.

Sam claimed that although both the discursive element and the experiential can be facilitated well with TEL, due to its very nature, the latter may be more challenging:

> *I think they can be facilitated equally as well. It's just that in that experiential area you're reliant on – they may be miles away from the campus, or they*

might be in an active learning classroom where there is no technical support. So I think they are a little bit more open to issues and problems to do with the technology, and connectivity and things like that, but I think between them the actual support process, and the development of the staff skills are very similar (Sam).

With regards to the discursive aspect, one informant stated that it is more difficult to support if done synchronously via web conferencing software. This was backed up by their own experience where some members of staff would take many sessions before feeling confident to use the institutionally supported web conferencing tool and would require live assistance during their first session too.

This is also backed up by parts of the literature as a number of studies in web conferencing mention that staff may need substantial training in both technical and pedagogical aspects before they become comfortable with the use of web conferencing software (Almpanis et al. 2011, Reuschle and Loch 2008, Vitartas et al. 2008).

While asynchronous discursive learning needs a moderator who is familiar with online facilitation techniques as discussed in the literature review chapter and later on in this chapter, experiential learning might be more resource intensive if specialised applications are needed and may be more challenging. Synchronous online learning on the other hand might be quite resource intensive in terms of staff training.

5.1.7. Online learning theory or model behind online programmes

In some cases it was stated that there was always some learning theory or model behind online programmes; in one of those, it was stated that online courses were designed mostly following the social constructivist model, while in another some courses would be based around the social constructivist model and others would follow a problem-based learning approach.

Lisa mentioned that although a pragmatic approach prevails in their existing online programmes, for those currently under development her team is working closely with the course teams in order to encourage a ‘student-focused, interactive approach based

on a social constructivist model'. Alan mentioned that a pragmatic approach is followed, based on the discipline and level of studies; however, they tend to encourage collaborative learning, active learning as well as opportunities for explicit reflection and feedback. In Kate's case, the approach was described as 'extremely pragmatic'; however, she added the course teams aimed to facilitate dialogue as much as possible and there would be some principles the staff members adhered to.

Carl mentioned that theoretical approaches come in at module level rather than the programme level:

> *No, not really, what you often tend to see is that they have a delivery model but that's very pragmatic rather than you know, we are going to take a constructivist approach to this, for example; but what you will often see is that those particular theoretical approaches start to come in at the module level rather than the programme philosophy.*

The fact that a learning theory behind online programmes could be identified did not necessarily mean that some of those programmes were designed with a learning theory in mind. According to Ben:

> *I think there is; there is a question there if they have thought that through themselves though; I can identify a learning theory by looking at their course and think that is taking more of a behaviourist model, this is taking a more dialogic constructivist approach but I don't know, actually I doubt that those who are designing those courses are thinking along those lines; often I think, they are thinking along the lines of, for instance with the paper-based course, 'we can make this and then sell it here and here, we don't have to do very much', but that's not really thinking about their students' learning (Ben).*

Karina reported that some online courses would follow a specific learning model while others would follow an old-fashioned instructional paradigm without an explicit pedagogical approach:

> *I doubt it; some of them I have worked with to try and help them think about a model. There would be a handful of blended learning courses particularly in*

> *the school of education and professional development, that do have a very specific model in place. There are some that, absolutely, the answer would be yes, but there are others where I doubt whether there is any model being used; I think some of them are quite old and they have been cobbled together in a very old-fashioned, instructional paradigm. I doubt that there is any explicit pedagogical approach there at all.*

This shows that, according to the HeLs, while some online courses follow an explicit learning theory, others do not and are more pragmatic in their approach. An extended study on this subject (Sharpe and Oliver 2013) also indicated that the design of blended and online courses is often not theoretically informed, but rather pragmatic and iterative:

> *Back in 2006 we found that the approach most commonly used to underpin the design of technology-enhanced courses was not rational or theoretical but pragmatic. We found that practitioners were often able to be explicit about the rationales for incorporating technology into their course redesigns where their rationales were prompted by practical challenges they faced in their teaching (Sharpe and Oliver 2013, p.168).*

5.1.8. Lecturers' needs for online moderation/facilitation

Recurring themes in terms of the pedagogical needs of lecturers for online moderation/facilitation included e-moderating skills, pedagogical rationale and digital literacies.

E-moderating skills

As the question was about the required knowledge for online moderation and facilitation, e-moderating skills were the most popular recurring theme. These skills, as described by HeLs, included student induction and support, guiding, prompting, summarising, community building and engaging students online, starting a discussion, knowing when to intervene, prompting non-participating students, dealing with disruptive students, communicating with students and understanding their expectations, monitoring their progress, enabling students' collaboration, usability and knowing how to structure online activities.

Robert's response, for instance, focused on students' induction to the environment and the learning activity and facilitating a discussion around it:

> *They should know how to induct students into the environment and into the learning activity itself; they should know how to start off a discussion around it, intervene when necessary and know when to step back and they should also be aware of the tone of the remarks they make, how to prompt students who don't participate (Robert).*

Carl mentioned a few aspects of online moderation/facilitation including student induction and student support, the use of assessment as a learning activity but also the need to enable students' collaboration as well as to monitor students' performance:

> *So we want to get them thinking everything from student induction, student support, thinking through how assessment can be used as a learning activity; to think through how will students collaborate, how is that going to take place; how you are going to monitor student performance and how are you going to monitor student engagement and therefore how you are going to support those students if they are having difficulties with the materials (Carl).*

These e-moderating skills mentioned by HeLs are covered by Salmon's five stage model on e-moderation which is discussed in the literature review chapter. Salmon's model was mentioned as an example of good moderation by Christina:

> *I think Gilly Salmon's e-moderating is probably the best, simple way of expressing it; that sort of pyramid building having a baseline of technical skills and then be able to build and understand how to use the facilities available in the online learning system at more sophisticated levels and be able to move into make an intervention, when to prompt, when to summarise (Christina).*

Furthermore, Derek mentioned that they are using an adapted version of Salmon's model at their institution for staff development:

> *Gilly Salmon came down to the university when we were beginning our 'e-*

College Wales' project, to provide us with guidance and to license us to use her model of e-moderating as a fundamental principle. Now we've adapted it and used it and changed it, using the 5-stage model as a principle (Derek).

Some HeLs emphasised the fact that e-facilitation skills are better modelled than taught and that as part of the training in online moderation and facilitation, lecturers should experience online learning as students:

Well, we offer an online course for staff about online facilitation where they get experience of the challenges of online facilitation, how you gain engagement, how you build a community and those things aren't necessarily that different than face to face but you have to do it more consciously I think. We talked about things like language that might be used, how to deal with a difficult student who might be quite disruptive, or how to deal with students who aren't participating, how to ensure that you set things up in a way that will help people find the discussion in a logical or easy way and how you as a facilitator make sure it doesn't become 'they ask a question you answer it', and how to get them to talk to each other (Ben).

To do it effectively, I strongly believe they need to have experienced it as a student, because they come in with a set of expectations, and most of them, I think the vast majority of them, have never been part of a structured online activity and simulation (Alan).

I think that they need training in that because in my experience staff are not very familiar with it if they have never experienced it themselves or gone through it. It's not what staff necessarily understand without any training, you know, the ways to keep an online forum, an online discussion going, would be quite different to the way members of staff has been taught in the past. What we are trying to do is to model in some of our training courses, some of our accredited teaching courses, staff to get experience from the other side, as staff are students in those courses (Diane).

It became apparent that e-moderating skills include a wide range of skills that need to be mastered in order for the students to engage with their learning in an online

environment. It is worth noting that these skills need to be gained experientially according to HeLs but also according to Salmon's e-moderating model which has been discussed extensively in the literature review chapter.

On top of these e-moderating skills, effective online facilitation requires a sound pedagogical rationale according to HeLs.

Pedagogical rationale

The need for a pedagogical rationale and knowledge of constructivist pedagogical theories was emphasised by Karina who added that most academics are still holding onto an instructional pedagogy of content delivery and tend to replicate that online. The need to get academics away from thinking that online teaching is purely about content and their need to focus on student induction, support and student collaboration was reported by Carl too:

> *I think the things that lecturers need to know is the pedagogical theory that they are employing to achieve the learning they want to achieve in the students. I think most academics are still holding onto an instructional pedagogy of content delivery and when they move to an online learning environment they tend to replicate that (Karina).*

> *I think the first thing is that you have to get them away from thinking that online teaching is purely about content, 'get the content right and everything else will be fine' (Carl).*

In-depth understanding of constructivism and social constructivism was also the key to effective online facilitation according to Ken. Pedagogical understandings were important according to Lisa too:

> *There are the pedagogical understandings which are required for all kinds of teaching and they are still the same whether you're teaching with technology or not (Lisa).*

Other responses focused more on learning design and learning outcomes:

They need to know how to structure an online activity and be able to articulate to students in clear terms what the targeted learning should look like, what the outcomes are (Robert).

The academics have to be really clear about setting out what you are setting out to achieve (Sam).

According to Malcolm, one needed to know the basics of the VLE and have the ability to use the Internet in an interactive way, having conversations with the students. Alan pointed out that the alignment of learning activities with assessment and feedback was crucial in terms of online facilitation.

The need of a pedagogical rationale includes knowledge of learning theories, which have been briefly described in the literature review chapter, and also familiarity with learning design which enables teachers to make more informed decisions when designing activities, courses or curricula making effective use of appropriate resources and technologies. In order to use technology appropriately, staff need to be digitally literate which is a theme discussed next.

Digital literacies

The digital literacies of academic staff was another recurring theme in terms of HeLs' perceptions about staff needs for effective online moderation and facilitation. These needs, according to the HeLs, included competent use of technology to support specific learning goals, the use of social media and understanding online identities:

We try to ensure that they would know the basics of using the VLE, using information for students and ensuring that our curriculum has an online presence (Malcolm).

So I do think they need training in understanding what that environment requires, what the perspectives are (Diane).

Also I think digital literacy; having really high levels of competency with technology. It's a different set of skills to being in the classroom. I think one of

the things that we suffer with quite often, is an assumption that you can just transfer classroom skills into an online environment. You've mentioned the most important one which is about communications; I think these types of skills. You can never assume anything with an online environment, because you don't know when people have joined or leave, or which materials they may have read and understood (Sam).

As part of that it's also about building online identities. I think this is something that I know that many of our colleagues have issues with, in terms of where does your professional identity and your personal identity begin and end I suppose, when you're online with students. So we're working with staff to help them understand the differences in how they present themselves, in an online environment, particularly now through social media (Lisa).

It is worth noting that 'digital literacy' intersects with the pedagogy and e-moderating skills mentioned above; Alan, for instance, mentioned that finding the right tool based on learning outcomes and model is important. This was also evident in Malcolm's and Lisa's responses:

We try then to make them (academic staff) use the internet in an interactive way, so actually having conversations using social media, developing digital literacy with their students (Malcolm).

They need to have the digital literacy skills, to understand how they can most effectively use various environments to support learning and teaching. It might be through the core university VLE, but increasingly they have to know a bit more about what they can do with the VLE, and how they can engage students, so being able to tutor online, to be able to interact effectively with students in an online environment (Lisa).

Christina mentioned that baseline technical skills were the foundation of effective online moderation:

Having a baseline of technical skills and then be able to build and understand how to use the facilities available in the online learning system at more

sophisticated levels and be able to move into make an intervention, when to prompt, when to summarise.

The importance of being 'digitally literate' has been recognised by JISC as they invested 1.5 million on their 'Developing Digital Literacies' programme which involved 12 FE and HE UK institutions and was supported by 11 sector bodies and professional associations (JISC Developing Digital Literacies Programme 2013). Digital literacies are wider than skills and include those capabilities necessary for living, learning and working in a digital society:

By digital literacy we mean those capabilities which fit an individual for living, learning and working in a digital society: for example, the skills to use digital tools to undertake academic research, writing and critical thinking; as part of personal development planning; and as a way of showcasing achievements (JISC Developing Digital Literacies, 2013).

This evidence shows that, according to HeLs, online moderating skills and pedagogical rationale coupled with digital literacy skills in general is of crucial importance for effective online moderation and facilitation. Furthermore, it shows that some of the participating HeLs are strongly in favour of developing practices based on constructivism and social constructivism.

5.1.9. Technical skills needed for teaching online

In terms of technical skills, recurring themes included understanding of the system or tool in use, basic ICT and digital literacy and joined up pedagogical and technical skills.

Understanding the system or tool in use

Knowing how to use the VLE or other system in use was the most common recurring theme; this knowledge included both technological competence but also conceptual understanding of the tools. Sam, for instance, mentioned that competency in the use of technology is necessary as is familiarity with the tools. Diane's response emphasised confident use and understanding of technology:

As long as staff are confident to actually go online and understand about

clicking around in different places and understand the infrastructure and the logical structure of the virtual learning environment, then they are ok.

Kate emphasised the need for online facilitators to be comfortable with the particular online environment they are using:

I think you need to be extremely comfortable with the environment you are working in; great fluency in the environment that you are in is important.

The need to have a conceptual understanding of the tool in use was mentioned by Ben:

...what is needed is a conceptual understanding of the tool one is going to use, for instance if there are elements of reflective practice one needs to understand e-portfolios or blogs; if one is going to use wikis they need to have a conceptual understanding of those and so on.

The need to understand the affordances of different tools was highlighted by Kate:

…because students come with all sorts of technologies and want to make sense of the technology you have given to them, I think there needs to be a general appreciation of how technology can work and how different technologies can afford different things.

The knowledge of the systems and tools used by online moderators has to be coupled with some more generic ICT and digital literacies, which are discussed below.

Basic ICT literacy and Digital literacy

Basic ICT and digital literacy was a recurring theme in this question. While the term ICT literacy is used to refer to basic skills in the use of technology, the term digital literacy is much wider as explained in the previous sub-section.

Technical confidence and the ability to troubleshoot basic problems was mentioned by Christina:

> *So they have to have a level of technical confidence and then they have to understand what facilities the software can offer and how to use it; and they need to be able to help, to know enough to troubleshoot basic problems students are having with actually achieving the tasks they were setting (Christina).*

Lisa highlighted the need for online moderators to have digital literacy skills. Ben and Karina mentioned the need to type reasonably fast, with Karina adding that this is very important particularly in synchronous environments. Ken mentioned that knowledge of file formats, file sizes and file directories is important, while Karina also stated that basic web literacies and basic hypertext mark-up language (html) knowledge would enable academics to do a lot of things online.

Accessibility and usability awareness on top of knowing how to use the tools was important according to Robert:

> *It could range from technical skills of using the tools, to accessibility issues if they are presenting content resources to students, usability skills so they are aware of usability requirements so it could be a whole range of skills depending on the task they have (Robert).*

It is worth noting that while familiarity and understanding of the tools used, as well as basic ICT and digital literacies, were mentioned to be important by most participating HeLs for effective online facilitation, one of the recurring themes was that technical skills should be joined up with pedagogical skills.

Joined up pedagogical and technical skills

Some HeLs emphasised the fact that technical and pedagogical skills need to be joined up; Malcolm for instance mentioned that they do not separate them in the training they offer to academic staff, because if they did, that would probably make academic staff back away very quickly:

> *The approach is very joined up set of skills. I think if we went to some of our academics and said you need to develop technical skills they would back away very quickly; it is a quite challenging term I think in the academic arena, how*

we describe that.

Karina also mentioned that there is an overlap between technical skills and pedagogical skills:

> *I think that the technical skills required are quite minor; they are things that you can teach someone fairly quickly and most computer literate people can pick up reasonably quickly… that there is an overlap between technical skills and pedagogical skills.*

Other responses also highlighted the fact that it is not the technical skills but the pedagogy that is important. Derek mentioned that they aim to make technology as transparent as possible, so that staff can focus on their educational goals. Carl also stated that the technical competence required is minimum:

> *VLEs and e-portfolios don't require much technical competence in order to set up a student-centred approach; the pedagogical skills are important such as facilitating a discussion, giving feedback on a blog or wiki and monitoring students' progress.*

This shows that, according to interviewed HeLs, while basic ICT skills and some familiarity and understanding of the VLE or other tool used is needed, the emphasis should be on how technology can support the pedagogy; being digitally literate is a co-requisite that enables lecturers to understand and facilitate learning better in the online environment.

5.1.10. TEL and the Postgraduate Certificate in Teaching and Learning

In some cases (4) HeLs mentioned that TEL – ways in which technology can enhance learning and ways to embed TEL practices through one's teaching - was a compulsory module in their PGCLT/PGCAP course and claimed that it should be, as TEL is part of the HEA framework and part of what a modern lecturer is expected to do as part of their teaching and professional practice. One of those pointed out that on top of that, 'TEL should be embedded and flow through the whole programme so that it would not be seen as something separate from the craft of managing teaching and learning'.

However, in most cases (8), TEL was not a separate module but it was embedded in the course. While in two of these cases HeLs mentioned that, ideally, TEL should be taught as a module in that course too, the rest argued that aspects of TEL should be embedded in the whole course rather than taught separately in a module. Carl claimed that technology is not seen as something different and that TEL is embedded in the course 'both explicitly in the curriculum and in the way this is operationalised'. Lisa and Alan also supported the view that TEL should be integrated in the PGCE course:

> *So I'm not convinced that TEL should be a compulsory assessed module, on its own, within a PGCE programme but I do feel strongly that TEL needs to be fully integrated as a part of the PGCE programme (Lisa).*

> *So, I'm a great believer in – within the taught components, the new lecturers' programmes etc., it should be weaved in. So, when we're talking about assessment, or when we're talking about innovative feedback models, one of the examples may be a more TEL intensive example than a classroom or face-to-face example (Alan).*

Kate also argued that TEL should be embedded in the course rather than a separate module as TEL is better modelled than taught:

> …*Unless the experience is built into the PGCAP module it wouldn't work; I'd rather they experienced it than just read about it and do an assignment on it.*

It became evident that while everyone agreed that TEL should be part of the PGCLT/PGCAP course there were two different approaches to it: integrating TEL in the whole course curriculum and the way it is delivered, or addressing TEL in one of the modules of the course. This is also reflected in the questionnaire findings which are discussed in the previous chapter.

5.1.11. TEL and CPD activities

All informants agreed that TEL should be part of the CPD framework for all staff. Two of them claimed that it should be because it is part of the UK PSF, while three

mentioned that CPD training in the area of TEL is of crucial importance for staff who are beyond the PGCLT/PGCAP course and further on in their teaching career. Furthermore, two informants claimed that it is no longer possible for lecturers to refuse to engage with TEL, as that would leave a gap in their professional skills. There was a general consensus that a range of opportunities – both accredited and non-credited - should be provided to staff who need to develop further their skills in the area of TEL.

The importance of TEL being part of the CPD framework for all staff was emphasised by Lisa:

> *Yes, absolutely. It should be part of everyone's practice now. It's not something that should be seen as something separate. It should be an integral part of every academic's way of working. So we do have an HEA accredited CPD framework, which takes you right up to Senior Principal Fellow level of the HEA. It incorporates just about everything that we do now in staff development within the institution. Technology enhanced learning is very much part of that. So it's an expectation that TEL will be a central part of any CPD activity, within that framework.*

Sam also highlighted the fact that having TEL being part of a formal CPD framework is important, because otherwise staff might not engage with TEL practice, adding that there is currently a gap in this area as the conversation around TEL may or may not take place in one's developmental and performance review. Karina stated that staff should be aware about staff development activities around TEL as part of CPD schemes and pathways, but should not be done as a box-ticking exercise:

> *I definitely think it needs to be included as something that they need to be aware of. But I also think it's not something they should do just for the sake of doing it. It needs to be problem based; my starting point for the use of technology is always, what is your problem, what is your pedagogic problem, is it big class sizes, is it the effective provision of feedback, what is your pedagogic problem and then look at if technology can help you. If so, which technology can it be. So, is it a course that they follow, I don't think it is necessarily a course. It's awareness of the possibilities that need to be*

highlighted through CPD schemes and pathways. It is the raising awareness and showcasing potential that's absolutely key; I think it needs to be included as part of that. How it happens, whether it's a course or seminar it almost doesn't matter.

Diane highlighted the fact that TEL CPD opportunities should be available to all staff; however, there could be staff resistance if these were compulsory:

There are quite a lot of staff who will come on various of our workshops you know on their own back; to make a TEL module compulsory for someone who has been teaching for 15 years would be difficult in our institution, we wouldn't probably get the support for that. All that we can do really is coerce staff to understand the benefits of using TEL; we provide lots of different workshops for staff to attend if they are interested in some aspect of TEL but we wouldn't get the support to say 'you have to do this TEL workshop, it just wouldn't work.

This shows that participating HeLs consider the ability to engage with TEL as part of all lecturers' practice; therefore ample CPD opportunities in this area should be available to them.

5.1.12. Prerequisites for teaching in an online programme

While all informants agreed that CPD opportunities around TEL should be available for all staff, the question whether there should be any formal requirements/prerequisites before academic staff get involved in online or heavily blended courses returned differing and opposing views.

Some HeLs claimed that due to the nature of online learning**,** there should be prerequisites for staff before they get involved in online courses with one of them adding that 'if it is done wrongly, the damage to the course could be irreparable, so having those skills and that experience before doing something online is absolutely vital' (Ken). Diane and Sam, whose institutions were offering online courses via collaborations with external companies, stated that lecturers involved in online courses had to go through a course on how to manage online environments before they could get involved in their delivery. This was also the case in the third

university which offered a significant amount of online programmes:

> *As part of the validation conditions of approval for online programmes, we have clear guidance in our regulations that all of the staff have to evidence that they have undertaken at least a 10 credit e-moderating module or equivalent (Derek).*

However, four HeLs highlighted the fact that having formal qualifications for academic staff before they get involved in the delivery of online or heavily blended courses could be tricky and difficult, because there are no mandatory requirements for staff in general and putting prerequisites in place could result in less people wanting to explore it, as this would create an extra level of scrutiny. The proposed solutions were to up-skill the staff body as a whole so that everyone would be able to engage with TEL, and tie-in some TEL staff development in the process of course approval rather than strict requirements.

The question regarding the need for prerequisites to be in place divided participating HeLs; on the one side, there were those who claimed that putting prerequisites in place may slow down the uptake of online courses as it would create an extra level of scrutiny and, on the other, those who argued that without prerequisites there is a risk that the online course may not be up to the highest standards. It is worth noting, however, that the three institutions who were delivering a substantial amount of online learning programmes had such prerequisites in place.

5.1.13. Summing up lecturers' needs in order to deliver blended and online courses effectively

The recurring themes in this interview question were the following: pedagogy, curriculum design and learning outcomes, digital literacies, online engagement, experience of online learning and subject expertise.

Pedagogy

In some cases, an explicit understanding of pedagogy was mentioned as a prerequisite of effective delivery of blended and online courses:

> *I think they need to have an explicit understanding of the pedagogy or*

andragogy of learning and teaching; and I think they need to be able to discuss it and explain it, both their own personal view and different theoretical perspectives; that can't be implicit in what they do, they have to be able to articulate it (Christina).

Well that reflects what we've said already; they need the pedagogical understanding. They need to understand the different approaches to learning and teaching online (Lisa).

I think in very simple terms, you need people who are aware of the pedagogic approaches been asked of them (Derek).

Pedagogic understanding was important in blended and online courses as it was for campus-based ones, according to Kate and Karina too:

You can ask the same question about campus-based courses as well and the answer to an extent would be similar. So, I think, in order to be effective in an online environment they need to have that pedagogic infrastructure first (Kate).

They need to know the basic pedagogy, because teaching online is no different to teaching face to face. It's not about the technology, it's about the pedagogy and I guess my point is that I think that academics have a very low knowledge of pedagogy across the board… Coming to teach online actually forces academics to reflect on what they are doing in a way that just continuing in the comfortable environment of face to face teaching doesn't (Karina).

Understanding active learning and the pedagogical underpinning of the tools coupled with clear aims was Ken's response, while Robert mentioned that clear awareness of the pedagogic issues involved in the delivery of blended and online courses is needed:

Understanding active learning, going back to the pedagogical underpinning of the tools really, what you actually try to achieve. What value is there in this particular approach whether it is a webinar, a discussion board or a slideshow

or something like that; I think it's the underlying pedagogy (Ken).

My personal view is they should have clear awareness of the pedagogic issues involved in delivering an effective blended or online course (Robert).

The word pedagogy/pedagogic/pedagogical came up in many responses to this question and was implied in others too. In some cases, the word pedagogy was used to denote the need for lecturers to have a theoretical understanding of how learning occurs in general and in online environments in particular. In other cases, there seemed to be an overlap between pedagogical knowledge and learning design and learning outcomes as well as student engagement. It became evident that many heads of e-learning favour constructivism and social constructivism as opposed to instructivism. To what extent this reflects their attitude to all learning in general, or whether their attitude to pedagogy has been influenced by substantial parts of TEL literature that favours co-operative and collaborative learning and learning that takes place in online communities, is difficult to say.

Curriculum design and learning outcomes

Curriculum design and learning outcomes was another recurring theme in this question. Some responses emphasised curriculum design skills:

They need to understand curriculum design, they need to understand student support, they need to understand how learning happens, because technology on top of it is an extra complication, but the potential so huge (Kate).

(They need to understand) how different it is to give, to actually produce a course in that environment, how different it is to face to face (Diane).

The importance of having clear learning outcomes was emphasised in a couple of cases:

It's probably got less to do with technology and more to do with the learning outcomes really, because regardless of the tools it's what they actually try to achieve, what learning outcomes and what value does the tool adds to the current learning experience (Ken).

I would say they should know what they are trying to achieve online that would be the first one, what they are trying to do online; people haven't necessarily thought that through (Ben).

Pedagogical knowledge and curriculum design skills were interspersed according to Robert:

My personal view is they should have clear awareness of the pedagogic issues involved in delivering an effective blended or online course which relate to how to match online activities with face to face delivery, how to set objectives, how to structure activities and how to present content effectively and how to put that together in the curriculum plan (Robert).

The need to evaluate one's practice was pointed out by Ben:

I think ideally you would know how to, kind of, review and evaluate that practice and improve on it in the future years (Ben).

Understanding that online learning is not about content delivery and that more active approaches are needed was Carl's main point:

I think, basically it's the understanding that it's not just about content; that's the message we constantly try to get over, there is much, much more to that. It won't work, it won't be a good learning experience and you may have poor retention if it's not a good learning experience and that involves it being more interactive and the students being supported (Carl).

The knowledge of curriculum design and the understanding of how learning outcomes can be met is congruent with the pedagogic rationale that was a recurring theme in the question about online moderation and facilitation and is also interlinked with the recurring theme of pedagogy discussed in this question.

Digital literacies

Digital literacies and being comfortable with the technology and the tools in use

came up in many cases. Digital literacy and digital competency was mentioned as a critical factor by Sam. Karina mentioned the need for a number of skills:

> *They need some basic technical skills, such as I said, basic html knowledge, web literacy, social networking literacy and so forth, to be able to teach online effectively.*

Lisa emphasised the need to be able to find and evaluate digital resources, as well as the role of online identities:

> *They also need to be very aware of where they can source digital resources, which are going to support their courses, and how to evaluate the effectiveness of those resources. That's another skill that they need to pass on to their students as well, so all those things are very important… They have to understand online communication, how to create a sense of identity with students online, making them feel part of the university, part of their programme, part of their group*.

The need to be confident in the use of technology and familiarity with the environment in use was also emphasised in a few cases:

> *They also need to be comfortable and confident using technology, or specific types of technologies that they may be planning to use, so that they can make informed decisions about it or make choices of what is available to them (Christina).*

> *They also have to be confident users of the technology themselves. They need to be able to advise students on how to use the technology effectively for learning (Lisa).*

> *I think they ought to know, first of all they need to understand the virtual learning environment, or the environment that those courses are administered within; I think they need to understand that quite well because that gives them confidence then; they need to understand the issues students have using that facility (Diane).*

Knowing how to use the tools and how technology works was mentioned by Ben and Sam and knowing where to get help if they need to was also mentioned by Lisa:

> *I think before any lecturer launches into teaching online, they need to know where they can get help themselves, if they find that they need either pedagogical support or technical support once they've started (Lisa).*

The need to be familiar with the technology in use and also to be digitally literate was an area emphasised by HeLs in the questions regarding online moderation and facilitation and regarding technical skills needed by lecturers in order to teach online as discussed in previous sub-sections.

Online engagement

Knowing how to engage students online was also a recurring theme regarding the effective delivery of blended and online courses:

> *They need to know how to get students engaged in the activities and communicate clearly with them and consistently (Ben).*

> *It's also about the softer skills, about being able to engage with people online and make sure that you can maintain that interest level, going forward (Sam).*

Interacting in different ways so that students engage online was mentioned by Diane, while Lisa emphasised the need for staff to know how to create a sense of identity with students online in order for them to engage:

> *They need to understand how best to get students to communicate in that environment… They need to understand the different ways that the students engage online and the different things that staff can actually do, you know, there are other things that they can do now that they could never have done in the past, different ways of interacting (Diane).*

> *They have to understand online communication, how to create a sense of identity with students online, making them feel part of the university, part of*

their programme, part of their group (Lisa).

Carl mentioned that a good online learning experience needs to be interactive and that students need to be supported.

Online engagement was also a recurring theme in the question regarding effective online moderation and facilitation as discussed in a previous sub-section.

Experience of online learning

To have experienced online learning themselves, in particular, experience online learning as a student in the context of their institution, was mentioned by Alan:

> *I think if they can experience it, the other things they need to know become a lot easier, because they've internalised it. The other thing of course we have is when they come in and say, "Well, I've been on an online – I've been on an OU course," or, "I've done a Mooc" or, "I've done this, I know about online learning." Well, you may know about online learning within that context, you don't know about it within the context of our institution, the culture and your students, and the rest of your course team, so we need to bring you in. So the key factor, for me, would be, to get them to do an online course.*

The need for lecturers to have experienced online learning themselves came up a lot in the question about prerequisites for participation in heavily blended and fully online programmes too.

Subject expertise

Subject expertise was mentioned twice; a good subject knowledge was assumed by Sam; confidence in one's own discipline and accepting challenging questions by students as well as treating the online environment seriously by allocating the required time to it was mentioned as a requirement by Derek.

To sum up, pedagogy, curriculum design and learning outcomes, digital literacies, online engagement, experience of online learning and subject expertise were mentioned to be the most important factors for the effective delivery of blended and online courses according to the HeLs that were interviewed.

5.1.14. Online learning and whether it is seen as 'second best' by academic staff

In some cases (5), HeLs reported that online learning was not seen as second best. On the contrary, it was pointed out by Ben that academics see a value in it as students respond positively to it, especially when it is blended; Ben added that research in the US has shown that 'blended is the best of both worlds, depending on the context and the discipline and the way the tools are applied'. This was underlined by Robert too, who mentioned that as the majority of teaching in their university was blended, it would not be seen as second best but as an extension of face-to-face practice. In two further responses, it was argued that online learning was not seen as second best; Carl supported his case by mentioning that a number of departments were seriously investing in online programmes especially in their postgraduate portfolio and in cases where the same course is offered both on campus and online, the online option 'was not seen as second best but as a different way of delivery aimed to catch a different market'. Derek also claimed that online learning not only was not seen as second best, but it was often seen as one of the key ways to achieve a promotion, adding that 'as there has been a high level managerial support for online learning at the university, it is seen as beneficial rather than second best and the rising stars are usually people who do get involved with it'. Sam mentioned that online learning is not seen as second best any more:

> *I don't think we do anymore. I think there is some resistance if people aren't comfortable with technology, there's a resistance to it but I think there is a growing recognition that anybody can go online and learn something about anything.*

In many cases (8), HeLs claimed that there were instances where online learning was indeed seen as second best by some academics. In one case it was mentioned that online learning was seen as second best but that was due to the fact that it was done poorly in the past and also 'down to pure ignorance from some academic staff who do not know what it really means' (Ken). Similarly, in another case where it was mentioned that 'a lot of people still think that online learning environments should only be used when the face-to-face environment cannot be used, when students are geographically dispersed for instance', this was attributed to a lack of understanding of the affordances of learning technologies, as in the informant's own experience

‘face-to-face and online learning have their own affordances’ and when used complementarily in a blended way, the outcome can be greater than the sum of its parts (Karina). Christina who mentioned that online is seen as second best by some, argued that it is in the nature of the human to prefer face-to-face interactions adding that although some staff and students see online learning as second best, the real question is ‘what is best in the situations you are in’, concluding that it is all about context. Malcolm mentioned that there is a historic view that the online student experience is not as strong as the face-to-face experience on campus, but that is beginning to change and is moving away from second best to being part and parcel of the student experience in general. Diane, Lisa and Kate mentioned that online learning is still seen as second best by some members of staff but this perception has started to change as people start to understand that it can enrich the learning experience:

> *In some cases online (learning) is seen as second best but not by everybody… I think that there is an increasing number of staff who feel that online learning is another opportunity which can really supplement the face-to-face experience or it simply provides another way of engaging with a whole bunch of students that you could never engage with in the past (Diane).*

> *I think it there’s still that perception in some areas by some people, but I think it’s less so now than it used to be. I think people are understanding now that online learning can be a very rich experience (Lisa).*

> *Increasingly less so, but I am afraid it is still here, it hasn’t gone away. But I think it is getting less as time goes by (Kate).*

Alan mentioned that some people perceive online learning as second best because they associate it with economic savings and a mass education:

> *Yes, I think it is. I wouldn’t necessarily say across the board – as a generalisation. I do believe, though, that it’s perceived by some as second best. Some perceive it as an economic saving, so therefore they perceive it as second best; they think it’s much more ‘mass education’, therefore you’re not going to get the quality of the one to one experiences. So, I think there is a strong group*

that perceive it as second best, because I think that group perceive it as either or, not a complement to (Alan).

In summary, some HeLs claimed that online learning is not seen as second best any more but seen either as a positive addition when it is blended or as an alternative way of course delivery when it is fully online; many claimed that it is still seen as second best by some, but this has started to change and this perception was attributed to lack of understanding of its affordances to enrich the learning experience, due to bad past experiences or due to their conception that online learning is about economic savings.

5.1.15. Participants' experience regarding online learning being accused of de-skilling the teaching profession leading to an 'automated' education with the aim to cut costs

The question of whether the heads of e-learning had experience of online learning being accused of de-skilling the teaching profession leading to an 'automated' education with the aim to cut costs, returned a wide range of responses. Some HeLs (6) mentioned that they had such experience; Ken mentioned that 'this is still a popular argument, based on the misconception that technology will replace lecturing staff', adding that this was common 10 years ago with the introduction of VLEs and that it currently happens with the lecture capture tool.

The lecture capture tool that can automatically record lectures had, reportedly, caused insecurity among academic staff in Karina's case too; however, she added that this is a perception among some academic staff and is not shared by senior managers who do not see TEL as a way to cut costs from teaching staff but only by reducing travelling costs. Diane and Sam had similar experiences where online learning and lecture capture practices in particular had worried some of their staff that they may become redundant; however, this was an unsubstantiated worry according to both, who emphasised that online learning can be about empowerment rather than de-skilling:

We have certainly encountered the worry from staff that if they put all their lectures online, or if they engage with lecture capture which is our next big project, that they will do themselves out of the job, or they will end up being

not as good in lecturing as they would have been, but actually once you start to explain the skillset that is involved with running an online course, staff can usually see that it is a new set of skills that they need to learn and rather than being a de-skilling, the skillset learned can actually help them in the face to face environment (Diane).

I think there might be a perception. The example I will use is when we rolled out Lecture Capture, one of the things that I heard regularly was, "Okay well you're going to record my lectures and then you can make me redundant. You no longer need me to do that." I think that's a real shame in many respects, because actually they probably don't recognise the value that they are bringing to that particular session. Actually that particular technology should only be used for the people that are in the room, that experience the lecture. It allows them to go and review that particular instance in time. So I think in some respects, through probably unfounded reasons, people might feel they're being deskilled. I think generally most people who engage well, and get the correct CPD and support going forward, I think probably feel quite empowered (Sam).

Robert argued that 'this tends to be a reaction from more senior academic staff who do feel threatened by the introduction of technologies particularly when it is enforced and they have to comply', adding that 'they see the imposition of technology as attacking their academic freedom to determine how best to support students', expressing his sympathy for that view. Similarly, Kate who mentioned that she had come across that argument in her previous institution argued that this is due to the fact that lecturers felt threatened by technology and the multidisciplinary teams supporting it as they were losing some control over the whole teaching process:

I have come across this, I remember pretty much the exact same words were used at my previous institution not here, and it was interesting because that was, if I remember correctly a reaction to saying that 'online materials can be provided by this team, online facilitation can be provided by special facilitators and subject expertise can be provided by yourselves…' when you are looking at production and sort of separating out roles, quite often academics will ask 'what do you mean that I don't do that?' they don't

necessarily separate the tasks out and they feel that it is theirs (Kate).

Malcolm mentioned that he had heard that argument in a different format, that online learning is de-skilling the student or de-personalising the student experience, adding that many members of staff find that they are developing new skills, both technical and pedagogical so they do not use that argument.

In the remaining cases (6) this was not the case and there was no mention of online learning being accused of de-skilling the teaching profession with the aim to cut costs. According to Ben this was the argument 10 years ago when some people were afraid they would be replaced by the online content; he added that the masses of content that exist out there nowadays have made the need for facilitation more apparent and 'academics are more needed than ever in order to facilitate the learning process'.

In three other cases, the informants disagreed totally with that argument, pointing out that online is 'more expensive, more time consuming, more difficult, more challenging' and 'can lead to an improvement in quality and standards as online practice is brought up to the open and is up for discussion' (Christina). Similarly, Carl argued that 'good online teaching is in fact very skilled as one needs to take the skills they learnt teaching face-to-face and develop them further and amend them, to apply them online'. Lisa also refuted that argument claiming that online learning needs a lot more thought in terms of design and learning and teaching approach.

Derek's response was that this model does not work in HE:

> *...in HE it is not used in this de-skilling fashion and it is mostly used around a wider dialogic engagement. If it could be done in an automated way, then it would not be at higher education level.*

Alan's response was also similar to Derek's as he claimed that this argument is based on the confusion between online learning and e-training.

While some HeLs claimed that there was no mention of online learning being accused of de-skilling the teaching profession with the aim to cut costs, others

reported that there were lecturers who feared that they might be replaced by technology, or felt that they were partially losing control over the educational process due to the introduction of new technologies. These fears were unfounded according to participating HeLs, as there seems to be a historical argument that technology will replace educators with the aim to cut costs, but this has never been the case so far.

5.1.16. Cost of online courses

Regarding the costs of online courses, responses were divided between online courses being of equal cost compared to face-to-face courses and online courses being more expensive than face-to-face courses.

Most respondents argued that it is hard to generalise and that it depends on the model; one of them stated that if a course is running on paper packs and compact discs (CDs) then it might be cheaper, adding that those using the online environment are probably equal, which is the model they promote in their university. In three cases it was argued that online programmes can be more expensive initially, but once they are established they can be more favourable in the long term. This argument was also supported in another case in which it was claimed that the first delivery of an online course is much more expensive but then there is economy of scale for every new iteration in which it is taught. The interviewee added that it also depends 'on the discipline and the half-time of knowledge because some courses need to be updated more often than others' (Karina).

In another case it was mentioned that it depends on the design, number of students taking the course and levels of engagement expected online. The number of students was a critical factor in another case too, in which it was mentioned that while it would be too expensive to create an online course for 20 students, it would be efficient to do in a module that is shareable across the university and taken by 500 students. Another response emphasised the fact that online learning is more expensive to develop and that online synchronous courses are more expensive than face-to-face whereas online courses following an asynchronous model may bring in economies of scale if the resources are reused. Online courses were seen as the same as or more expensive than face-to-face in another case depending on the delivery pattern.

In three cases online courses were reported to be more expensive than their face-to-face equivalents, because ‘you have the platform and the development of the learning materials on top of the delivery costs’ according to one informant, because ‘online courses tend to be hand-crafted and bespoke and we don’t do many of them’, according to another and because ‘that is the case with our online MBA’, according to the third informant. Finally, a five-year break-even model was followed by another university where the upfront cost of online courses - which is much higher in the beginning, according to Derek - gets even over five years.

Interestingly enough, not one of the interviewees claimed that online courses are generally cheaper; on the contrary this was mentioned to be one of the misconceptions in the HE community. The other important thing that arose from this interview question was that it is very hard to generalise when talking about costs of online and campus-based courses and that there is a lot to learn in terms of understanding the true costs of either mode of delivery. Two informants for instance underlined that there is no way of estimating how much face-to-face teaching costs. That said, there was a general consensus that online courses can be far more expensive initially and during their first iteration, but that cost may get even in the long run. This is backed up from the literature, already discussed in the literature review chapter, as according to Rumble (2003) online learning, if not carefully costed, may end up being more expensive than campus-based learning. Furthermore, according to Inglis (2008) and Jung (2008), online courses need a bigger upfront investment due to platform and development costs. However, the costs of online courses are hard to generalise as they depend on the model adopted.

The following section is looking at Laurillard’s institutional infrastucture framework for the effective deployment of learning technologies. It starts with the different ways technology can be used to support learning, according to Laurillard, with examples from participating institutions. Following that, it looks at institutional factors that need to be in place in order for TEL to be effectively deployed.

5.2. Laurillard’s ways of learning - institutional infrastructure framework for the effective use of learning technologies

This section discusses Laurillard’s conversational framework with a focus on

Laurillard's ways of learning and the institutional infrastructure that needs to be in place for the successful implementation of learning technologies.

5.2.1. Applying Laurillard's Conversational Framework to the data

In the second edition of her seminal book 'Rethinking university teaching: a framework for the effective use of learning technologies', Laurillard (2002) claims that learning is understood to occur through acquisition, practice and discovery, and discussion. Later on, in her 'Teaching as a design science' book, Laurillard (2012) adds learning through inquiry and learning through collaboration as ways that learning can arise. More information about these methods that can support learning is provided in the literature review chapter. The five methods mentioned here have been considered in the context of the data gathered in this study about ways TEL has been used in participating institutions and are discussed below.

Learning through acquisition

For learning through acquisition the learner is reading, hearing or watching an explanation of the teacher's concept (Laurillard, 2012). Learning through acquisition utilising TEL was evident in most participating institutions and implied in others. Malcolm said that one of the areas of focus regarding the wider implementation of TEL in their institution was the delivery and development of learning materials; Ben mentioned that in some of their online courses the focus is on content and that one of the challenges is 'getting those people who see themselves as content creators to change that practice'. Carl stated that members of his team are involved in content creation, particularly in the production of video materials; furthermore, one of their main goals in the institution-wide implementation of TEL was to set a minimum standard according to which all learning materials should be posted online in advance of the formal teaching session. Robert mentioned that TEL has been used to allow access to course materials and for theoretical knowledge to be imparted through content, articles, video and other files. Ken mentioned that the VLE is mostly used to supplement the face-to-face provision by making lecture materials and resources accessible to students as well as recorded lectures.

Derek reported that 95% of their courses using technology in their delivery and his university appeared to be the most resourceful in terms of TEL support among all participating institutions. Although the interview with him was focused in the more

advanced uses of TEL, it was implied that learning materials were posted online and Derek mentioned that one faculty had employed an instructional designer and a multimedia person to work specifically on their programmes in addition to the support the central teams could offer. Finally, Carina mentioned that the VLE is used by the majority of staff as a document repository.

Diane mentioned that library resources were providing students access to rich online sources in ways that were never before possible. In Lisa's case, examples that could support the acquisition model included a variety of learning resources made available to students across the board, such as Microsoft (MS) PowerPoint slides, lecture notes, mind maps but also free resources from YouTube as well as television (TV) and radio programmes from the box of Broadcasts. Kate responded that learning by acquisition is the basic minimum and that improved access to resources is easily done. Sam's response was that they are moving from the VLE being a dumping ground for files to a more sophisticated use of online resources that include audio-visual resources either through captured lectures or by accessing recorded TV and radio programmes via a specialised service. That way, they are providing a toolset to both staff and students that allows the use of audio and video allowing them to create their own multimedia content as well and according to the interviewee, staff use these third party software to extend the acquisition of knowledge.

It became apparent that online learning materials in various formats to support learning through acquisition were provided in all participating institutions, many of which were making provision for audio-visual content as well. However, the need for these resources to be coupled with other activities and online facilitation was also highlighted in some cases; Carl, for instance, mentioned that 'this is only a starting point and effective online facilitation requires lecturers to stop thinking that online teaching is purely about content'.

Learning through practice and discovery

For learning through practice and discovery, learners are using their developing concepts to improve their actions; this type of learning occurs with practicing exercises, doing practice based projects, simulations, laboratory-based work, field trips and role-play activities for instance. Christina mentioned that TEL was used in certain areas for online quizzes to test knowledge and understanding; furthermore,

she mentioned that in certain areas they were developing digital stories in a virtual town and a simulated patient suite. Virtual experiments are also taken by students in one area. A good example of learning through practice was offered by Ben, who stated that in medical practice students experienced what it would be like to contact a patient virtually. Carl mentioned that self- and peer-assessment tools have been used in his institution adding that in one department there is use of virtual field trips, while another one has developed interactive repositories, both of which are examples of supporting learning through discovery. Robert stated that although they do not have a wide portfolio of work-based learning programmes, in one subject area the VLE is used for field work and in another area the students use the VLE to reflect during their work-based practice. Derek declared that TEL is seen as one of their distinctive features as they make provision for 'not only blended and fully online but also simulation-based learning, Second Life, all those kind of things'. He mentioned that TEL had been used in geography during field trips and that technology is used in a very practical sense in areas such as creative industries, drama, media production and television production. Carina mentioned that they have a virtual hospital as an experiential learning tool which holds patient data for students to engage with and that they are working on a virtual legal case study.

Diane mentioned an example from the archaeology department where staff, in order to demonstrate that information on Wikipedia and the Internet in general is not always sound, are asking students to edit some pages in Wikipedia in order to understand that as Wikipedia is so easy to edit, it should not be always trusted without caution. Lisa mentioned that simulations were used by their nursing department which had been using simulated mannequins for the students to work with, having their practice videoed so that they can later reflect on it. Furthermore, virtual worlds and simulated wards were used so that students get clinical practice and students also had access to simulated x-ray machines for practice in their use. The use of simulations was also used in Alan's case in sports exercise courses where there are tasks around practice and discovery through online simulations. Sam replied that one of their team members creates simulated three-dimensional (3D) environments that are used in areas like risk management and hazard management adding that they are working with the occupational therapy (OT) department to develop a virtual environment with assessment built into it, where students can spot hazards and identify risks as high risk, low risk or medium risk (Sam).

Regarding learning through practice and discovery, Kate mentioned that this is possible online, like all other areas in Laurillard's framework, if the conditions are right. The challenge that students face sometimes, according to Kate, are to do with the fact that although students might be IT savvy, they do not necessarily know how to learn online:

> *…so they can use technology and they manage their lives, they manage their finances and they project manage and have their social networks and that's wonderful but when you ask them to do it for learning purposes that skillset doesn't migrate easily either because we don't let them or our technologies are not as synchronous and as modern as those they use in their private lives or academics aren't providing that extra skillset (Kate).*

Various elements supporting learning through practice and discovery were reported in many cases; however, in most cases this was limited to specific subject areas and not across the board.

Learning through discussion

Comparing TEL usage to support experiential or dialogic/discursive learning, Malcolm's perception was that in his current institution TEL was used more widely in a discursive/dialogic way exploring knowledge and having a conversation around it. Malcolm stated that one of their aims is to enable lecturers to use the internet in an interactive way, having conversations with their students using social media; he added that a postgraduate online course used structured online discussions around topics resulting in high levels of interaction and reflection from students. Christina also mentioned that TEL is used a lot in the dialogic/discursive way in her institution. Ben stated that following acquisition, TEL had been used to support learning through dialogue: 'I have seen people doing some very successful things with role playing online through discussion boards', adding that in some programmes learning is 'very dialogic, very constructivist in terms of the group bringing their own experiences to the situation'. However, it was still a challenge 'to get people who see themselves as content creators to change that practice so that they help and facilitate a bit more', according to Ben.

Carl reported that they are moving more and more to the discursive approach and that they are building systems that actually enable students to tag the materials and post questions on the materials so they can start to make it less about pure delivery of content and build more interaction-discussion. Similarly to Ben, Carl also pointed out that 'a good learning experience is not just about content but needs to be more interactive so that the students are supported'. Robert mentioned that due to the nature of his institution, the main focus is very much on theoretical, dialogical, collaborative modes of learning as well as individual skills-based work. An example of a course which was based around a social constructivist model was mentioned, where the students are given a discursive activity through a discussion board where they are assigned roles and are there to apply the theoretical knowledge. Ken's view was that support for dialogic/discursive learning online was starting to become more common:

> *There are a lot of people using the VLE but see the value in the discussion forums rather than (see it as) a resource dump; more staff are now picking up on the potential of web conferencing or the e-portfolio to create discursive experiences.*

Derek stated that their online or mostly online programmes are designed more in the social constructivist model and that learning through dialogue is supported primarily in some subject areas: 'When you look at history, or business studies, health and care, then that's very much dialogic, very much theoretical, discursive'. Carina mentioned that TEL has been used to support learning through dialogue in her institution; however, the vast majority of staff used the VLE as a document repository.

Another example of technology used to support learning through discussion in a certain area was mentioned by Diane:

> *We have staff members using either wikis or discussion boards for discussion based activities; quite often that is really useful for professional people on CPD courses, also some undergrads use that, all that sort of thing is used but I couldn't say it's used consistently across all programmes. It's simply used where a member of staff feels comfortable to use it and they feel the benefit.*

Learning through discussion was used to support blended learning in some departments according to Alan. For instance, in nursing, health and midwifery courses, students attended one week on campus and the following week they had to undertake online activities. These activities included reading articles, watching videos and discussion board activities according to the interviewee who stated that this worked well in those particular courses as that particular group of learners has to be off-campus every other week as they were spending a lot of time in work placements.

In terms of learning through discussion and collaboration, Sam mentioned an interesting example that linked the physical and the virtual learning environment; as part of their learning spaces project they had equipped some classrooms with round tables to enable discussion and collaboration. This worked very well when an element of technology was introduced according to the interviewee who clearly saw the potential for TEL to enhance teaching in the classroom:

> *So they might be working as a group but they might be looking at resources on an iPad, or watching a movie from BOB or whatever. So I think that's a neat way of bringing the physical and the virtual together, but you have to think about your virtual space to be designed in a way that that can happen. I think on the horizon there are some really interesting things, with wireless connectivity to the projector. So I'm hoping that soon when you walk into a room, that the teacher will be able to drive the classroom from an iPad. Everybody will be sat there with their own version of the presentation, so they can notate and things like that on top of it (Sam).*

Supporting learning through discussion using technology was reported to take place in some areas by most HeLs who were all very enthusiastic about the potential of technology to support discursive online activities.

Learning through inquiry

For learning through inquiry, the learner investigates a range of concepts and information, collects and analyses data and searches and evaluates information and ideas (Laurillard, 2012). An example of learning through inquiry was offered by Ben

who reported that physiotherapy courses follow an e-portfolio, reflective type model which is very much about collecting evidence, reflecting on one's practice throughout the modules. Carl also mentioned that they have courses delivered solely using the e-portfolio tool:

> *You have got materials put up in Pebblepad and primarily they are about learning activities and then students – either individuals or groups of students – are evidencing their learning and sharing either with peers or with teaching staff.*

Robert stated that they have a masters' course that supports learning through inquiry:

> *We have got another masters course which is a blended version of problem based learning where students do all the brainstorming of learning outcomes face-to-face and then use the VLE in order to conduct the individual research and then reach common solutions in unguided research work, so that is a problem based approach.*

Derek declared that as an institution they promote the inquiry based learning – social constructivist type model as their primary learning and teaching model. That is the fundamental principle for all of their online and mostly online programmes, which has been modelled in the staff development modules they are offering on effective online learning and teaching.

The example where a member of staff asks students to research something online was mentioned by Diane in a way that supports learning by inquiry. Lisa reported that inquiry based learning with technology was taking place in one of the law programmes where students in teams were provided with a scenario and a collaborative wiki where they were asked to take different roles and contribute to the various aspects of that problem-based learning scenario.

Alan mentioned an example that had to do with study skills for first year students where students need to learn about spreadsheets. Having access to resources, students then needed to complete a task which was set for them in order to learn the use of MS Excel software, data manipulation and descriptive statistics. Following that, the

students were required to electronically submit an assignment which was checked by the study skills team and students who passed did not need to attend the workshop. Regarding learning by inquiry, Kate mentioned that it is also easily done online providing access to resources plus appropriate scaffolding.

According to HeLs, learning by inquiry with the use of technology was taking place in specific areas of some of the participating institutions.

Learning through collaboration

Learning through collaboration incorporates learning through discussion and practice, as learners exchange outputs from their practice with an aim to produce a joint product. According to Laurillard, 'technologies and methods supporting this type of learning include group projects, wikis and other online knowledge-building environments' (2012, p99). Christina offered an example of such an approach by saying that those involved in online programmes are trying to use a more collaborative approach, more active approach of setting tasks and getting students to do things and apply their knowledge and understanding. Carl reported that approximately 30% of their modules are using at least one of 'the more pedagogically interesting features' of the VLE such as wikis, blogs, self- and peer-assessment tools.

Technology was used extensively to support learning through discussion and collaboration as well according to Lisa. One example was the use of blogs and wikis in journalism where activities have been built around blogging and the use of collaborative wikis as part of the students' assessed coursework. Other examples of discussion and collaboration included the use of social media; Twitter, for instance, was used for feedback on lectures and encouraging students to create hashtags and Twitter feeds around particular topic areas which they could then be showcased by creating a Storify account. Alan offered a further example of learning through collaboration from the psychology and the applied social sciences department where wikis were used to support students' collaboratively-assessed work.

Regarding the use of technology to support collaboration, Kate mentioned an example where students were working collaboratively to create an online resource that can be used by other students. The use of wikis to enable group work was

widespread according to Kate, who also mentioned that Twitter was used by their sports management course for questions to experts who were giving live online lectures.

Robert claimed that TEL was used in various ways that supported learning through acquisition, dialogue, collaboration, discovery and practice:

> *It has been used in both ways; mainly to support theoretical (acquisition), dialogical (discussion), collaborative learning (collaboration) due to the nature of the institution, but also to support field work (discovery), placements and reflection on work based practice in certain areas (practice and discovery).*

It is worthwhile noting at this point that while an effort was made to distinguish between different activities that support learning through a number of practices as mentioned above, there is often an overlap between some of them; for instance between discussion and collaboration, in particular when collaboration is considered as participation, or between practice and inquiry; furthermore, learning by acquisition is often regarded as the foundation of all learning that the other types of learning build upon.

While this section looked at Laurillard's conversational framework from a teaching and learning perspective, the following section is focused on the organisational infrastructure that needs to be established for the effective implementation of TEL.

5.2.2. Laurillard's framework – establishing an appropriate organisational infrastructure

According to Laurillard's framework for the successful implementation of learning technologies in an institution, there is a need for an appropriate organisational infrastructure and a supportive culture to be in place. As innovation with emerging learning technologies is under constant development, their implementation often requires collaborative effort. Therefore, there is a need for the knowledge in this area within an institution to be managed by sharing tacit knowledge, by establishing a programme of staff development in the effective use of learning technologies and by setting up multi-skilled development teams. Furthermore, senior managers' support

is needed in order for the systematic use of learning technologies to be embedded in the institution. Development resources and costing need to be agreed alongside academic staff time commitment; additionally, appraisal and promotion procedures need to make sure that teaching excellence is rewarded. This section looks at these areas of Laurillard's framework and considers the extent to which they are met by the institutions participating in this research, based on evidence gathered from the HeLs who participated.

Sharing tacit knowledge

Organisational knowledge management underlines the importance of sharing knowledge and expertise within an organisation. This is pertinent to the implementation of TEL as emerging technologies are adopted by staff at different stages. Therefore, the importance of sharing the knowledge of the innovators and early adopters with the wider staff body in an institution becomes paramount. It is apparent that all participating institutions have attempted to share tacit knowledge, with varied levels of success, by offering training session, workshops, seminars and other institutional events, as shown in the questionnaire findings section. This was also apparent in the interviews (this set of questions was explicitly asked in the second round of the last five interviews).

Diane, for instance, replied that their focus is to collate that sort of knowledge and share it in a variety of ways such as case studies on how to use a certain technology or approach within TEL, acknowledging the importance of knowledge sharing. According to Lisa, this was one of the challenges in every institution as 'it depends on some enthusiasts to take it forward and often examples of good practice do not get shared'. Lisa added that the blended learning academic champions in their institution are expected to facilitate that at a school level.

Alan responded that there are informal spaces for that, both physical and online, and that this is done to some extent:

> *There are opportunities for them to share, I don't know culturally if they do, or if they have been, the extent to which they share. If you looked at it, yes, we've got meeting structures in place, committee structures in place, we've got spaces in place, we've got informal workshop opportunities that they're*

encouraged to do and we've got events in place to do it as well. So the barriers to knowledge sharing have been – are being reduced. We also have online knowledge sharing opportunities. So we have some online spaces to do that, but they're not widely engaged with, so it's not like we've got a more joined up online knowledge sharing.

Kate replied that academics do share their knowledge regarding their use of technology in designing online activities. This was evidenced by a survey which was completed by more than a hundred academics in her institution according to which academics tended to try and find out things for themselves first and, following that, their immediate next place for support was their colleagues in the same subject/discipline:

It was interesting; what they do is they tend to find out things for themselves to begin with, but their immediate next place for support was their colleagues in the same subject/discipline. It was not a central unit, it was not the local e-learning person, it was their colleagues that teach similar subjects to them; so, there is something there about the culture of how technology is used and also some of the technologies are discipline specific.

Sam replied that best practice was shared in a number of ways in his institution including an internal online site and informally through conversations in the staff room and elsewhere; the interviewee also mentioned that members of his team were sharing and replicating good TEL practice when they came across it and that sharing best practice was a common thread in their corporate plan and the learning and teaching strategy.

Sharing tacit knowledge around TEL is important but it needs to be coupled with wider staff development opportunities. These are discussed in the following sub-section.

Establish a programme of staff development

Sharing tacit knowledge is important but not sufficient in itself to lead to fully successful implementation of TEL across an institution, according to Laurillard's framework. In order for innovation to spread, a programme of staff development

needs to be established. This need, with regard to TEL, has been addressed by the inclusion of TEL in PGCLT/PGCAP courses in teaching and learning in HE either as a separate module or by embedding TEL throughout the course. Furthermore, interviewees acknowledged the fact that TEL needs to be part of the CPD framework for all staff in order to provide ample opportunities to staff that have been teaching for some years and are beyond the PGCLT/PGCAP course.

Diane, for instance, responded that their team has put together a staff development programme offering a range of workshops but also provides bespoke support for individuals or teams who want something different, tailored to their specific needs. Lisa replied that although their team has stopped running workshops on how to use the different tools, they are working with programme teams from the stage in which they are either developing or redesigning modules and programmes as that has proved more effective. On top of that, school-based learning technologists provide more hands-on support on how to use various tools.

Alan responded that they do that, but they only provide generic workshops once a semester with an intensive week of sessions; these workshops are not offered throughout the year as staff do not tend to attend. Instead, their staff development programme, which is linked with library and academic skills, is trying to take an individual path for people, which works well during the course validation and approval process:

> *We weave it (the staff development programme) in where we think we can have the most impact, and the most impact seems to be when they're most open to ideas is as they're working their validation documents up. So they've got to go into this considering student support, staff development support, use of technology enhanced learning, examples of, even if it's just a straight, traditional face to face. So that's when they're most opened up, and that's when we get the course team together.*

Alan mentioned that they also offer an online programme where staff are using the same space as they would be using with the students allowing them to practice what they would use when they are developing their courses.

Kate replied that they are currently in a transitional phase so they have stopped many of their generic training workshops as they were quite rigid and staff would not use even half of what they would learn from those generic workshops. At the moment they are offering either bespoke training working with certain departments or one-to-one training, until they design a coherent staff development programme.

Sam responded that his team contributes various sessions in the PGCLT and they help staff who try to gain their Fellowship of the Higher Education Academy accreditation, but they also contribute to their staff development programme in academic practice with a series of events during each semester. These sessions include online submission and marking, audio and video feedback, creating quizzes for formative feedback using the VLE, flipping the classroom, creating accessible learning resources and using social media in teaching and learning. Moreover, the interviewee added that his team offers training to various course and programme teams, so there was a variety of approaches used.

The interviewees confirm the fact that staff development opportunities in the area of TEL are provided by all participating institutions; however, this programme is often varied and tailored to the needs of different course or programme teams. This explains the different offerings but also the varied levels of uptake of staff development activities around TEL which was evident in the questionnaire responses too.

Set up multi-skilled development teams

The need for multi-skilled development teams is critical according to Laurillard's institutional framework, for the effective implementation of learning technologies. Again, this need was addressed to some extent by participating institutions in this research as TEL academic support was provided in all cases via a centralised unit; this unit was either a standalone team, or part of a bigger team, whose focus was on educational development, or was part of IT services. In some cases, on top of the centralised team, support was provided locally, usually via dedicated school or faculty-based learning technologists. In one of those universities where additional support was provided locally, learning technologists were employed only in some faculties. This fact shows that while all participating institutions had centralised TEL support, in some cases there is additional, more specialised TEL provision and

support locally, within the faculties.

Diane mentioned that their multi-skilled team included staff who focus on research, staff who focus on pedagogy and multimedia experts; furthermore, their team is closely connected with the educational development team who run the postgraduate certificate course, and there is also a connection with the computer services department that provides the technical infrastructure for TEL. Diane was positive that this range of skills can solve the issues that members of staff may come up against and support them according to their needs.

Lisa reported that a good mix of expertise in the central team coupled with the more technical expertise provided by the school-based learning technologists was there to support lecturers. However, the interviewee mentioned that they have moved away from the idea of developing content for academic staff and they are supporting academic staff to do it themselves or find it from already available digital sources.

Alan's team provided advice and support but also had taken on the audio-visual function for lecturers, doing the creation and editing for them for recorded student presentations or role-play videos. Furthermore, they facilitate summative quiz-type examinations using an optical mark reader service and in the future they will be looking for a classroom technologist with an aim to increase the services offered to academics.

Kate replied that although they have a multimedia expert on a temporary contract, he is used primarily for MOOCs and has only been used occasionally for other developments when his and the academics' schedule allow. However, the interviewee stated that her team act primarily in an advisory capacity and they cannot turn into a production unit as that would be too costly for the university.

Sam argued that his teams were very multi-skilled as they included developers, learning technologists and media experts. Furthermore, taken one level up, each faculty have their own delivery team which includes a quality lead, an academic lead, one of their learning technologists and also a subject librarian. This approach provides a broad level of support and works well, as mentioned by the interviewee.

This evidence shows that multi-skilled teams were in place in all participating institutions. However, some teams included multimedia experts with a focus on creating media-rich learning content as well, while other universities have started to move away from this idea due to the cost implications of such developments. This was highlighted by Lisa who commented that Laurillard's framework was developed a few years ago:

> *…I think we've moved away from this a little bit. I think when Diana Laurillard was talking about this, that was a few years ago, when we were still in the phase of 'what is a learning technologist, what's our role, is it all about developing content?' I think we've moved away quite significantly from the idea of developing content for academic staff, or designing programmes for academic staff.*

Agree development resources and costing

Laurillard's framework highlights the need for the development of resources and costing to be agreed (2002, p.228). This is an area for further investigation as, in terms of the pure cost of the online courses compared to their campus-based equivalents, it seems that there is still a lot to be learned; according to research participants, it is very hard to generalise on the most expensive way of delivery as in most cases participating institutions did not follow a specific model due to the fact that their purely online provision was not very substantial.

Diane, for instance, responded that although their department would charge another department for the development of a CPD course, the cost would not cover the full expense, adding that the university has not got to grips with appropriate costing yet. The university's involvement with Massive Open Online Courses (MOOCs) offered an opportunity for developing further a costing model, but according to the interviewee, even MOOCs are not well costed and more work needs to be done on this. This difficulty in appropriate costing of online courses was attributed to the fact that 'the development of these sort of courses is so fluid, it's quite hard to really pin down exactly what would be needed, particularly with members of staff who are not really experienced in creating these things', according to Diane. This experience was contrasted with the partner company's business model which was quite precise in their costing.

Lisa replied that there was not any funding available for developing resources for online courses or any other courses and even if the digital strategy allows access to funding in the future that probably would not be used for developing content. The biggest issue was namely academic staff time and this was something that should be thought through carefully by the schools who are keen to get more online programmes in their portfolios, according to Lisa.

Alan also mentioned that there is a costing model but only for external developments, as, according to the interviewee, a costing model internally could deter original conversations but also because often it is not known what will be involved in order to provide any meaningful costings.

Kate replied that it is difficult to get internal funding for TEL projects because TEL is cross-institutional:

> *That is where we are having issues at the moment because TEL is one of those areas that falls between the cracks…. So trying to get resources to resource something that's truly cross-institutional is really difficult.*

This problem extends to other cross-institutional projects such as internationalisation and widening participation according to Kate, who added that sometimes departments who want to do specific TEL projects sometimes bypass the central unit and once they secure funding go and do it themselves. The complexity of getting funding for TEL was identified as an issue that has not gone away and gets more severe, according to Kate.

Sam responded that this depends on the project, adding that for big projects such as those around digital literacy and learning spaces they can apply internally for funding via a mechanism of investment bidding. This application, according to the interviewee, is very high level, strategic and requires a lot of ground work; however, it provides opportunities for various developments and innovations.

It became evident that costing of TEL projects and blended or fully online courses is an area for further investigation. This has also been discussed in the question

regarding the costs of online learning in the previous section.

Agree staff time commitment

Laurillard's framework underlines the need for staff time commitment to be agreed. Laurillard acknowledges that 'academic staff time in universities is rarely fully costed in relation to specific areas of their work' which often makes 'the introduction of new technologies a nightmare of overwork' for academic staff (2002, p.229). Lack of time was explicitly mentioned as one of the barriers for TEL's uptake in some cases and could be one of the underpinning factors in others, as discussed earlier in this chapter.

Diane replied that if it is one's job to deliver an online course then that is part of their normal teaching load, adding that in cases where staff are interested to develop an online course themselves then it depends on their head of department whether they are allocated some time to do that or not.

According to Lisa, this depended on the school; while some schools were allowing time for staff to focus on developing new online modules, others did not. Lisa acknowledged the fact that this takes time and underlined the importance of this to be recognised as part of the academics' workload model:

> *In some schools they are allowing time for some staff to focus on designing and developing new online modules. In other schools it's being just seen as part of their academic workload. So we haven't got any parity on that across the institution at the moment, but if we increase the momentum around the development of online materials then that might change.*

Alan mentioned that this depends; if it is a funded project or part of a formal qualification they will get time allowance, otherwise it is part and parcel of their job: 'So I think I would say that if it's TEL related, but it's a qualification or project, they get time, we ring fence that, if it's just knowledge, informal learning, unstructured learning, no'.

In Kate's institution the official line was that distance learning is part of what academics do and they would get the same time allowance no matter whether it is

face-to-face or distance learning, adding that ‘going forward, we need to see it as part of the workload allocation model, because it cannot be done on top of people’s work’.

Mixed practice was also taking place, according to Sam, who reported that academic staff members were given some time allocation to take part in the e-submission project; however, this is not always the case as there was no time allocation in other projects. If the development of a member of staff is agreed as part of their Developmental and Performance Review (DPR), they would then be given some hours within their academic workload planning.

This evidence shows that, according to HeLs, while sometimes staff get time allocation for participating in a TEL project, especially when this is an externally or internally funded project, in most cases TEL is seen as part of the job and is often not part of the workload allocation model.

Ensure that appraisal and promotion procedures reward teaching excellence
Laurillard (2002) emphasises the fact that appraisal and promotion procedures need to reward teaching excellence in order to motivate lecturers to utilise learning technologies in their teaching. This was the case in one of the participating institutions in which online learning was seen as one of the key ways to achieve promotion:

> *… It (online learning) is seen as beneficial rather than second best and the rising stars are usually people who do get involved with it (Derek).*

The lack of recognition in teaching was confirmed by some participants. In Diane’s case, as the university was primarily research-led, there was not much recognition for teaching excellence in general, apart from a couple of prizes that do not count towards promotion. This was identified as one of the challenges by Diane in trying to get technology implemented. She added that a small fund set up for rewarding teaching excellence would motivate staff further.

However, in Lisa’s institution, learning and teaching were recognised and were an integral part of career progression and good teaching - and by extension good

teaching with technology - was reportedly recognised by senior management and the academic community including the students. An award in excellence in teaching and learning is allocated every year to a member of staff and in the last two years it happened that the winner of that award was someone actively using technology in their teaching, according to the interviewee, who added that student-led teaching awards also have a category for technology enhanced learning.

Alan replied that while in the past the emphasis was more on research, in the last couple of years there seemed to be a balance between research and teaching and their promotional routes now take into account teaching excellence. This will have an impact on TEL as well, according to the interviewee, as TEL is seen as an integral part of teaching and learning.

Kate stated that their formal promotion criteria reward teaching excellence and that an academic could get a promotion based on their teaching or they could get a promotion based on research, adding that although TEL does not appear explicitly as part of the teaching excellence, if one used technology in a way that would demonstrate good teaching, that would be recognised.

According to Sam, teaching excellence was recognised in the institution in a number of ways; first, people can overachieve as part of their DPR process and get financially rewarded, although the interviewee mentioned that this was very difficult. Furthermore, they have ‘formal excellence awards’ that change every year; these awards are recognising academic practice in general. The interviewee underlined the importance of such awards for their institution.

To sum up, in terms of establishing an appropriate organisational infrastructure that supports the implementation and integration of learning technologies to teaching and learning, participating institutions in some cases had reported that they had accommodated the need for sharing tacit knowledge, had established a programme of staff development and had set up multi-skilled development teams; however, it was evident that further work would be needed towards agreeing development resources and costing, agreeing staff time commitment and in some cases, ensuring that appraisal and promotion procedures reward teaching excellence.

Following the discussion of the interviews, the next section attempts to integrate and interpret questionnaire and interview findings as a whole.

5.3. Interpretation/integration of questionnaire and interview data

Most universities represented in the survey offer a wide variety of staff development sessions/events for their academic staff that covers a range of skills and pedagogical considerations of various learning technologies. This shows that participating institutions are trying to up-skill their staff by addressing their needs in the area of TEL in a flexible manner, offering them plenty of choice.

The duration, frequency and uptake of the training sessions varied widely; some institutions offered training sessions at regular intervals to suit the academic timetable, others 3 to 4 times a year. However, most institutions would deliver tailored sessions on request for specific departments or course teams and in some cases there seemed to be a shift towards small group training and one-to-one training on request.

The offerings for training in the use of various learning technologies to academic staff reflected the uptake and usage of those technologies as discussed in the interviews. The use of VLEs for content delivery were the most popular staff development sessions as training sessions on their use were provided by all 27 institutions participating in the survey. Furthermore, the vast majority of institutions offered organised events on the pedagogically effective use of the VLE and offered online case studies too.

Following the use of the VLE for content delivery, e-assessment seemed to be the most popular practice involving learning technology. Both hands-on training sessions and other events focusing more on the pedagogically effective use of e-assessment came up equally high and were on offer by most HEIs participating in the survey (22 of 26), while two-thirds also provided online case studies. This was reflected in the interviews as e-assessment came up high as a common institutional target for campus-wide TEL implementation among the interview participants too. The deployment of e-assessment was reported to be a common institutional target in the interviews too.

Plagiarism detection and prevention via tools like Turnitin was also highly popular in hands-on training sessions offered (22 of 26) but also in events regarding its pedagogically effective use (21 of 26) which would probably be in the prevention of plagiarism. Eleven of the participating institutions also provided online case studies on plagiarism prevention and detection. This was anticipated as the use of plagiarism prevention tools is already pervasive in HE (UCISA 2010, 2012, 2014).

These findings regarding staff training and development offered in various learning technologies reflect the level of uptake of these technologies as reported by HeLs in the recent UCISA surveys (UCISA 2010, 2012, 2014). According to the TEL UCISA survey in 2010, 90% of the HEIs that participated in the survey reported having at least one main VLE in use, while this figure rose to 95% of survey respondents in 2014 (UCISA 2014). Furthermore, according to the same latest survey, centrally supported use of plagiarism prevention and detection software and e-submission tools remain the most common centrally-supported software across the sector. E-portfolio, blog and e-assessment tools as well as personal response systems (PRS) were also well established.

The 'student experience' seems to be the most critical stated drive for the implementation of TEL across participating institutions. Other goals and targets around TEL, such as e-submission and e-assessment, developing staff competencies across the board and improving uptake, are a means to achieve an improved student experience and to raise levels of student satisfaction. This could be the result of the raised tuition fees and the increased competition among the UK HEIs for a shrinking student body (Ratcliffe 2012, Taylor 2013). While raising students' satisfaction is a reasonable target, there is a danger that TEL might be utilised mainly for administrative tasks that simplify the learning and teaching processes, missing out on its transformative potential to redesign the curriculum (Palloff and Pratt 2007). The fact that TEL was used more for its administrative benefits rather than to its potential to transform learning was explicitly stated by two informants and was implied in the responses of some of the other informants too.

It seems that most obstacles for TEL implementation are inter-related; staff reluctance and the lack of skills of some academics are often linked with lack of

time. Issues around communication and dissemination are also linked with the lack of strategic buy-in by institutions. These issues could be addressed with enhanced strategic buy-in and by offering incentives to staff such as time allowance in order to engage with TEL. To sum up, top-down change management and a significant investment could address these barriers, but this is no easy fix and would require a co-ordinated approach that takes time and effort.

In terms of web 2.0 tools such as blogs and wikis, two-thirds of participating institutions offered hands-on training sessions as well as workshops on their pedagogically effective use and online case studies. These events/case studies would aim to increase uptake among staff and raise staff's digital skills in order to enable them to support constructivist and social constructivist learning, utilising online tools. The basic principles of these learning theories are described in the literature review chapter of this thesis.

Training on personal response systems (PRS), or else electronic voting systems (EVS), or clickers, was provided by two-thirds of participating institutions, while half the institutions that took the survey were also offering online case studies on the use of PRS in order to add interactivity in the classroom and enable lecturers to ask students questions in the classroom and get real-time feedback from students and check their understanding on various topics. According to Mazur (1996), the use of PRS can transform a passive lecture to a more engaged, interactive one that can also support peer-instruction when students are asked to discuss in pairs their responses.

E-portfolio sessions were also popular among participating institutions; almost three-quarters of the questionnaire respondents were offering training sessions (19 of 26), approximately half of them (14 of 26) were offering workshops or other events focusing on the pedagogically effective use of e-portfolios and seven were offering online case studies on their use. E-portfolio systems can be used in courses with a strong reflective element and it was used in all physiotherapy courses in one case; it can also be used for assessment as shown in another case in which the e-portfolio was used for two of the assessments in the postgraduate certificate in teaching and learning course, so that lecturers would be able to support its use as personal tutors with their students. Indeed, e-portfolio systems can support flexible learning in professional, work-based courses in particular, as they offer participants a space to

gather their evidence about their practice.

Hands-on training sessions on web conferencing software were on offer by more than half of the institutions participating in the survey (16 of 26), while slightly less than half offered workshops and other events on their pedagogically effective use (12 of 26) and 6 offered online case studies. Web conferencing tools can be used to bring together participants that are geographically dispersed, but as pointed out by one informant it can be challenging for some academic staff to use this technology and may require extensive training. This is also backed up from the relevant literature, according to which synchronous facilitation via web conferencing software can still be very demanding in terms of staff training (Almpanis et al. 2011, Reuschle and Loch 2008, Vitartas et al. 2008, Wang and Hsu 2008).

Virtual worlds like Second Life were the least popular in terms of staff training provided among all aforementioned learning technologies; only 3 of the 26 institutions that participated in the survey offered training sessions in the use of Second Life, while 4 offered seminars on its pedagogically effective use and 2 offered online case studies. This is likely to reflect the fact that the use of Second Life has not become mainstream in higher education and is only used by specialist departments in some institutions. Experiential learning via Second Life is also resource heavy and its use seems to be limited among participating institutions due to the increased and often non-sustainable amount of resources it requires (Gorman 2012). This could be due to the fact that virtual worlds require a significant amount of upfront investment in order to work for educational purposes. The challenges for educational use of Second Life include time, money, up-to-date technology and the amount of training required to become proficient in its use (Ash 2011).

Other sessions on learning technologies provided by participating institutions were reported sessions on online media, screencasting, podcasting, lecture capture and other classroom audio-visual equipment, audio and video editing, iTunes, Twitter and office tools. These sessions highlight the broad range of staff development sessions provided by some institutions that include multimedia content creation and sharing – podcasting, screencasting, audio and video editing, lecture capture, iTunes – but also micro-blogging – Twitter – and office tools. However, no specific data on those sessions offered is attempted here, mainly due to the fact that these were not

offered as one of the options in the questions but were added by participants in the 'other' field. Their lack of inclusion in the given options was due to the fact that the focus was more on the established learning technologies supported institutionally rather than on applications that could be more popular in some areas than in others. It should be noted, however, that lecture capture and video streaming solutions have recently risen to the top five new challenges HEIs are facing, according to the latest UCISA survey (UCISA 2014).

It became apparent from this research that in the participating institutions TEL is most widely used to deliver content and facilitate some processes such as coursework submission and provide electronic feedback. In some departments, however, TEL has been used in more interactive and innovative ways to support discursive/dialogic learning and experiential learning. Discursive/dialogic learning is mostly used in social sciences and humanities while experiential learning has been utilised more in vocational subjects or subjects with a work-based element or for field work, according to some research participants.

Regarding effective online facilitation and moderation, e-moderating skills, pedagogical rationale and digital literacy were the main recurring themes. The technical skills required for effective online tutoring can be varied depending on the task; however, basic ICT and digital literacies and an understanding of the system and the tools in use are said to be often adequate for the lecturers involved in such programmes, provided that this is coupled with a pedagogical understanding of the tools used, according to the interviewed HeLs. Institutions are trying to address these needs with on-going staff development but a willingness to experiment with new tools and practices and adapt one's practice from the lecturer's side are, reportedly, also important. The pedagogical and technical skills are often interspersed; this is evident from the fact they are addressed jointly as part of the staff training programmes of some institutions.

In almost half the cases of those who completed the questionnaire – 13 out of 27 – TEL was reported to be the focus of one of the modules of the PGCLT/PGCAP course. Among the interviewees, however, only four out of twelve who addressed this question mentioned that TEL was included as a separate module in that course; the remaining eight reported that TEL practice was embedded in the course. The

PGCLT/PGCAP course is critical for new lecturers' professional development (Donnelly 2006, Matthews and Jessel 2006, Schon 1987) and it is important that TEL practice is embedded in that course so that lecturers understand that TEL is part of their standard practice. It became evident that while everyone agreed that TEL should be part of the PGCLT/PGCAP course there were two different approaches to it: integrating TEL in the whole course curriculum and the way it is delivered, or addressing TEL in one of the modules of the course. Both practices have their benefits; embedding TEL to the course provides experience of TEL whereas when TEL is taught it offers the opportunity to learn explicitly about it. A combination of the two, looking at TEL explicitly as part of the curriculum and also embedding TEL practice in the way the course is delivered and assessed may be the golden mean as this will offer the opportunity to new lecturers to study and discuss TEL's potential but also reflect on their own experiences of using it as part of the PGCLT/PGCAP course.

Most institutions that participated in the survey provided a wide range of CPD opportunities around TEL. This is crucial for those who are already midway through their career as well as anyone who would need some development in the area of TEL. The need for all lecturers to be competent in the use of TEL is apparent and highlighted by the UK Professional Standards Framework (UKPSF 2012) which is devised by the HEA and sets the professional standards for teaching and supporting learning within HE, as discussed in the literature review chapter. This is indicative of the fact that the use of learning technology to support, facilitate and enhance students' learning has now become standard practice and is no longer seen as a separate skill, as discussed more extensively in the literature review chapter.

Although in many cases there were no strict requirements for staff to undertake training/development before they got involved in blended learning, training opportunities were available and staff were strongly encouraged to participate; a few of the participants mentioned that for online courses in particular, staff would be expected to participate in some TEL-related personal development and also that staff development needs would have to be addressed during the course validation process. In some cases there were some requirements that varied from a half-day VLE induction to a whole module, while in other cases staff development on TEL was tied in the course approval process. There was an interesting debate on whether there

should be any prerequisites before teaching online or not; in order to teach online successfully, one needs to not only be knowledgeable in their subject and have some pedagogical awareness of current teaching and learning theories, but needs to have experience of online learning and follow an explicit learning design in the delivery of their module. The question of prerequisites seems to be a double-edged sword; on the one side, putting prerequisites may slow down and even prohibit innovation as it would create an extra level of scrutiny and, on the other, without prerequisites there is a risk that the course may not be up to the highest standards. In other words, if TEL and one's ability to teach online or in a blended course is seen as something additional to a tutor's responsibilities, this fact might limit the wide adoption of blended and online courses in some cases. At the same time, in order for such courses to be delivered effectively, all participating tutors need to have an understanding of technology and the way it intersects with their subject matter and with pedagogy too. It is worth noting, however, that the three institutions who were delivering a substantial amount of online learning programmes had such prerequisites in place. This is in accordance with the Technological Pedagogical Content Knowledge (TPCK) concept which emphasises the interactions, affordances and limitations among content, pedagogy and technology:

> *'Quality teaching requires developing a nuanced understanding of the complex relationships between technology, content and pedagogy, and using this understanding to develop appropriate context-specific strategies and representations' (Mishra and Koehler 2006).*

Although the TPCK model was not discussed or mentioned by the research participants, they underlined the importance of all its elements; according to research participants, in order to deliver blended and online courses effectively, lecturers need to have some pedagogical knowledge on top of their subject matter expertise, need to be aware of learning design, online moderation and facilitation and to have good time management skills, attributes that are also congruent with some of the current literature on the subject (Garrison and Vaughan 2008, MacDonald 2008, Palloff and Pratt 2007, Salmon 2003, 2011).

Evidence from this research indicates that lecturers need to have an explicit understanding of pedagogy and curriculum design, be digitally literate, have the

ability to engage students online, have experience of online learning and good subject expertise. According to research participants, depending on the subject of the blended or fully online course, blended and online courses are often founded around constructivism and social constructivism, or problem-based learning and portfolio evidence. However, there are still some courses that follow a 'pragmatic' approach without an explicit learning theory or model behind their design. This, according to some research participants, seems to be an issue not exclusively related to blended and online courses as the lack of pedagogical underpinning could be evident in campus-based courses too, but as blended/online courses are mostly recorded on the web, it becomes more apparent in those. Some HeLs participating in the survey are in favour of online collaborative learning, while they perceive that many academic staff are still following the old instructional paradigm which focuses on content delivery and when they move to online environments, they tend to replicate that.

In terms of whether online learning was still seen as second best, there was a distinction between blended and online learning; while the use of technology in a blended way was seen as part and parcel of the student experience and as an extension of their learning rather than second best, purely online learning was sometimes seen as second best by academic staff according to HeLs; this, however, was attributed to a lack of understanding of the affordances of various technologies by those who made such claims or due to bad past experiences and was reportedly beginning to change as staff are becoming more aware of technology's potential to enhance the learning experience.

In terms of online learning being accused of de-skilling the teaching profession leading to an 'automated' education with the aim to cut costs, this was reportedly not a strong argument any longer; it was only claimed to be shared by senior academic staff who may feel threatened by the introduction of new technologies and based on the misconception that technology would replace lecturing staff. Most participants in the research argued that this model of 'automated' education would not work in HE, claiming that online learning is very skilful, time consuming and challenging and can lead to improved quality standards.

In terms of the pure cost of the online courses compared to their campus-based equivalents, it seems that there is still a lot to be learned; according to research

participants, it is very hard to generalise on the most expensive way of delivery as, in most cases, institutions do not follow a specific model due to the fact that their purely online provision is not very substantial. Only the three institutions whose online provision was substantial had a costing model in place; in two of these cases, however, costing was done by the external company who delivered the online courses in collaboration with the universities. Furthermore, it appears that there are so many hidden costs involved in course delivery of both campus-based and online courses that complicate costs further. The only safe conclusion regarding this matter would be that online courses are more front-loaded as the course needs to be fully developed before it runs for the first time and that online courses, if they are well designed and delivered in a way that promotes online interactions, are in no way a cheaper version of their face-to-face counterparts.

Examples of innovative use of technology were evident in some areas of all institutions whose HeLs were interviewed, as technology was used to support learning not only through acquisition but also through all other ways that learning is understood to occur according to Laurillard (2002), such as practice and discovery, discussion, inquiry, and collaboration. It became apparent that online learning materials in various formats to support learning through acquisition were provided in all participating institutions, many of which were making provision for audio-visual content as well. Although elements supporting learning through practice and discovery were reported in many cases, in most of those institutions this was limited to specific subject areas. Similar was the situation regarding learning by inquiry, as it was taking place in some areas of some of the participating institutions. Supporting learning through discussion and collaboration using technology was reported to take place in some areas by most HeLs who were all very enthusiastic about the potential of technology to support discursive online activities and facilitate peer-to-peer interactions and collaborative work.

In terms of organisational infrastructure, most institutions aimed to create opportunities for sharing tacit knowledge around TEL. While this is important, it needs to be coupled with wider staff development opportunities, according to Laurillard's framework for an effective organisational infrastructure supporting TEL. Questionnaire responses and the interviewees confirmed the fact that staff development opportunities in the area of TEL are in place by all participating

institutions, providing a programme which is often varied and tailored to the needs of different staff teams. This explains the different offerings but also the varied levels of uptake of staff development activities around TEL which was evident in the questionnaires. While multi-skilled teams were in place in all participating institutions, some teams included multimedia experts with a focus on creating media-rich learning content as well, while other universities have started to move away from this idea due to the cost implications of such developments but also due to different approaches to TEL that aim to enable lecturers to engage with various learning technologies rather than creating learning materials for them. Regarding TEL costs, it became evident that costing of TEL projects and blended or fully online courses is an area where still a lot needs to be learned. In terms of time allowance for staff who engage with TEL developments, while sometimes staff get time allocation for participating in a TEL project, especially when this is an externally or internally funded, in most cases TEL is seen as part of the job and is often not part of the workload allocation model. In terms of the need for teaching excellence to be rewarded, a mixed practice was reported and while some institutions rewarded teaching excellence, the lack of recognition in teaching was confirmed by some participants.

5.4. Summary

This chapter has provided a discussion and interpretation of both the questionnaire and the interview findings; data gathered via interviews were thematically discussed and interpreted first, followed by discussion of the data gathered from both phases of this research. The interviewees' input on the different ways technology can be used to support learning have been discussed and mapped to Laurillard's ideas of how learning is understood to occur. Furthermore, the extent to which participating universities were making provision for TEL to be effectively deployed institutionally was mapped against Laurillard's institutional infrastructure framework for the effective deployment of learning technologies. An integration and interpretations of both phases of this research was offered towards the end of this chapter. The following chapter concludes this study by re-considering the research questions, discussing the contributions of this research as well as its limitations, and providing ideas for further research.

6. CONCLUSIONS - SUMMARY

This final chapter summarises the research and draws its main conclusions, by considering again the initial research questions. The contributions of this research as well as its limitations are also discussed here. Ideas for further research are proposed.

This thesis focused on the staff development needs in the use of learning technologies and discussed a range of institutional approaches to TEL, providing the heads of e-learning perspective. It included a detailed analytical review of selected background literature on blended and online learning in the context of staff development needs for blended and online course delivery, which is extended to include some models and frameworks concerning the effective use of learning technologies as well as approaches to curriculum design for blended and distance learning. Existing frameworks, such as Laurillard's conversational framework for the effective use of learning technologies (Laurillard 2002, 2012) and Salmon's five-stage model (Salmon 2003, 2011) were examined. Other sources included: the UCISA recent surveys on TEL (UCISA 2010, 2012, 2014); the HEFCE revised strategy for TEL (HEFCE 2009); the HEA's UK Professional Standards Framework for teaching and supporting learning in Higher Education (HEA UKPSF 2011); and various TEL-related studies commissioned by JISC (JISC 2010, 2011, 2013, 2015). The research design followed a mixed methods research paradigm. Both approaches, quantitative and qualitative, were seen as complementary rather than contradictory. This research was underpinned by the philosophical theory of pragmatism; it attempted to fit together the insights of both quantitative and qualitative research into a workable solution (Burke and Onwuegbuzie, 2004). As this research was looking at both the general picture in the area of TEL in UK HEIs but also closely examined the ways TEL was approached by some individual institutions, the mixed method paradigm was adopted to both paint a big picture in the area of staff development in blended and online learning, utilising a survey, and also analyse in depth what is happening in some example individual cases, by conducting thirteen in-depth interviews. Quantitative and qualitative data have been gathered sequentially, in two phases. A questionnaire was the tool for data gathering during the first phase of the research.

During the second part of the research, the area of staff development in online

learning was explored in more depth. Following a pilot interview, eight interviews with HeLs were conducted on the ways UK HEIs are tackling the issue of staff development in blended and online learning, as well as covering wider institutional approaches on the implementation of TEL practices. Five additional HeLs were interviewed at a later stage and the total number of interviews rose to thirteen, including the pilot. The interviews were semi-structured in order to allow for in-depth data to be collected.

6.1. Addressing the research questions

This section considers the research questions and provides a summary of the findings that were described in the questionnaire findings – interviews' outline chapter and discussed, interpreted and integrated in the discussion – integration of findings chapter.

1) What provision do UK higher education institutions (HEIs) make for staff development in the area of technology enhanced learning (TEL)?

Most universities represented in the survey offered a wide variety of staff development sessions/events for their academic staff that covers a range of digital skills as well as pedagogical considerations of various learning technologies; this includes hands-on training sessions, seminars on the pedagogically effective use of various learning technologies, online case studies, peer support via internal workshops/ conferences and, in some cases other CPD activities in the area of TEL such as e-moderating online short courses, Staff Educational Development Association (SEDA) certified e-facilitation courses and postgraduate modules. Training sessions on how to use the VLE, e-assessment tools, plagiarism prevention and detection tools as well as e-portfolios were the most popular sessions offered. Web 2.0 tools, personal response systems and web conferencing systems were also very popular among participating institutions. The only one option offered that proved to be less popular among training sessions was Second Life; however, virtual worlds were mentioned as examples of innovative use of technology in certain subjects by some universities, as evidenced in the interviews.

Staff development opportunities around various learning technologies in UK HEIs

may well be pervasive across the sector if the same pattern as indicated by this study occurs in all other universities; the perceived potential of technology to enhance the students' experience in general and students' learning in particular has led to the adoption of a wide range of approaches to staff development in this particular area. What is more, TEL is seemingly recognised as sound pedagogic practice as it is embedded in the PGCLT/PGCAP course either as a module of study or as an integral part of the course.

2) What do HeLs think lecturers need to know in order to deliver blended and online courses effectively? Are these needs addressed by a range of UK HEIs?

Regarding lecturers' knowledge and attributes needed for effective online moderation and facilitation, recurring themes included e-moderating skills, pedagogical rationale and digital literacies. In terms of technical skills needed, recurring themes included understanding of the system or tool in use, basic ICT and digital literacy and joined up pedagogical and technical skills. The recurring themes in the question to sum up lecturers' needs for blended and distance learning delivery were the following: pedagogy, curriculum design and learning outcomes, digital literacies, online engagement, experience of online learning and subject expertise.

The need for a pedagogical rationale and knowledge of constructivist pedagogical theories was emphasised by some HeLs who added that most academics are still holding onto an instructional pedagogy of content delivery and tend to replicate that online. The need to get academics away from thinking that online teaching is purely about content and their need to focus on student induction, support and student collaboration was reported too.

The digital literacies of academic staff was another recurring theme in terms of HeLs' perceptions about staff needs for effective online moderation and facilitation. These needs, according to the HeLs, included competent use of technology to support specific learning goals, the use of social media and understanding online identities. It is worth noting that 'digital literacy' intersects with the pedagogy and e-moderating skills.

Regarding the tools used, a certain level of competence and confidence with the

technology is needed as is a conceptual understanding of the tools they might use; as pointed out by some HeLs, although knowing how to use the VLE and basic ICT literacy are important, there is an overlap between the pedagogical knowledge and digital skills required for using TEL effectively.

It became evident from this research that HeLs state that effective online moderation and facilitation requires an explicit pedagogical understanding and the ability to structure online activities with clear objectives and specified assessment criteria. The tutors' online presence is very important so that students are guided through the online environment; furthermore, students need to be supported online from induction to completion and their progress should be monitored. Therefore, teaching staff need to dedicate appropriate time to the online environment. The facilitation of discursive/dialogic learning requires a pedagogical understanding of constructivism and social constructivism and the lecturers involved should ideally have some experience of online moderation and facilitation in order to be able to support their students effectively online. On the other hand, experiential learning with technology can be resource heavy and specialist support staff are often needed to create the bespoke environment and the resources. Blended and fully online courses require more systematic use of TEL by their very nature and an explicit curriculum design.

The academic staff development needs in the area of blended and online learning are addressed by offering ample staff development opportunities as summed up in the previous question. While the aim by many participating HEIs is to upskill all staff in the area of TEL so that they are capable of being involved in blended course delivery, those members of staff involved in distance learning in particular often have to go through a specific development programme.

3) According to HeLs, what institutional approaches are required for TEL to be effectively embedded in the curriculum?

It became apparent that TEL's successful implementation by HEIs requires a coordinated institutional approach and a long-term investment; while there is evidence that TEL becomes part and parcel of the teaching and learning practice, it still takes time and effort and this conflicts with other aspects of university practice such as research, face-to-face teaching and student support as well as other

administrative tasks that often overload the lecturers' schedules. A coordinated institutional approach would require strategic buy-in from senior management and a vision around TEL, opportunities for staff development and incentives to teaching staff to develop themselves in this area and utilise TEL more in their teaching. These incentives may include some time allocation, as lack of time is one of the most common reasons behind staff's reluctance towards TEL.

4) How do HeLs' perspectives compare to Laurillard's conversational framework for the effective use of learning technologies?

Examples of innovative use of technology were evident in some areas of all institutions whose HeLs were interviewed, as technology was used to support learning not only through acquisition but also, according to Laurillard (2002), through all other ways that learning is understood to occur, such as practice and discovery, discussion, inquiry and collaboration. It became apparent that online learning materials in various formats to support learning through acquisition were provided in all participating institutions, many of which were making provision for audio-visual content as well. Although elements supporting learning through practice and discovery were reported in many cases, in most of those institutions this was limited to specific subject areas. Similar was the situation regarding learning by inquiry as it was taking place in some areas of some of the participating institutions. Supporting learning through discussion and collaboration using technology was reported to take place in some areas by most HeLs who were all very enthusiastic about the potential of technology to support discursive online activities and facilitate peer-to-peer interactions and collaborative work.

Most institutions aimed to create opportunities for sharing tacit knowledge around TEL. While this is important, it needs to be coupled with wider staff development opportunities, according to Laurillard's framework for an effective organisational infrastructure supporting TEL. Questionnaire responses and the interviewees confirmed the fact that staff development opportunities in the area of TEL are in place by all participating institutions providing a programme which is often varied and tailored to the needs of different staff teams. This explains the different offerings but also the varied levels of uptake of staff development activities around TEL which was evident in the questionnaires. While multi-skilled teams were in place in all

participating institutions, some teams included multimedia experts with a focus on creating media-rich learning content as well, while other universities have started to move away from this idea due to the cost implications of such developments but also due to different approaches to TEL that aim to enable lecturers to engage with various learning technologies rather than creating learning materials for them. Regarding TEL costs, it became evident that costing of TEL projects and blended or fully online courses is an area where still a lot needs to be learned. In terms of time allowance for staff who engage with TEL developments, while sometimes staff get time allocation for participating in a TEL project, especially when this is an externally or internally funded, in most cases TEL is seen as part of the job and is often not part of the workload allocation model. In terms of the need for teaching excellence to be rewarded, a mixed practice was reported and while some institutions rewarded teaching excellence, the lack of recognition in teaching was confirmed by some participants.

6.2. Contributions of this research

This research contributes to the existing body of research literature, discussed in Chapter 2, by providing further understanding in the area of TEL support, including lecturers' staff development needs and the institutional infrastructure needed for TEL's widespread implementation, as reported by HeLs, The findings from HeLs from various UK HEIs contribute a better understanding around various TEL aspects including current institutional approaches in TEL's support implementation, staff development needs and the ways these can be addressed.

This research takes forward the UCISA survey on TEL (UCISA 2010, 2012, 2014) which offers a representative picture on institutional developments in this area in a wider context, including provision of IT systems, staffing issues and prospective developments. This study does so by shedding more light on the staff development activities currently on offer by UK HEIs – based on HeLs' input, who are also the informants in the UCISA survey - in order to encapsulate information on both pedagogical and skills training in the area of TEL, as well as uses of examples of practice in the form of online case studies and CPD activities - varying from hands-on training sessions and seminars/workshops, to short courses and whole modules - offered to academic staff in this area. Findings from this research regarding staff

training and development offered in various learning technologies reflect the level of uptake of these technologies as reported by HeLs in the recent UCISA surveys (2010, 2012, 2014) as according to the latest survey (UCISA 2014) 95% of survey respondents reported having at least one VLE in use and had a centrally supported software tool for plagiarism prevention; furthermore, according to the same survey, e-submission tools, e-portfolios, blogs and e-assessment tools as well as PRS were well established. Regarding the main barriers to the development of TEL, this study concurs with the latest UCISA surveys (2010, 2012, 2014) according to which lack of time, lack of money, lack of academic staff knowledge and institutional or departmental culture are the top barriers. This study also takes forward the UCISA survey by discussing the HeLs' views on TEL-support implementation and TEL's role in the PGCLT/PCAP course as well as the CPD framework for all staff.

This study has offered further empirical detail about tutor training and other CPD activities for academic staff employed to develop and deliver online programmes which is, according to a UK online study report (White et al. 2010), one of the areas around online distance learning (ODL) that should be explored further.

This research concurs with ongoing research in the area of staff development around TEL (Garrison and Vaughan 2008, HEA UKPSF 2011, HEFCE 2009, JISC 2013, Laurillard 2002, MacDonald 2008, Salmon 2003, 2011). Evidence from this research indicates that lecturers, in order to engage successfully with TEL, need to have an explicit understanding of pedagogy and curriculum design, be digitally literate, have the ability to engage students online, have experience of online learning and good subject expertise, according to HeLs.

This study has examined Laurillard's conversational framework for the effective use of learning technologies and has provided current examples of innovative use of technology by UK HEIs that support Laurillard's 'ways of knowing', such as learning through acquisition, practice and discovery, discussion, inquiry and collaboration. Furthermore, the research has compared Laurillard's recommended infrastructure for the successful institutionally-wide deployment of learning technologies against current practices at participating institutions and has found that while some areas of Laurillard's framework are deeply embedded in participating institutions, others are still happening in an ad-hoc basis. This study showed that, in

terms of establishing an appropriate organisational infrastructure that supports the implementation and integration of learning technologies to teaching and learning, participating institutions in some cases had reported that they had accommodated the need for sharing tacit knowledge, had established a programme of staff development and had set up multi-skilled development teams; however, it was evident that further work would be needed towards agreeing development resources and costing, agreeing staff time commitment and in some cases, ensuring that appraisal and promotion procedures reward teaching excellence. This research shows that Laurillard's organisational framework for the effective deployment of learning technologies can be applied appropriately at the institutional level, but it requires a coordinated, fully considered in advance, approach to TEL implementation.

This study and its findings relate to the needs of educational developers, learning technologists, researchers, academics, HeLs and senior managers in the UK and globally. In the UK it provides an in-depth understanding of the current situation in the area of TEL; furthermore, it could be used as the UK element for a comparative study for researchers who are looking to map the current situation around TEL implementation and staff development in another country.

6.3. Research limitations

The main limitation of this research is that its findings are indicative rather than generalisable; the questionnaire response rate was 27 out of 118 which renders its findings as indicative, while due to the smaller number of the in-depth interviews, findings from those are illustrative. Further methodological limitations concern the reliability and validity of the research; however, as this is a mixed methods study, validity is strengthened through the ability to draw meaningful and accurate conclusions from all the data in the study. Thus validity in this research denotes the 'inference quality', the accuracy with which the researcher draws inductive and deductive conclusions (Tashakkori and Teddle 2003). The author has strived to achieve this by providing an extensive description, analysis, discussion and integration of the research data systematically, using a methodology which followed his research design.

Still, as the results are analysed and interpreted by a single researcher, the analysis

could be accused of being subjective. However, pragmatism – which is the philosophical underpinning of this research – sidesteps the contentious issues of truth and reality; it accepts philosophically that there are both singular (positivism/postpositivism) and multiple (interpretivism/constructivism) realities out there that are open to empirical inquiry and focuses on solving practical problems in the real world (Feilzer 2010, Rorty 1999). These limitations have been considered further in the research design chapter of this thesis.

Another limitation of this research is that it considers lecturers' educational needs based on the input from HeLs, some not academics, but with a learning technology or ICT background (Anagnostopoulou 2010) which means that some may lack teaching experience and their pedagogical expertise could possibly be questioned. Furthermore, this research has not included any data from lecturers themselves on the ways they approach TEL and there was no other mechanism in identifying the quality of the support that individual institutions offer, other than the HeLs' input. However, due to the HeLs' senior role in the implementation of TEL in their institutions, their input is highly valuable.

6.4. Suggestions for further research

Further research in the area of TEL support is needed, especially as this is a constantly growing and evolving area; technologies for learning are widespread in most campuses and, according to this study and the current TEL literature, if used to their potential, can enhance the learning experience. Furthermore, the uptake of blended and online courses is constantly on the rise as it allows institutions to target a global market. The rise of Open Educational Resources (OERs), and more recently of the Massive Open Online Courses (MOOCs), may shift further the focus from content creation to online facilitation and moderation in the online environment. As there are ranges of free content now available on various repositories, building tutors' capacity and capability to moderate online is crucially important. A supportive institutional strategy on TEL thus becomes paramount.

Further studies could include input from lecturers regarding their attitudes to technology and the ways they integrate technology to their teaching depending on their subject matter expertise.

6.5. Summary

This study aimed to shed more light on the staff development activities currently on offer by HEIs in the UK in order to encapsulate information on both technical and pedagogical training in the area of TEL, as well as uses of examples of practice in the form of case studies and CPD activities offered to academic staff in this area, providing the HeLs' perspective. Furthermore, the study aimed to discuss the HeLs' perspective of academic staff needs in the area of TEL, discuss the institutional approaches required for TEL to be effectively deployed by HEIs and compare the HeLs' perspectives to Laurillard's conversational framework for the effective use of learning technologies.

This chapter has summarised the aims and the background of this study as well as the methodology utilised as part of this research. It summarises the findings of this study's research questions by reconsidering the research questions and how they have been addressed, mentions its contribution to knowledge, policy and practice as well as its limitations and concludes by providing ideas for further research.

REFERENCES

Aimard V (2011) Overview of the potential of e-Learning for Higher Education. <http://www.vie.unu.edu/file/get/3029>
(accessed 26 August 2011)

Allen E and Seaman J (2008) Staying the Course: Online Education in the United States 2008.
<http://sloanconsortium.org/sites/default/files/staying_the_course-2.pdf >
(accessed 23 July 2011)

Allen E and Seaman J (2010) Class Differences: Online Education in the United States 2010.
<http://sloanconsortium.org/publications/survey/pdf/class_differences.pdf>
(accessed 23 July 2011)

Ally M (2004) 'Foundations of Educational Theory for online Learning' in T Anderson and F Elloumi (eds) Theory and Practice of Online Learning, Athabasca, AB: Athabasca University Press, pp.3-31.

Almpanis T (2009) *Virtual Learning Environments (VLEs) in Higher Education: Tutors' Perceptions of their Efficacy*, Saarbrucken, Germany: VDM Verlag Dr Muller.

Almpanis T, Patrick S, MacLellan R, Dinsmore C, Faustino A and Basuki W (2010) 'Proposing a Framework for Blended and Flexible Course Design' in Kinshuk, D G Sampson and J M Spector (eds) Cognition and Exploratory Learning in a Digital Age Conference CELDA 2010 Timisoara, Romania: 15-17 Oct 2010, pp.263-267.

Almpanis T, Miller E, Ross M, Price D and James R (2011) 'Evaluating the use of web conferencing software to enhance flexible curriculum delivery' in Ireland International Conference on Education IICE2011 Dublin, Ireland 1-3 Oct 2011, pp.317-322.

Anagnostopoulou K (2010) Leading learning or being led by IT? An exploration of the possible relationship between conceptions of and approaches to learning and the exercise of leadership by Heads of e-Learning. <https://www.google.co.uk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=3&cad=rja&ved=0CDkQFjAC&url=http%3A%2F%2Fwww.lfhe.ac.uk%2Fdownload.cfm%2Fdocid%2FC402C4C1-6F7C-4B3E-AD9D185E0A1869F1&ei=3LTBUvzdJdGu7AaggIHIBQ&usg=AFQjCNG6K2GKxniFBiBcxusm2cXs3G1_vw > (accessed 13 Jun 2013)

Anderson T (2004) 'Toward a Theory of Online Learning' in T Anderson and F Elloumi (eds) Theory and Practice of Online Learning, Athabasca, AB: Athabasca University Press, pp.33-60.

Ash K (2011) 'Second Life struggles to catch on with educators' *Education Week*, 4 (3), pp.24-26. <http://www.edweek.org/dd/articles/2011/06/15/03secondlife.h04.html> (accessed 03 September 2013)

Bacsich P and Ash C (1999) The hidden costs of networked learning – The impact of a costing framework on educational practice. <http://www.ascilite.org.au/conferences/brisbane99/papers/bacsichash.pdf > (accessed 13 June 2013)

Bell F (2011) 'Connectivism: Its Place in Theory-Informed Research and Innovation in Technology-Enabled Learning' *International Review of Research in Open and Distance Learning*, 12 (3), pp.98-118.

Bergman M M (2011) 'The good, the bad, and the ugly in mixed methods research and design' *Journal of Mixed Methods Research,* 5 (4), pp.271-275.

Burch R (2010) "Charles Sanders Peirce" in E N Zalta (ed) *The Stanford Encyclopedia of Philosophy (Fall 2010 Edition).* <http://plato.stanford.edu/archives/fall2010/entries/peirce/ > (accessed 20 August 2012)

Burke Johnson R and Onwuegbuzie A J (2004) 'Mixed Methods Research: A Research Paradigm Whose Time Has Come' *Educational Researcher*, 33 (7), pp.14-26.

Burr (2003) *Social Constructionism*, 2nd ed., East Sussex: Routledge.

Cashmore A and Ramsden P (2009a) Reward and Recognition in Higher Education: Institutional policies and their implementation. <http://www.heacademy.ac.uk/assets/documents/rewardandrecog/RewardandRecognition_2.pdf>
(accessed 21 September 2013)

Cashmore A and Ramsden P (2009b) Reward and Recognition in Higher Education: A collaborative investigation, interim report. <http://www.heacademy.ac.uk/assets/documents/rewardandrecog/Reward_and_Recognition_Interim.pdf >
(accessed 21 September 2013)

Cherryholmes C H (1992) 'Notes on pragmatism and scientific realism' *Educational Researcher*, 21 (6), pp.13-17.

Cherryholmes C H (1994) 'More notes on pragmatism' *Educational Researcher*, 23 (1), pp.16-18.

Cohen L, Manion L and Morrison K (2007) *Research Methods in Education*, 6th ed., Oxon: Routledge.

Creswell J W and Plano Clark V L (2007) *Designing and Conducting Mixed Methods Research*, Thousand Oaks, CA: Sage Publications.

Creswell J W (2009) *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 3rd ed., Thousand Oaks, CA: Sage Publications.

CSALT Lancaster University (2004) Networked Learning in Higher Education.

<http://csalt.lancs.ac.uk/jisc/definition.htm>
(accessed 15 June 2013)

Cunliffe A (2013) 'Orientations to Social Constructionism: Relationally Responsive Social Constructionism and its Implications for Knowledge and Learning' *Management Learning,* 39, pp.123-139.

Denscombe N (2008) 'Communities of practice: a research paradigm for the mixed methods approach' *Journal of Mixed Methods Research,* 2 (3), pp.270-283.

Donnelly R (2006) 'Exploring lecturers' self perception of change in teaching practice' *Teaching in Higher Education,* 11 (2), pp.203-217.

Downes S (2012) Connectivism and Connective Knowledge.
<http://www.downes.ca/post/58207>
(accessed 10 June 2013)

ECDL Training (2013)
<http://www.ecdl-training.co.uk/>
(accessed 15 July 2013)

Edge Hill University (2009) Technology Enhanced Learning Professional Development Framework.
<http://www.eshare.edgehill.ac.uk/1367/3/TEL_PD_Framework.pdf >
(accessed 15 June 2013)

Ellis E M (2000) 'Faculty participation in the Pennsylvania State University World Campus: Identifying barriers to success' *Open Learning,* 15 (3), pp.233-242.

Feenberg A (1999) *Questioning Technology,* London and New York, NY: Routledge.

Feilzer M Y (2010) 'Doing mixed methods research pragmatically: implications for the rediscovery of pragmatism as a research paradigm' *Journal of Mixed Methods Research,* 4 (1), pp.6-16.

Fox S (2005) 'An actor-network critique of community in higher education: implications for networked learning' *Studies in Higher Education,* 30 (1), pp.95-110.

Gagné R M, Wager W W, Golas K C and Keller J M (2005) *Principles of Instructional Design,* 5th ed., Belmont, CA: Wadsworth/Thomson Learning.

Garrett R (2004) The real story behind the failure of UK e-University *Educause quarterly*, 4 <http://net.educause.edu/ir/library/pdf/EQM0440.pdf >
(accessed 15 July 2013)

Garrison D R and Kanuka H (2004) 'Blended Learning: Uncovering its Transformative Potential in Higher Education' *The Internet and Higher Education,* 7 (2), pp.95-105.

Garrison D R and Kanuka H (2008) 'Changing Distance Education and Changing Organisational Issues' in W J Bramble and S Panda (eds) Economics of Distance and Online Learning: Theory, Practice and Research, New York: Routledge, pp.13-25.

Garrison D R and Vaughan N D (2008) *Blended Learning in Higher Education: Framework, Principles and Guidelines,* San Francisco, CA: John Wiley & Sons.

Gorman P (2012) 'Has Second Life Lived up to Expectations?' *Ariadne,* March 2012, 68 <http://www.ariadne.ac.uk/issue68/gorman>
(accessed 21 August 2012)

HEA UKPSF (2011) The UK Professional Standards Framework for teaching and supporting learning in Higher Education.
<http://www.heacademy.ac.uk/assets/documents/ukpsf/ukpsf.pdf >
(accessed 13 June 2013)

HEA UKPSF (2013) UK Professional Standards Framework.
<http://www.heacademy.ac.uk/UKPSF>
(accessed 13 June 2013)

HeLF Membership (2013)

<http://w01.helfcms.wf.ulcc.ac.uk/membership.html>
(accessed 13 January 2013)

HEFCE (2005) Strategy for e-learning.
<http://www.hefce.ac.uk/pubs/hefce/2005/05_12/>
(accessed 15 January 2011)

HEFCE (2009) Enhancing Learning and Teaching through the use of technology. A revised approach to HEFCE's strategy for e-learning.
<http://www.hefce.ac.uk/pubs/hefce/2009/09_12/>
(accessed 15 January 2011)

Hemsley Fraser (2013) E-Learning Packages.
<http://www.hemsleyfraser.co.uk/OpenCourses/TrainingDivisions/ElearningPackages.aspx>
(accessed 15 July 2013)

Hergernhahn B R and Olson H (2001) *An introduction to theories of learning*, 6th ed., Upper Saddle River, N J: Prentice Hall.

Hove C and Corcoran (2008) 'If you post it, will they come? Lecture availability in introductory psychology' *Teaching of Psychology*, 35, pp.91-95.

Inglis A (2008) 'Costs and Quality of Online Learning' in W J Bramble and S Panda (eds) Economics of Distance and Online Learning: Theory, Practice and Research, New York, NY: Routledge, pp.132-147.

Jallade J P and Mora J G (2001) 'Lifelong Learning: international injunctions and university practices' *European Journal of Education*, 36 (3), pp.361-377.

Johnson R B, Onwuegbuzie A J and Turner L A (2007) 'Toward a definition of mixed methods research' *Journal of Mixed Methods Research*, 1 (2), pp.112-133.

JISC Design Studio (2015) Transforming Assessment and Feedback
http://jiscdesignstudio.pbworks.com/w/page/61525479/Transforming%20Assessmen

t%20and%20Feedback
(accessed 10 May 2015)

JISC Developing Digital Literacies Programme (2013)
http://webarchive.nationalarchives.gov.uk/20140702233839/http://www.jisc.ac.uk/whatwedo/programmes/elearning/developingdigitalliteracies/developingdigitalliteraciesprog.aspx
(accessed 10 Apr 2015)

JISC Developing Digital Literacies (2013)
http://webarchive.nationalarchives.gov.uk/20140702233839/http://www.jisc.ac.uk/whatwedo/programmes/elearning/developingdigitalliteracies.aspx
(accessed 10 Apr 2015)

JISC (2011) e-learning.
<http://www.jisc.ac.uk/whatwedo/themes/elearning>
(accessed 10 July 2011)

JISC (2010) Online Learning Task Force: Study of UK online learning.
<http://www.jisc.org.uk/whatwedo/projects/hefcetaskforce.aspx>
(accessed 16 January 2011)

Jaschik S and Lederman D (2014) The 2014 Higher Ed Survey of Faculty Attitudes on technology.
https://www.insidehighered.com/system/files/media/IHE-FacTechSurvey2014%20final.pdf
(accessed on 10 Apr 2015)

Jones C, Asensio M and Goodyear P (2000) 'Networked learning in higher education: practitioners' perspectives' *Association for Learning Technology Journal*, 8 (2), pp.18-28.

Jones C, Ferreday D and Hodgson V (2006) 'Networked Learning, a Relational Approach – Weak and Strong Ties' in S Banks, V Hogson, C Jones, B Kemp, D McConnell and C Smith (eds) Proceedings of the 5th International Conference on

Networked Learning 2006 Lancaster: Lancaster University.

Jones C and Kennedy G (2011) 'Stepping beyond the paradigm wars: pluralist methods for research in learning technology' in D Hawkridge, K Ng and S Verjans (eds) Thriving in a colder and more challenging climate. Proceedings of the 18th annual conference of the Association for Learning Technology ALT-C 2011 6-8 September 2011 Leeds: University of Leeds, pp.18-28.

Jones N and Man Sze Lau A (2010) 'Blending learning: widening participation in higher education' *Innovations in Education and Teaching International,* 47 (4), pp.405-416.

Jung I (2008) 'Costing Virtual University Education' in W J Bramble and S Panda (eds) Economics of Distance and Online Learning: Theory, Practice and Research, New York, NY: Routledge, pp.148-161.

Kanuka H (2008) 'Understanding e-learning technologies-in-practice through philosophies-in-practice' in T Anderson (ed) The theory and practice of online learning, Athabasca, AB: Athabasca University Press, pp.91-119.

Larking H (2010) 'But they won't come to lectures... The impact of audio recorded lectures on student experience and attendance' *Australasian Journal of Educational Technology,* 26 (2), pp.238-249.

Laurillard D (2002) *Rethinking University Teaching: a conversational framework for the effective use of learning technologies,* 2nd ed. London: Routledge Falmer.

Laurillard D (2012) *Teaching as a Design Science: Building pedagogical Patterns for Learning and Technology,* London: Routledge.

London School of Economics (2011) Centre for Learning Technology.
<http://clt.lse.ac.uk/>
(accessed 20 June 2011)

MacDonald J (2008) *Blended learning and online tutoring,* 2nd ed., Aldershot: Gower

Publishing Limited.

Matthews B and Jessel J (1998) 'Reflective and reflexive practice in initial teacher education: a critical case study' *Teaching in Higher Education*, 3 (2), pp.231-243.

Mazur E (1996) *Peer instruction: a user's manual*, Boston, MA: Addison-Wesley.

Mishra P and Koehler J (2006) 'Technological Pedagogical Content Knowledge: A Framework for Teacher Knowledge' *Teachers College Record*, 6, pp.1017-1024.

Moule P (2007) 'Challenging the five-stage model for e-learning: a new approach' *Association for Learning Technology Journal*, 15 (1), pp.37-50.

NHS (2013) Choose and book: E-learning modules.
<http://www.chooseandbook.nhs.uk/staff/training/elearning>
(accessed 15 July 2013)

Nottingham Trent University (2010) Nottingham Trent University (NTU) Strategic Plan 2010-2015.
<http://www.ntu.ac.uk/about_ntu/document_uploads/102081.pdf>
(Accessed 17 May 2013)

Oblinger D and Hawkins B (2005) The Myth about E-Learning, *Educause Review*, July/August 2005.
<http://www.educause.edu/ir/library/pdf/erm05411.pdf>
(accessed 15 July 2011)

Oliver M (2002) 'What do Learning Technologist do?' *Innovations in Education and Training International*, 39 (4), pp.245-252.

Open educational resources programme – phase 1 (2013) JISC.
<http://www.jisc.ac.uk/whatwedo/programmes/elearning/oer.aspx>
(accessed 10 July 2013)

Open educational resources programme – phase 2 (2013) JISC.

<http://www.jisc.ac.uk/whatwedo/programmes/elearning/oer2.aspx>
(accessed 10 July 2013)

Open educational resources programme – phase 3 (2013) HEA.
<http://www.heacademy.ac.uk/resources/detail/oer/oer-phase-3>
(accessed 10 July 2013)

Open University UK Facts and Figures (2010).
<http://www.open.ac.uk/about/documents/about-facts-figures-0910.pdf >
(accessed 10 June 2013)

Open University UK Learning Design Initiative (2011).
<http://www.open.ac.uk/blogs/OULDI/>
(accessed 01 July 2011)

Palloff R and Pratt K (2007) *Building Online Learning Communities,* San Fransisco, CA: Jossey-Bass.

Passey D (2014) *Inclusive Technology Enhanced Learning: overcoming cognitive, physical, emotional and geographic challenges*, New York, NY: Routledge.

Plowright D (2011) *Using Mixed Methods: Frameworks for an Integrated Methodology*, London: Sage Publications.

Popper K (2004) *Conjectures and refutations: the growth of scientific knowledge*, reprinted ed., London: Routledge.

Ratcliffe R (2012) University applications from UK students down 8,4%.
<http://www.guardian.co.uk/education/2012/nov/28/university-applications-uk-students-down-ucas>
(accessed 12 Jan 2013)

Reuschle S and Loch B (2008) 'Conducting a trial of web conferencing software: Why, how, and perceptions from the coalface' *Turkish Online Journal of Distance Education,* 9 (3), pp.19-28.

Richardson M (2007) 'Constructivism in education: An overview of contributions to the literature and to the JPACTe annotated bibliography' *Journal for the Practical Application of Constructivist Theory in Education*, 2 (1), pp.1-16.

Rorty R (1999) *Philosophy and Social Hope,* St Ives: Penguin Books.

Rumble G (2003) 'Modelling the costs and economics of distance education' in M G Moore and W G Anderson (eds) Handbook of Distance Education, Mahwah, NJ: Lawrence Erlbaum Associates, pp.703-716.

Ryberg T and Larsen M C (2008) 'Networked identities: understanding relationships between strong and weak ties in networked environments' *Journal of Computer Assisted Learning*, 24 (2), pp.103-115.

Saint Mary's University of Minesota (2013) Laurillard's conversational framework for instruction.
<http://www2.smumn.edu/deptpages/~instructtech/lol/laurillard/>
(accessed 01 July 2011)

Salmon G (2002) *E-tivities: the key to active online learning,* Abingdon: Kogan Page Limited.

Salmon G (2003) *E-moderating: the key to teaching and learning online,* London: Routledge Falmer.

Salmon G (2011) *E-moderating: the key to teaching and learning online,* 3rd ed., London: Routledge.

Schon D A (1987) *Educating the reflective practitioner: toward a new design for teaching and learning in the professions,* San Fransisco, CA: Jossey Bass.

SEDA (2013a) Staff and Educational Development Association.
<http://www.seda.ac.uk/home.html>
(accessed 15 June 2013)

SEDA (2013b) Supporting Learning with Technology.
<http://www.seda.ac.uk/?p=3_1_10_1_15>
(accessed 15 June 2013)

SEDA (2013c) Embedding Learning Technologies.
<http://www.seda.ac.uk/?p=3_1_10_1_4>
(accessed 15 June 2013)

Sharpe R and Oliver M (2013) 'Designing for Learning in Course Teams' in H Beetham and R Sharpe (eds) Rethinking Pedagogy for a Digital Age, 2nd ed., Abington: Routledge, pp.163-176.

Siemens G (2004) Connectivism: A Learning Theory for the Digital Age.
<http://www.elearnspace.org/Articles/connectivism.htm>
(accessed 15 March 2013)

Skills Active (2013) E-Learning and Online Courses.
<http://www.skillsactive.com/e-learning-and-online-courses>
(accessed 15 July 2013)

Southampton Solent University (2015) Southampton Solent University's strategy 2015 – 2020.
< http://www.solent.ac.uk/about/resources/vice-chancellors-office/southampton-solent-university-strategy-2015-2020.pdf>
(accessed 17 May 2015)

Strauss A and Corbin J (1997) *Grounded Theory in Practice*, Thousand Oaks, CA: Sage Publications.

Strauss A and Corbin J (1998) *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*, 2nd ed., Thousand Oaks, CA: Sage Publications.

Tait A and Mills R (1999) *The Convergence of Distance and Conventional Education. Patterns of Flexibility for the Individual Learner*, New York, NY: Routledge.

Tait A and Mills R (2003) *Rethinking Learner Support in Distance Education*, London: Routledge Falmer.

Tashakkori A and Teddlie C (2003) *Handbook of mixed methods in social and behavioral research*, Thousand Oaks, CA: Sage Publications.

Taylor M (2013) Non-EU postgraduate numbers in UK fall for first time in 16 years. <http://www.guardian.co.uk/education/2013/jan/11/non-eu-postgraduate-numbers-fall?INTCMP=SRCH>
(accessed 12 January 2013)

Teddlie C and Yu F (2007) 'Mixed Methods Sampling: a Typology with examples' *Journal of Mixed Methods Research*, 1, (1), pp.77-100.

UCISA (2010) Survey of Technology Enhanced Learning for higher education in the UK.
<http://www.ucisa.ac.uk/groups/ssg/~/media/groups/ssg/surveys/TEL%20survey%202010_FINAL.ashx>
(accessed 25 May 2011)

UCISA (2012) Survey of Technology Enhanced Learning for higher education in the UK.
<https://www.ucisa.ac.uk/~/media/groups/ssg/surveys/TEL_survey_2012_with%20Apps_final.ashx>
(accessed 07 Oct 2014)

UCISA (2014) Survey of Technology Enhanced Learning for higher education in the UK.
<
https://www.ucisa.ac.uk/~/media/groups/dsdg/TEL%20Survey%202014_29Sep2014.

ashx>
(accessed 07 Oct 2014)

Ultanir E (2012) 'An Epistemological glance at the constructivist approach: constructivist learning in Dewey, Piaget and Montessori' *International Journal of Instruction*, 5 (2), pp.195-212.

University of Cambridge (2011) Centre for Applied Research in Educational Technologies. <http://www.caret.cam.ac.uk/page/what-we-can-do-for-you>
(accessed 20 June 2011)

University of East London (2011) E-Learning Staff Development.
<http://www.uel.ac.uk/elearning/staff_development/index.htm>
(accessed 21 June 2011)

University of Exeter (2011) You Teach Workshops.
<http://as.exeter.ac.uk/support/staffdevelopment/learningandteachingprogrammesandworkshops/youteachworkshops/>
(accessed 22 June 2011)

University of Kent (2007) University of Kent e-Learning Strategy.
< https://www.kent.ac.uk/uelt/strategies/university%20e-learning%20strategy.pdf>
(accessed 15 May 2013)

University of Newcastle (2011) Educational Resources.
<http://www.newcastle.edu.au/unit/centre-for-teaching-and-learning/educational-resources/>
(accessed 22 June 2011)

University of Liverpool (2011) Centre for lifelong learning.
<http://www.liv.ac.uk/eddev/E-Learning/index.htm>
(accessed 21 June 2011)

University of Reading (2013) Centre for Quality Support and Development: Teaching and Learning Enhancement Priorities.

< http://www.reading.ac.uk/cqsd/QualityAssurance/PoliciesandProcedures/cqsd-TeachingAndLearningEnhancementPriorities.aspx>
(accessed 16 Oct 2013)

University of Surrey (2011) Centre for Educational and Academic Development.
<http://www.surrey.ac.uk/cead/opportunities/>
(accessed 23 June 2011)

University of the West of England (2011) The Online Learning Course.
<http://ltdu.uwe.ac.uk/net/ltdu/Default.aspx?pageid=27>
(accessed 20 June 2011)

University of the West of England (2011) MA Education in Virtual Worlds.
<http://www.uwe.ac.uk/elearning/virtualWorldsMA/index.shtml>
(accessed 20 June 2011)

University of West London (2008) University Learning, Teaching and Assessment Strategy 2008 – 2013.
< https://www.uwl.ac.uk/sites/default/files/Departments/About-us/Web/PDF/strategic_plan/LTA_Strategy.pdf>
(accessed 17 May 2013)

University of West London (2011) Technology enhanced learning seminars.
<http://www.uwl.ac.uk/instil/programmes/Technology_enhanced_learning_seminars.jsp>
(accessed 22 June 2011)

Vitartas P, Rowe S and Ellis A (2008) Students' first experiences with a web conferencing system.
<http://ausweb.scu.edu.au/aw08/papers/refereed/vitartas/paper.html>
(accessed 17 January 2013)

Wang S K and Hsu H Y (2008) 'Use of the webinar tool (Elluminate) to Support Training: the effects of webinar learning implementation from student-trainers' perspective' *Journal of Interactive Online Learning,* 7 (3), pp.175-194.

Wenger E (1998) *Communities of Practice: Learning Meaning and Identity,* Cambridge: Cambridge University Press.

WikiEducator (2011) Open Universities in the World. <http://wikieducator.org/Handbook_of_Open_Universities> (accessed 20 July 2011)

Willetts D (2011) Higher Education: Students at the heart of the system. Higher Education, Department of Business Innovation and Skills. <https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/32409/11-944-higher-education-students-at-heart-of-system.pdf> (accessed 17 January 2013)

White D, Warren N, Faughnan S and Manton M (2010) Study of UK Online Learning Final Report. <http://www.jisc.ac.uk/media/documents/projects/UKOnlineLearningStudy-FinalReport-Mar10-FINAL-FORPUB.pdf > (accessed 20 May 2011)

APPENDICES

APPENDIX A – Interview example presented as descriptive narrative

Interview 7 – Background (Derek)

Interview 7 took place with the head of e-learning of a post-1992 university that has heavily invested in blended learning programmes. Derek mentioned that the university he worked at, as most former polytechnics, is more on the teaching-intensive side; employability, business engagement and teaching are their main areas of focus. It was mentioned that they did have a research profile too which was in four or five specialised areas. The university's involvement with blended and online learning goes back to 2000 when a large amount of European funding - approximately £6 million - was received by the University in order to design, develop and deliver online learning provision. In 2005 when that funded programme came to an end, the university decided to refocus its internal strategy regarding distance learning and on top of its distance learning provision moved on to the design of blended courses on campus as well; that resulted in having a mixture of blended and distance learning courses across the whole spectrum of online delivery. Derek estimated that 10% of all courses delivered by the university are fully online and a further 10-15% are mostly online with minimum campus participation. The vast majority of the remaining courses are blended on-campus, using technology in their delivery. Only a small number of courses, estimated to be as low as 5% of the whole portfolio make no use of TEL as yet.

1) Could you please talk a bit about the support that your team, as an e-learning team, provides in the area of TEL and is it a central team or do you have people in the Faculties as well?

Derek mentioned that the TEL team sits within the Centre for Excellence in Learning and Teaching and is one of its five strands – the others are staff development, assessment, educational development and accreditation. On top of that there is a Blended Learning Services team within the Corporate Services Department with two learning technologists whose focus is mostly technical, whereas the TEL team within CELT comprises academic staff with expertise in the delivery of TEL. All five faculties have also an academic champion that is given 20% of their time in order to

facilitate this role and in addition to that two faculties have employed their own instructional designers and one of these two has employed a multimedia person as well to work specifically on their programmes in addition to the support offered by the centralised teams.

2) What are the main goals/targets in your institution regarding the institution-wide implementation of TEL?

Derek responded that one of their three strategic missions as a university is to provide the best TEL experience to their students and this is explicitly stated in their institutional strategy. Below that, their teaching and learning strategy states that technology will be used in all means of course delivery – on-campus, blended and online – in order to support more flexibility in teaching and learning. Specific targets in the area of TEL include increasing the amount of online distance delivery particularly at postgraduate level by 15% and also increasing the use of technology in all other courses too.

3) What are the main issues and obstacles in the institution-wide implementation of TEL?

Academic staff time was reported to be the biggest barrier, as academic staff are very busy with research and teaching-related activities. Academic staff often ask whether they need to do that on top of everything else they are doing, as they see it as something extra. This was addressed by the university, which resulted in a big cultural change according to Derek, when the Vice-Chancellor made TEL one of the institutional areas of distinctiveness, approximately five years prior to the interview. This also resulted in staff not seeing the use of technology as something separate any longer; in Derek's own words:

> *'... the nature of dialogue at the institution has moved from 'oh there is that technology that I have to use' to 'ok, how can I improve my course' and has moved exactly from what would be called e-learning to focusing on how we can make learning better ...'*

4) In your experience, do you find TEL is used more at the dialogic/discursive level where the focus is on theory, or the experiential level where the focus is on practice?

Derek's response was that it depends on the discipline and he mentioned geography as an example where TEL had been used mostly to support experiential learning in field trips; furthermore, in creative industries such as drama, media production and television production, technology was used in a very practical sense as it was in the design subjects such as architecture. But on the other hand, more theoretical subjects such as history and business studies as well as health and care are making mostly dialogic/discursive use of technology, discussing topics or using a wiki to create a glossary of terms. As science, technology, engineering and mathematics (STEM) subjects are bigger than other subjects it could be that technology was used marginally more on the practical side, according to Derek, but that was rather coincidental and subject-related.

5) Do you think both levels can be facilitated equally well in an online environment?

Derek stated that the experiential is harder to achieve and requires innovative approaches as it 'does not come out of the box' like the case of dialogic engagement:

> *'I think certainly the VLE in its initial years was much more about content but also discursive and dialogic; then gradually we looked at other approaches which would bring in images as with the geography example or the theatre design example, or the drama and music examples – most of those aren't using a VLE environment; we link out to other environments from our VLE so we would tend to use software like flickr, like facebook, like tools which would be relevant; in music there are a lot of mobile apps which are particularly useful for capturing, sharing, distributing and so we were open to using those and in a sense of managerial perspective, it is easier to understand and control the more dialogic elements which are more theoretical than the practical and we have to work hard at the implementation of the practical ...'*

6) As far as you are aware, are your online programmes following a specific online learning theory or model?

Derek mentioned that fully online courses – and those mostly online - are designed in the social constructivist model; these courses are designed in a different way from the campus-based ones and social constructivism is modelled in their staff development and the modules on effective online learning and teaching. The whole institution supports an 'inquiry based learning – social constructivist' type model as their primary learning and teaching model and this, according to Derek, is easier to achieve in the online environment because the infrastructure is provided in the background.

7) In your opinion, what do lecturers need to know in terms of online moderation/facilitation?

Derek shared his experiences of growing up with the development of Salmon's five-stage model (2003) since it was still work in progress. Salmon's five-stage model - and subsequently an adapted version of it - was used to train staff that would deliver online courses and, as part of their validation process, all staff teaching on an online or mainly online course have to complete a module previously called 'e-moderating' and now called 'using online communities to develop an enhanced learning' which is aimed to develop academic staff so that they can moderate and facilitate students' learning in an online environment effectively.

8) What are the key technical skills that are needed by academics who teach online?

Derek replied that their aim is to make the technology transparent and that they do not provide technical training to staff but the basics on how to use the technology are embedded in their staff development:

> *'So our training for staff is not technical training; it's try it out for the first time and then go. It's not technical in a sense that you don't need to be an information systems or a computer specialist to do it. It's training like the one you get when you first get a computer, how do I turn it on and which buttons do I press to make it work, it's that level'.*

9) Should TEL be a compulsory module in the Postgraduate Certificate in Learning and Teaching in HE course?

Derek answered that it should be and that it is in the university he is working at. Their postgraduate certificate includes both the e-moderating module but also the reflection on pedagogical approaches to learning and teaching online module.

10) Should TEL be part of the CPD framework for ALL academic staff?

Derek mentioned that their CPD Framework is mapped to the UK Professional Standards Framework (UK PSF) and that TEL should be part of any CPD Framework, as TEL is part of the UK PSF.

11) Should there be any formal requirements before academic staff get involved in online or heavily blended courses?

Derek mentioned that it is important for all staff to evidence that they have undertaken staff development in advance of delivering online teaching and that, at the university he is working for, staff need to have undertaken at least a ten-credit e-moderating module or equivalent. In Derek's view teaching online is quite different from traditional delivery as 'you are putting people in a relationship with learners that is not an instinctive, natural and assumed skill ... the nature of the interaction is so radically different that we believe it is a pre-requisite not a co-requisite for this delivery'.

12) To sum up, what do lecturers need to know in order to deliver blended and online courses effectively?

Derek responded that, in simple terms, lecturers need to be aware of the pedagogic approaches being asked of them, they need to be comfortable in their own discipline, they should not find challenge and critique threatening or inappropriate and they need to treat the online environment as seriously as the face-to-face one and dedicate appropriate time to supporting their online students.

13) In your experience, is online learning seen as 'second best' by academic staff?

Derek replied that this was not the case in the university he worked at. On the contrary, he added, it is often seen as one of the key ways to achieve a promotion; as there has been high-level managerial support for online learning, it is seen as beneficial rather than second best and the rising stars are usually people who do get involved with it.

14) According to Feenberg, online learning can enable new forms of dialogic interactions. However, as he points out, there is a danger for technology, if used incorrectly, to lead to a de-skilling of the teaching profession, leading to an 'automated' education with the aim to cut costs. What is your own experience regarding online learning been accused of de-skilling the teaching profession?

Derek's response was that in his experience this model does not work in HE, adding that he is aware of the old computer-aided learning concept, which is step by step and students work through a training package on their own, independent of teaching interaction. However, in HE it is not used in this de-skilling fashion and it is mostly used around a wider dialogic engagement. If it could be done in an automated way, then it would not be at HE level, according to Derek.

15) From your experience, do you think that an online course is cheaper, the same as, or more expensive compared to an equivalent face-to-face course?

Derek replied that they are working on a 'break even five year delivery pattern' which means that the upfront cost of the online course gets even over five years. So, for most of their courses the online version costs the same as a face-to-face course but is more front-loaded because in 'online learning you cannot just walk-in; you have to do the scaffolding around the learning otherwise it will fail', according to Derek.

APPENDIX B

OPEN CODING – THEMATIC ANALYSIS EXAMPLE

TEL targets

Participant	TEL Aims and Targets	Codes
Malcolm	Our goal at the moment is to develop competence in staff	Staff competence
	Develop materials, we are a team that develops high quality online learning materials for undergraduate courses	Develop materials
	We are looking very much at interactions, the student experience	Student experience
	The strategic goals are to make technology integral to teaching, learning, assessment and curriculum design.	Integrate technology in the curriculum
	Create culture sharing and using quality content and the infrastructure to enable it;	Create culture of sharing content Create infrastructure for sharing content
	Promoting innovation and creativity in the use of TEL	Promote innovation and creativity in the use of TEL
	Streamlined, improved assessments online	Improved online assessments
	Identifying and developing innovative technologies, try to be ahead of the game in exploring technology	Identify and develop innovative technologies
	Developing digital literate graduates making sure that our graduates are employable	Develop digitally literate, employable graduates
	Enhancement through technology enhanced learning spaces	Technology enhanced learning spaces
	Develop quality assured blended learning programmes	Quality assured blended learning programmes

Christina	I think from senior management's point of view is probably the consistency of the student experience because in the students' surveys the students' perceptions are driving everything. There is more interest now in e-assessment through something like QuestionMark Perception and there is a requirement for all tutor-marked assignments if they are text-based to be submitted electronically.	Consistency of student experience e-assessment with quizzes online submission
Ben	Improving the educational experience of the students looking at some of the administrative benefits that may be gained as well as a kind of flexibility that you can engage when you want to, where you want to. In terms of the educational benefit, specifically things we highlight are like the opportunity to develop real work skills in technology...the ability to do more real-world assessments or authentic tasks, new collaborative opportunities potentially with people outside the classroom but also with peers and tutors outside the classroom	Improving the student experience Develop real world skills in technology Real world assessments
Carl	We have been looking at minimum standards in the use of the VLE for a number of years – but now the minimum standard is all learning materials should be posted in advance of the formal teaching session, that's across the board. We are moving towards a complete e-submission of assessed work for 2013, we are doing a lot of work in that area.	VLE minimum standards E-submission
Robert	What we do ask is that each department on an annual basis develops a strategy which outlines their approach to learning technology and how it will be used to support the student learning experience.	Support the student learning experience
Ken	To improve uptake, generally; with a view, primarily to enhance the student experience.	Improve uptake of TEL Enhance the student experience
Derek	To provide the best quality TEL experience for the Institution's students. Technology will be used in all means of delivery and will support more flexible forms of learning and teaching Deliver staff development and skillset We have a target of increasing the amount of distance online delivery particularly postgraduate distance online delivery by 15% more than we are currently delivering We have a target around TEL that all modules and	Provide the best TEL experience to students Support flexible learning Staff development Increase uptake of distance learning Improve uptake

	programmes will be delivered using technology and those who are currently beginning to engage in the use of technology will increase the way they use it.	
Karina	There are all sorts of plans at the moment to up-skill the staff body as a whole. Particularly, there is a push towards a kind of a digital driving license, like the European driving license, so that academic staff at least have the basic technical capacity to be able to use things like the VLE and the streaming server and so forth.	Up-skilling staff
Diane	Try to make sure that we have a baseline level of information available for students within our VLE, which is Blackboard, so to put that baseline in has been quite an undertaking as it is a new thing for us and is probably the closest we have to a target. TEL implementation and use should increase, whatever that means.	Minimum content Increase TEL implementation and use
Lisa	The expectation is that by 2020 every module and every programme in the university will be fully blended. We've also got targets for online learning. The expectation then is that over the next few years we'll increase our capacity in online learning, and by 2020 we'll have minimum about 20 completely online postgraduate programmes. So we've also got targets in relation to e-assessment and online submission, that kind of thing too. They're perhaps not quite as prescriptive. There's an expectation that we will move much more towards e-submission, e-assessment, and e-feedback and we're in the process of writing some policy and guidelines around that just now.	Make all modules blended Increase number of online courses Move towards e-assessment and online submission
Alan	It starts of – it's in our strategic learning and teaching strategy that we, or course teams and individuals, should be taking best advantage of innovative teaching techniques and assessment modules which include technology enhanced learning. So the expectations would be that when course teams validate or re-design, there should be a component of technology enhanced learning. We've got a joined up now, central model for electronic management of assessments, from e-submission, e-marking, e-grading and e-feedback, so that's the other expectation. That model has now been deployed, we've been doing it for a number of years through the technologies we have and the teams to support that. So the expectation is that they would do that.	Innovate with TEL Use TEL in a blended context Electronic management of assessments

Kate	It's interesting you ask that because we are very much at that decision stage; as part of the education strategy there is a significant component there that talks about virtual spaces, virtual learning; as you can imagine at the strategic level it is quite vague 'we will enhance the experience using this type of thing.	Enhance the experience using virtual spaces
Sam	at the moment are things like the introduction of Blackboard Analytics The introduction of a content management system to improve the sharing and storage Creation of materials. We have a programme running around digital literacy. I've got a programme running that is purely around developing learning spaces, so that our learning spaces are technology enabled as well.	VLE analytics Content management system Creation of materials Digital literacies Technology enabled learning spaces

Categories/Themes around TEL institutional targets
Student experience (Theme)
code: Student experience
code: Consistency of student experience
code: Improving the student experience
code: Support the student learning experience
code: Enhance the student experience
code: Provide the best TEL experience to students
code: Enhance the experience using virtual spaces

Improved uptake of TEL (Theme)
code: Improve uptake
code: Increase uptake of distance learning
code: Improve uptake
code: Increase TEL implementation and use
code: Make all modules blended
code: Increase number of online courses
code: Use TEL in a blended context
code: Integrate technology in the curriculum
code: Develop quality assured blended learning programmes
code: Support flexible learning

E-submission and e-assessment (Theme)
code: Improved online assessments
code: E-assessment with quizzes & Online submission
code: E-submission
code: Real world assessments
code: Electronic management of assessments
code: Move towards e-assessment and online submission

Staff competence (Theme)
code: Staff competence
code: Staff development
code: Up-skilling staff

Student competence (Theme)
code: Develop real world skills in technology
code: Develop digitally literate, employable graduates
code: Digital literacies

Innovation (Theme)
code: Promote innovation and creativity in the use of TEL
code: Innovate with TEL
code: Identify and develop innovative technologies

Content creation (Theme)
code: Develop materials
code: Creation of materials

Repository creation (Theme)
code: Content management system
code: Create infrastructure for sharing content

Learning spaces (Theme)
code: Technology enhanced learning spaces
code: Technology enabled learning spaces

VLE minimum standards (Theme)
code: VLE minimum standards
code: Minimum content

Uncategorised codes
code: Create culture of sharing content
code: VLE analytics