Exploring e-learning adoption in nurse education: A socio-cultural case study using Q and Bourdieu

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Abstract

This research study employed Q-methodology (Q) to explore the factors influencing e-learning adoption in a nurse education context, and Bourdieu's Theory of Practice (TOP) to analyse these findings using a case study of one school of nursing in the UK. E-learning adoption has been limited in nurse education despite a wide body of literature promoting its use for improved learning outcomes. Most research studies to date have used surveys to explore the overarching factors influencing academics to adopt e-learning across higher education more generally, but these findings have not identified the underlying issues influencing their responses to these factors, nor do they allow a deep analysis of discipline-specific factors.

This study identified four groups (Factors) of academics each responding differently towards e-learning in their teaching. The first group represented the 'e-advocates' who saw technology as having the potential to improve nurse education by giving more control to learners and preparing future nurses for their evolving role in health care. The second group represented the 'humanists' who although sharing similar pedagogical beliefs as the first group had not been motivated to engage with technology because of the value they placed on human interaction. The third group was described as the 'sceptics' who had had previous negative experiences with e-learning and were unconvinced about technology's ability to improve learning outcomes. Finally, the fourth factor, the 'pragmatics,' although ostensibly positive in their views towards e-learning, held different pedagogical beliefs from the three other groups and felt it was their responsibility to cover certain content in a face-to-face setting.

The unique combination of Q and Bourdieu's TOP enabled a deeper analysis of the four groups' views and the socio-cultural context shaping them, thus providing new insights into academics' responses to e-learning. Moving beyond the binary labels commonly attributed to those considered either 'early adopters' or 'laggards,' the findings make a contribution to the e-learning adoption literature by revealing a wider breadth of views and responses towards technology. Moreover, this study showed that internal beliefs determined the extent to which external factors were perceived as influential. This serves to explain why some individuals overcome certain barriers to e-learning adoption whilst others succumb to them. The findings from this study will inform policy-makers, e-learning strategists and professional development staff on how to more effectively present and promote e-learning.

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List of Acronyms

CSF	Critical Success Factors
DON	Division of Nursing
HE	Higher education
HEFCE	Higher Education Funding Council for England
ICT	Information and Communication Technologies
NE	Nurse Education
NHS	National Health Service
NMC	Nursing and Midwifery Council
PEOU	Perceived Ease of Use (construct from TAM)
PU	Perceived Usefulness (construct from TAM)
Q	Q-methodology
RAE	Research Assessment Exercise
RCN	Royal College of Nursing
REF	Research Excellence Framework
RLO	Reusable Learning Object
SDL	Self-directed Learning
TAM	Technology Acceptance Model
TEL	Technology-Enhanced Learning
TOP	Theory of Practice
VLE	Virtual Learning Environment

Glossary

Adoption: often used with the term 'diffusion,' and addresses the psychological processes an individual goes through when faced with an innovation

Andragogy: the process of engaging adult learners in the structure of the learning experience. Originally used in the 1830s by Alexander Kapp, it has since been developed into a theory of adult education by Malcolm Knowles

Attitudes: a hypothetical construct that represents an individual's degree of like or dislike for an item

By-person factor analysis: the type of statistical analysis conducted in Q-methodology whereby participants are defined as variables instead of items (as in traditional factor analysis defined below)

Capital: an integral concept within Bourdieu's Theory of Practice which represents the currency at stake within a *field*. It comes in four different forms: economic, cultural, social and symbolic (see each entry in this glossary)

Concourse: the discourse surrounding a phenomenon from which the Q-set is drawn

Condition of instruction: the instructions provided to each participant during the Q-sorting exercise that sets the stage and guides the Q-sort

Culture (organisational/academic): the set of shared attitudes, values, goals and practices that characterizes an institution, organisation or group

Cultural capital: concept in Bourdieu's Theory of Practice that represents informal interpersonal skills, manners, linguistic styles and educational credentials that individuals acquire within the *field*

Diffusion: the dissemination of information and knowledge. It is a component of the broader adoption of innovation process by which a new idea or product is accepted by users. The rate of diffusion is the speed at which new ideas spread from one person to the next

Doxa: what is taken for granted in any particular society and the experiences by which the natural and social world appear as self-evident; it helps define social limits, the "sense of one's place" and one's sense of belonging, leading individuals to become voluntary subjects of incorporated mental structures that deprive them of more deliberate decision-making

Early adopters: people who embrace new ideas or technologies before the majority

Economic Capital: concept in Bourdieu's Theory of Practice that represents money and salary that individuals acquire within the *field*

E-learning (electronic learning): the use of multimedia technologies and the Internet to improve the quality of learning by facilitating access to resources and services and collaboration and exchanges; all forms of learning/teaching using ICT

E-pedagogy: pedagogy that is based on the use of ICT as a means for learning. In particular it is based on the use of web-based environments which make the most use of the multimedia to improve learning outcomes

Factor: an outcome emerging from a cluster of participants whose Q-sorts were statistically similar; it is also a term used to identify the 'issues' influencing behaviour

Factor analysis: any of several methods of analysis that enable researchers to reduce a large number of variables to a smaller number of variables. It serves to find patterns among the variations in values of several variables through correlations. A cluster of highly inter-correlated variables define a factor

Factor array: designates a model Q-sort constructed from the by-person factor analysis results. This new model Q-sort is a description of the factors on which the interpretation is based

Factor loadings: respondent's correlation with each of the identified clusters or factors; entries (values) in the factor matrix that express the correlation between the respondent Q-sort and the factors, ranging from -1.00 to +1.00

Factor matrix: a table of correlation coefficients that expresses the relations between the respondents Q-sort and the underlying factors

Factor rotation: any of several methods (e.g. varimax or judgemental/theoretical) by which the researcher attempts to find a solution for which each Q-sort has a large loading on only one Factor and small loadings on the other Factors to facilitate interpretation

Factor scores: the level of consensus or disagreement among statements that serves as the basis of interpretation of the Factors

Field: a social space made up of actors interacting according to a specific set rules determined by their social positions. This social position is a result of the *field* itself, the actor's habitus and their capital. *Fields* also interact with each other in a hierarchical manner heavily influenced by the larger *field* of economics and power

Generative Learning Objects: evolution from the RLOs offering a more flexible format that can be customised, adapted, edited or recombined for specific teaching and learning purposes

Habitus: a complex concept understood as individuals' dispositions (lasting, acquired schemes of perception, thought and action) that have been developed in response to the objective environment. It is this disposition that influences how individuals respond in the *field* and determines the capital available to them

Implementation of e-learning: the 'putting into effect' of ICT within an institution according to some plan or procedure, with an emphasis on the hardware, software and other structural requirements necessary to make e-learning available to students and staff

Information and Communication Technology (ICT): an umbrella term that includes all technologies used for the manipulation and communication of information in education

Innovation: a new way of doing something. The goal of innovation is positive change with the intention of making something better, however it is not considered accomplished until the social system's functioning and structure has been changed in a sustainable way (fully integrated)

Integration of e-learning: sustainable and persistent change in teaching within a social system caused by the adoption of technology for the purpose of improving learning outcomes

Nursing and Midwifery Council (NMC): established in 2002 (replacing the UKCC) is a statutory body set up by the Parliament of the UK through the Nursing and Midwifery Order to act as a regulator for nursing and midwifery professions with a stated aim to safeguard the health of the public

P-set: (population sample) a term used in Q-methodology to identify participants involved in the Q-sorting process who are asked to provide their viewpoints towards the phenomenon under investigation

Pedagogy: the art and science of being a teacher; while originally defined as strategies or styles of instruction for children, it is a term that has become commonly used to describe adult education

Pre-registration nursing: programme of study to become a qualified nurse in the United Kingdom, allowing you to be accepted for entry onto the Professional Register by the Nursing and Midwifery Council (NMC)

Q-methodology: a research method used in psychology and other social sciences to study people's "subjectivity," or viewpoints surrounding a phenomenon being investigated

Q-set: the sample of items drawn from the concourse that makes up the instrument that will be provided to the participants (usually on small index cards) for the Q-sort activity

Q-sort: each participant's rank ordered views on a topic using the Q-set

Research Assessment Exercise (RAE): an exercise undertaken in the UK every 5 years on behalf of the four funding councils of higher education (HEFCE, SHEFC, HEFCW, DELNI) to evaluate the quality of research undertaken by British higher education institutions. The rankings are used to inform the allocation of research

Research Excellence Framework (REF): replaces the RAE as the new system for assessing the quality of research in UK higher education institutions. With a completion date set for 2014, it will be undertaken by the same four UK higher education funding bodies.

Reusable Learning Object (RLO): an online multi-media teaching tool based on a specific learning objective which is generally comprised of content, an activity and an assessment to test mastery of the content

Social capital: concept used in Bourdieu's Theory of Practice that relates to positions, relations and social networks that an individual acquires within the *field*

Symbolic capital: the use of symbols that legitimate the possession of economic, social and cultural capital in Bourdieu's Theory of Practice

Technological, Pedagogical and Content Knowledge (TPCK): a framework to understand the kinds of knowledge needed by teachers for effective technology integration. Adapted from the ideas of Lee Shulman relating to pedagogical and content knowledge, with the inclusion of technology

Transforming and Enhancing Student Pedagogy (TESEP): a project started in 2005 in the UK to explore how the transformation of learning, teaching and assessment practices in further education could be driven by e-pedagogy, with an emphasis on active, self-directed learning and collaborative, peer and group work

United Kingdom Central Council for Nursing, Midwifery and Health Visiting (UKCC): set up in 1983 with its core function to maintain a register of UK nurses, midwives and health visitors. National Boards were created in each UK country to monitor the quality of courses and maintain training records of students on these courses (replaced by the NMC)

Chapter 1. The background

1.1. Overview

Rapid growth in Information and Communication Technologies (ICT) has changed the way we live, work and learn. In higher education, e-learning (the use of ICT for teaching and learning) has been promoted as a method for developing a workforce able to contribute to the digital and knowledge-based economy (DfES, 2003; Souleles, 2005; Hughes, 2009; Bradwell, 2009). Similarly, in healthcare, e-learning has been endorsed as a tool for developing essential skills and a way to facilitate lifelong professional development (DOH, 2001; Beasley, 2009; DOH, 2010). To adapt to the rising presence of technology, universities have invested heavily in developing robust infrastructures and IT support teams. Yet despite the enthusiastic endorsement of technology in higher education at a national and institutional level, there has not been a widespread adoption of these technologies by individual academics (BECTA, 2004; Blin and Munro, 2008; Hughes, 2009; Brown, S., 2010; OLTF, 2011).

Much of the literature exploring e-learning adoption in higher education has reported on university wide, cross-disciplinary studies. These studies have identified a number of generic factors (e.g. lack of time, training and limited infrastructure) but most have failed to examine the underlying issues causing these factors to influence some academics but not others, and the influence of particular disciplines on responses towards e-learning. This research study addressed these limitations by examining responses towards e-learning adoption in one discipline (nurse education) using a unique methodology (Q-methodology) in the context of a case study underpinned by a socio-cultural framework (Bourdieu's Theory of Practice). This approach allowed a unique investigation of the influence of socio-cultural structures on individual behaviour in e-learning adoption. The purpose of such a deep and contextual exploration was to provide a richer understanding of educators' views and responses towards technology in their teaching practice. The goal was to inform stakeholders to more effectively recognise and address the needs of educators, and ultimately improve the quality of e-learning in nurse education.

1.2. E-learning in higher education (HE)

The UK's digital and knowledge based economy requires a transformation in how education and training are delivered and one way this transformation will occur is through the increased use of technologies, such as e-learning. (DfES, 2003)

The date of the above publication points to the many years e-learning has been on HE's agenda. Yet despite the eight years passed since *The Future of Higher Education* report, e-learning is still not clearly defined nor widely used by academics in HE (OLTF, 2011). The lack of definition is partly due to the wide range of technologies considered to be 'e-learning' and the variety of ways these can be employed. Some educators, for example, might consider the use of PowerPoint™ slides during lectures as 'e-learning,' whilst others see it as the use of immersive technologies such as Second Life or Serious Games. Depending on whether e-learning is defined as the former or the latter determines whether technology can be considered as having been adopted as a mainstream teaching tool in HE. Indeed, the use of PowerPoint™ slides and other administrative applications of technology (email, document repository, links to online resources) have swept through HE to such an extent that it is difficult not to find an academic using these forms of 'e-learning.'

It is important, therefore, to highlight the term 'transformation' in the DfES (2003) quote above to distinguish between technology integration in teaching as either 'sustaining' or 'disrupting' practice. This is because technologies in themselves do not change teaching, rather it is what educators do with them that can lead to transformation. For example, when used as a vehicle to display lecture notes, PowerPoint™ slides, like the once popular acetates that preceded them, do not demand a drastic change in teaching practices. However, other types of e-learning technologies (e.g. wikis, blogs, social bookmarking, social networking) can challenge traditional power dynamics and demand considerable rethinking of teaching beliefs. It is this type of 'e-learning' technology (coined 'Web 2.0') that has not been so readily adopted in HE.

While the definition of e-learning employed in this study is specified in section 1.4, Table 1 (adapted from the Joint Information Systems Committee's (JISC, 2009a) typology of technologies for learning) illustrates the possible applications of technology in terms of their equivalent approaches in traditional teaching scenarios. Whilst guides such as these are useful for educators new to e-learning as a means of relating it to teaching practices with which they are

familiar, others argue that new Web 2.0 technologies require a completely different strategy for them to have a 'transformative' effect on teaching (DfES, 2003; HEFCE, 2009; Bradwell, 2009).

Table 1: "Typology of technologies for learning"

Technology type	'Traditional' examples	Electronic and mobile examples
Interactive	Indexes, reference texts, catalogues	Handheld gadgets Gateways and portals Online quizzes Social collaborative tools
Productive	Subject-specific analytical tools and protocols e.g. log tables, textual analysis grids	Spreadsheets Wikis Blogs
Adaptive	Real environments (field, lab, workplace etc) in which learners can interact	Virtual worlds Simulations Models & computer games
Integrative	Portfolios, learning logs, learning contracts/plans Paper-based records	e-portfolios Virtual learning platforms Discussion forums

The changes that are occurring in education today are a result of shifts in learning paradigms. Behaviourism, as represented by the works of Watson (1930), Thorndike (1932) and Skinner (1968), once dominated the educational landscape in the late nineteenth and early twentieth century. During that period, pedagogical approaches were influenced primarily by the Industrial Revolution and called for didactic approaches focusing on rote memorisation and 'one-size-fits-all' teaching strategies (Robinson, 2001). Recently, however, there has been a shift in the educational paradigm. Today the focus is on constructivism as represented by the works of Piaget (1957), Bruner (1960) and Vygotsky (1978). The new constructivist paradigm emphasises adult-learning theories and active, engaging teaching techniques (Peters, 2000; Kiteley and Ormrod, 2009), all of which are seen as facilitated with the effective application of certain e-learning technologies, such as those coined Web 2.0 (JISC, 2009a; Bradwell, 2009; OLTF, 2011). The current paradigm strongly contrasts with the previous one that perceived students as 'empty vessels,' metaphorically speaking, waiting to be filled, with little control over how, or with what, they should be filled (Robinson, 2001). The associated pedagogical approaches embrace self-directed learning (SDL) and place an emphasis on social context, decision-making and meta-cognition (Candy, 1991; Schmidt, 2000), enabling students to decide what to learn and to what depth and breadth (Hendry and Ginns, 2009). This potentially conflicts with strict regulations mandated by certain professional requirements such as nursing, as will be discussed in later chapters.

Whilst adapting teaching strategies to meet students' learning needs has not always been a high priority in HE, the role of academia has changed over the years. Once a highly autonomous institution of research and education committed to 'research for the sake of knowledge,' it has now become much more accountable to society. Today HE is responsible for preparing graduates for the workforce and developing research that can translate into economic gains. Moreover, recent changes in funding structures have led universities to be managed more like corporations, with increasing tuition fees and widening access agendas. These changes have contributed to students being perceived as 'consumers,' thus giving them significantly more power to demand better learning experiences.

Since students have been shown to prefer 'blended' approaches (BECTA, 2004; JISC, 2009b), HE has invested in the development of a robust infrastructure to provide them with flexibility and personalised learning. The rising priority of e-learning was recently made explicit in a report published for the Higher Education Funding Council for England (HEFCE) by the Online Learning Task Force (OLTF, 2011). The Task Force was commissioned to explore how HE might extend its position as a world leader in online learning. The report stated that 'standing still' was no longer an option if HE was to maintain its quality and competitiveness and meet the future expectations of students. The report concluded that online learning (blended, on or off-campus) provided an opportunity for HE to develop responsive, engaging and interactive education that was both cost-effective and able to meet students' demands (OLTF, 2011). The financial cuts expected in the public sector were recognised and acknowledged with e-learning presented as an obvious solution for decreasing budgets, whilst encouraging collaboration among institutions and the development of reusable resources (OLTF, 2011).

The report by the Online Task Force (2011) also pointed to the need for sensitive management and a coordination of effort. Acknowledging that academic staff might not be willing to engage with technology, they stressed the value of prioritising 'teaching partnerships' between technologists, learning support specialists and academics (OLTF, 2011). Mixed teams working together on the pedagogic and technological elements of e-learning would allow institutions to provide innovative and high-quality provision of web-enabled learning and exploit the use of social media (OLTF, 2011).

As alluded to in the OLTF report (2011), there are three major drivers influencing the increasing presence of technology in HE: 1) improving access, 2) enhancing the quality of teaching and learning and 3) maintaining a competitive advantage in a changing marketplace for students. The emphasis that is placed on these drivers depends on the perspective of the stakeholder and determines the outcome criteria set for evaluating its success. To illustrate, a stakeholder interested in the use of e-learning to increase access will have different criteria for evaluating its success or effectiveness than someone seeking to improve the quality of teaching.

Given these different angles from which to approach e-learning, it is imperative to explicitly state that the emphasis guiding this research study was the adoption of e-learning as a tool for enhancing the quality of teaching and learning. Indeed, one of the most common claims made of e-learning has been its potential for developing what has been coined '21st century skills' (DfES, 2005; Bradwell, 2009). As mentioned in the earlier quote from the DfES (2003) report, these skills are argued as essential for all graduates entering the 'Knowledge Economy' (KE), and include digital literacy, creativity, flexibility and adaptability (DfES, 2005; Comrie, 2007; HEFCE, 2009). In addition, when used appropriately, ICT has been purported to enable deeper learning; develop learner autonomy; increase participation, collaboration and interaction in the classroom; and provide students with a more active role in their learning (Claudia *et al*., 2004; DfES, 2005; Comrie, 2007).

Yet despite the enthusiasm noted in the government discourse and the numerous reports endorsing e-learning, many academics have been slow to integrate ICT into their teaching (beyond the didactic use of PowerPoint™). Pro-technology advocates have expounded that many in HE have resisted e-learning because they have been trapped in a vision of the 'traditional' university; a vision originating from a long established convention of being state-funded and controlled, while still maintaining significant autonomy (Schneckenberg, 2009). The changing funding structures that have moved universities towards entrepreneurial institutions have contributed to the tensions between those academics who seek to protect traditional values and those who recognise the necessity of adapting to societal trends by becoming modern institutions of learning (Schneckenberg, 2009).

According to Schneckenberg (2009), how academics position themselves in terms of the changes occurring in HE has influenced their responses to e-learning. He paints an image of European

universities as stalled in a traditional pedagogical model of knowledge transmission and explains this to be the result of underlying structural and cultural factors acting as barriers to the integration of ICT in HE (Schneckenberg, 2009). Walker and Johnson (2008) sustain Shneckenberg's (2009) argument, describing universities as traditional environments with centralised power and influence, with lecturers perceived as holding the source to all knowledge and held accountable for communicating this information. Straub (2009) also defines the role of the teacher as ingrained in a long-standing tradition of the professor as expert with students attending class to learn from this expertise. This has been reinforced by the physical layout of lecture halls and the implicit value placed on attendance and face-to-face interactions. Both Walker and Johnson (2008) and Shneckenberg (2009) argue that technology threatens academics by potentially shifting the power and control they have traditionally held to their students. As such, academics have been reluctant to relinquish this control and have had a vested interest in preserving and defending traditional classroom teaching (Jaffee, 1998).

The symbolism and effect of power relations in education has had a long history. Freire (1995) argued that transitions towards different methods of teaching often challenged tradition and demanded reconsideration of taken for granted definitions, such as 'education,' 'experts' and 'knowledge.' This has recently been brought to the fore with contemporary developments in user-generated content (e.g. wikis, blogs) and social collaboration on the Internet (e.g. Facebook, Twitter). Still only in its early stages of integration into formal education, it remains to be seen if and how these new tools will be adopted by educators and the impact this will have on future teaching scenarios in HE (Hughes, 2009; Bradwell, 2009). It is unlikely that these tools will disappear, rather it is more likely that Web 2.0 technologies will continue to gain prevalence as students become accustomed to having information at their fingertips, accessing social networks to seek out information rather than officially endorsed sources (Bradwell, 2009; Hughes, 2009). Moreover, as employers increasingly demand 'soft skills' such as teamwork, collaboration, self-direction, critical thinking and problem solving, educators will be faced with an imperative to harness these technologies in their teaching as a method for developing these skills (Hughes, 2009).

1.3. E-learning in nurse education (NE)

The push for technology is also apparent in healthcare education where e-learning has been described as a 'revolution in education' for healthcare professionals (Ruiz *et al*., 2006). Reflecting the broader HE discourse, the nurse education (NE) literature has portrayed e-learning as supporting self-directed learning (SDL), promoting the acquisition of ICT skills and encouraging the transition from classroom to independent lifelong learning (Smith, 2002; Thiele, 2003). E-learning has also been promoted as a tool that can create greater motivation to learn compared with traditional lectures (Woo and Kimmick, 2000); enhance critical and reflective skills (Ali *et al*., 2002); and lead to greater student satisfaction (Jeffries, 2001; Maag, 2004).

The development of e-learning and computer competence has not only been promoted as a means for developing 21st century skills but also as a method for encouraging nursing professionals to become more involved in the development of technology (Ball, 2000; Willmer, 2005). Acknowledging nursing's historical lack of participation in the developmental phases of the technologies they ultimately use (Sandelowski, 2000), the Prime Minister's Commission on the future of Nursing and Midwifery in England (2010) emphasises the need for nursing students to gain a better understanding of, and influence over, the development of technologies and informatics. The report clearly stresses the importance of integrating technology in pre-registration nurse education. However, as found in the HE literature, the adoption of e-learning in NE has been slow and limited. The next section will briefly outline how nurse educators have been using e-learning thus far.

1.3.1. How do nurse educators use e-learning?

As made clear in the Prime Minister's Commission (2010) report, nurse educators have a key responsibility in role modelling the significance of technology (Kiteley and Ormrod, 2009). Yet despite the plethora of policies and reports supporting e-learning, the evidence has suggested that educators have not adopted e-learning in NE as readily as expected. This was reflected in a review of the literature on computer literacy of nursing students between 1997 and 2005, following which the authors concluded that NE programs had not been providing students with the tools required to function effectively in a technology-rich healthcare arena (McDowell and Ma, 2007).

In a more recent mixed methods study in the UK using a survey and interviews, Moule *et al*. (2010) sent a survey to 93 nursing schools (only 25 participated) to explore how technology had been adopted by nurse educators. Although the response rate was only 28%, most educators were found to be using technology for basic administrative purposes, such as for email and creating lecture notes, but had not exploited the full potential of technology (Moule *et al*., 2010). Only a small number of staff surveyed were using discussion boards and social networking tools, with the majority of educators (96%) using the Virtual Learning Environment (VLE) as a repository for information (Moule *et al*., 2010).

Similar results were found in Blake (2009) using a survey across one school of nursing in the UK with a larger response rate (40%). Blake's (2009) findings were of particular interest as the study was conducted in April 2008 in the same Division of Nursing (DON) as this current study. Using a Likert scale from 'never' to 'always,' educators were asked to estimate how often they used various e-learning tools. Nurse educators reported the following use of tools either 'frequently' or 'always:' PowerPoint™ for lectures (95%); email (95%); and websites and other resources (87%). Other tools were used only 'occasionally' or 'never': online quizzes (94%); blogs (94%); podcasting lectures (94%); social networking sites (94%); online simulation (96%); and Second Life (and other virtual world sites) (99%). Having used a survey to gather the data, there was no additional information about how the different technologies were being used thus limiting the extent to which their integration might have been considered as 'sustaining' or 'disrupting' teaching practice. Yet Blake (2009) concluded that e-learning was seen as a 'supplement' to teaching by the majority of the respondents. Moule *et al.* (2010) concurred that the predominant use of e-learning in their study was 'instructivist' with little experimentation of other tools (e.g. blogs, wikis, social bookmarking, handheld devices etc.). Both authors concluded that there was still limited understanding of the factors influencing e-learning adoption in NE and the issues affecting this engagement (Blake, 2009; Moule *et al*., 2010).

This research study aimed to address this gap, yet it was deemed important to first examine the value in doing so. Whilst a number of government reports in the UK have endorsed e-learning (National Committee of Inquiry into HE, 1997; DfES, 2003; DfES, 2005; HEFCE, 2009), this has not always been based on empirical data nor specifically related to NE. If there were no clear benefits in using technology in NE then there would subsequently be little benefit in exploring

the reasons why technology was *not* being adopted. The next section begins by recognising the challenges and limitations of educational research and follows with a brief review of the fledgling field of evidence-based e-learning in NE.

1.3.2. Evidence supporting e-learning in NE

As mentioned in section 1.2 (p.18), the emphasis in this study was on the use of technology to enhance teaching and learning in NE. Yet examining the benefits of e-learning is a complex task. In October 2010, outside of the healthcare context, the Association for Learning Technologies (ALT) published *Technology in Learning: A response to the Department of Business Innovation and Skills.* The Department of Business Innovation and Skills had posed a number of questions to ALT concerning whether, how and in what circumstances e-learning was 'effective.' ALT's response pointed to the same issue noted earlier about 'effectiveness' being dependent on the stakeholder's perspective. Criteria for effectiveness might be 'learner performance' for teachers; 'learning experience' for students; and 'efficiency' for an institution. Such different perspectives make evaluating the overall 'effectiveness' of e-learning challenging (ALT, 2010). Moreover, ALT's (2010) review of 35 case studies, e-learning research projects, Technology Enhanced Learning (TEL) programmes and government reports points to the challenges inherent in conducting research given the 'ecology' of a classroom setting and its countless variables (p.5). These issues have long plagued educational research and persist in e-learning. Furthermore, e-learning research is complicated by the new technologies themselves. Since most research studies last only the duration of a module, the new 'tools' (the intervention) produce easily observable effects (the dependent variable) but make it difficult to determine if the effects are the by-product of the innovations themselves (such as curiosity or instructor enthusiasm), or actual long term changes resulting from the intervention (Hasanbegovic *et al.*, 2006; ALT, 2010).

In the nurse education literature, two of the more commonly noted limitations have been the reliance on student satisfaction surveys (Bata-Jones and Avery, 2004) and the predominance of 'instructor-developed' pre and post-tests (Jeffries, 2001), limiting the generalisations of findings. Another limitation has been small sample sizes and low power, frequently leading to the identification of 'no-significant differences' between methods of delivery (Kelly *et al*, 2009). Finally, the wide breadth of measurement outcomes (dependent variables) have made it challenging to systematically compare studies and evaluate the effectiveness of particular

technologies in achieving specific results. Some of the measurement outcomes have included student preference (Leasure *et al.*, 2000), computer confidence (Levett-Jones *et al.*, 2009), student attitudes (Wishart and Ward, 2002) and knowledge acquisition (Lymn *et al.*, 2008).

Despite the acknowledged challenges in conducting studies in e-learning, research in nurse education has been growing steadily. Whilst not always meeting what some argue to be the 'gold standard,' (the randomised control trial or the quasi-experiment) (Bransford *et al.*, 2009), these studies have begun to demonstrate that e-learning can be integrated into NE with encouraging results. It is noteworthy that when comparing online learning with face-to-face learning, a 'no significant difference' is frequently reported as a positive outcome, pointing to initial concerns about the inferiority of online learning (Russell, 1999). The following are a sample of studies conducted within nursing that support the use of e-learning.

In a US study, fourteen nursing students in an online module were compared with 163 students in a face-to-face module, both taught by the same instructor. The authors found no significant difference between the two groups' test scores on a multiple-choice test (Yucha and Princen, 2000), although this could arguably by attributed to unequal variance and a lack of power. Woo and Kimmick (2000), using more equal group sizes in another US study, found similar results using examination scores and overall student satisfaction between two groups of nursing students taking a research course, one group in the web-based course (n=44) and the other in a face-to-face lecture (n=53). The students in the web-based course reported significantly higher stimulation in their learning compared with the traditional lecture students.

In another study, again no significant difference was found between an online group and a face-to-face group's examination scores in a nursing research course (Leasure *et al.*, 2000); and between two groups (web-based versus face-to-face) as measured by an instructor-developed examination (Bata-Jones and Avery, 2004). Students in both studies achieved comparable results and were satisfied with their experiences in the web-based courses. Studies such as these have served to demonstrate that nursing students are able to complete web-based theoretical courses and meet the same learning objectives as those in face-to-face classrooms.

More recently, Salyers (2007) conducted a quasi-experimental study to identify how technology might contribute to improving psychomotor skills. The control group attended weekly lectures,

observed and practiced skills and were then evaluated on their performance. The experimental group learned the course content using online web resources and spent class time perfecting psychomotor skills. The findings showed that the experimental group performed better on the final examination, while the control group had higher satisfaction ratings. There have been similar findings in other studies suggesting that e-learning was an adequate supplement to traditional face-to-face methods, but that students still valued social contact (Kearns *et al.*, 2004; Leasure *et al.*, 2000). For example, Kelly *et al.* (2009) evaluated the effects of instructional videos to improve clinical skills and found that although students demonstrated no differences in learning outcomes, they clearly wanted videos used in conjunction with lecturer demonstrations rather than as a replacement. Similarly, Jacobsen's (2006) quasi-experimental research design explored whether online discussions differed from those in traditional face-to-face discussions. The students (n=112) were divided into either the experimental or the control group and were given pre and post-questionnaires. While the results showed no significant differences between the two groups' overall experiences, some students in the experimental group experienced social isolation (Jacobsen, 2006).

In a UK study, Wharrad *et al.* (2001) developed and evaluated a series of CAL (Computer Assisted Learning) packages on cell biology in a pre-registration nursing module. Using an experimental design, two studies were carried out to compare the CAL method of delivery with the conventional method of using slides in a classroom with an instructor. In the first study, twenty-five students were randomly allocated to either the classroom slides (n = 12) or the CAL packages (n = 13). In the second study, two different incoming groups of nursing students over two consecutive years completed a questionnaire about their learning experience. In the first year the group was taught using the traditional slides (12 returned questionnaires), while the second year group received the CAL packages (26 returned questionnaires). Learning effectiveness was evaluated using a pre and post-knowledge test and end of module results. While overall module results stayed consistent, pre and post-knowledge tests found significant improvement in only one group using CAL but not the other. The qualitative data, however, pointed to a preference towards the CAL packages with students adding that they felt more confident applying the knowledge in future work (Wharrad *et al.*, 2001).

Whilst these studies help to move e-learning beyond its 'inferiority complex' by showing that it can yield equivalent (and in some cases, improved) outcomes as face-to-face modules, different research questions are now guiding studies and contributing to the development of an evidence-based practice in e-learning. For example, Lymn *et al*. (2008) explored if Reusable Learning Objects (RLOs) could help students learn complex pharmacology concepts. Using a questionnaire, three cohorts of nursing students (n=84) provided their perceptions of increased understanding following the introduction of RLOs in their course. The data showed that the use of RLOs significantly improved nursing students' perceived understanding of pharmacology concepts. The ten students contacted for follow-up interviews one year later also suggested that the RLOs continued to support their clinical practice.

Rush *et al*. (2011) implemented and evaluated an innovative approach using videoconferencing to help nursing students transfer theory learned in the classroom to the clinical setting. Thirty-eight nursing students sitting in a classroom were linked in real time to a diabetes clinic to observe and interact with the specialist nurse, patients and carers. The students positively evaluated the use of this method and the authors concluded that this tool had the potential to strengthen links between academic and clinical practice settings. In Young *et al*. (2010), SMS texting was used to enable educators to provide additional support to nursing students during clinical practice placements. While students did not use the tool as much as expected, those who did were positive about the potential this type of technology might have in improving communication and support for students (Young *et al.,* 2010).

To continue contributing to the evidence-base of specific e-learning tools meeting particular learning objectives, more nurse educators must integrate technology into their teaching and systematically evaluate and report the results in peer-reviewed journals. Yet, as discussed, technology adoption in NE has been slow. Ebersole and Vorndam (2003) have suggested that the first step to successful e-learning adoption is the removal of barriers and the presence of incentives. This places the identification of these barriers and incentives as the first step in developing evidence-based e-learning practice in NE. Yet, as will be discussed in the next chapter, e-learning adoption has primarily been examined through university-wide surveys that have ignored discipline-specific differences. This research project sought to address this issue by

exploring in more depth the issues influencing e-learning adoption within a nurse education context.

1.4. Research aim

The research aim was to contribute to the existing literature by exploring the factors influencing e-learning adoption in a nurse education context. This was to understand why some nurse educators adopt technology while others do not and to determine which factors were perceived as most influential in these decisions. Examining nurse educators' views towards e-learning, its role in nurse education and the factors influencing their responses to technology could serve to inform future e-learning policies and staff development strategies. Indeed, if management at the institutional level were better able to recognise and meet the needs of educators, then e-learning might be adopted more willingly and more effectively at the individual level. With more educators integrating e-learning into their teaching, a robust evidence-based e-learning practice in NE could then be developed.

The four specific research objectives arising from this aim will be discussed and placed into context following a review of the literature in section 2.7.

1.4.1. Meeting the research aim

Research that has examined the factors influencing e-learning adoption (described in more detail in the next chapter) has focused primarily on large scale surveys and cross-disciplinary designs (Mahdizadeh *et al.*, 2008; Zhen *et al.*, 2008). To explore the factors influencing e-learning adoption in more depth both ethnography and grounded theory were initially considered as possible research approaches. Both were seen as having the potential to provide new insights beyond the surface level of response frequencies offered by surveys. These methodologies could have uncovered the meaning and experiences of e-learning from the educators' perspectives and thus accessed deeper structural processes. Yet upon deeper exploration and reflection, Q-methodology (described in detail in Chapter 5) was considered to be the most appropriate approach for meeting the research aim of this study. This is because as a unique research method, Q-methodology (Q) provides participants with 'statements' on index cards that reflect the main issues surrounding the phenomenon being investigated. Using these cards, participants are asked to describe their viewpoints towards a phenomenon by ranking the cards on a bell-shaped grid.

The grid is made up of columns ranging from -5 to +5, and participants rank the cards according to how they 'most agree' or 'most disagree' with the statements. This ranking of the cards in relation to each other allows participants to give certain issues more priority over others. In this study, for example, participants were able to identify those factors more, or less, influential on their decision to adopt e-learning. The data collected for a Q-study is factor analysed (using by-person factor analysis) with the aim of identifying groups of individuals who have sorted the provided cards in a similar way. Participants' layered viewpoints are then examined systematically as 'groups' (or Factors) of shared perspectives.

It was Q's unique design allowing participants to develop coherent narratives by revealing "dynamic structures and connections" (Brown, 2006, p.376) of which they might not have been aware that was considered to be its primary strength. It also required them to think carefully about the degree of influence that different factors had on their e-learning adoption decisions. It was anticipated that this would provide a deeper level of understanding of academics' responses towards technology in nurse education.

1.5. Clarifying terms and setting boundaries

As previously noted, loosely-used terms (such as e-learning) can create confusion, thus this sections aims to define the terms and concepts employed in this thesis and delineate the boundaries of the research project. To begin, the use of technology in education has been referred to as educational technology, e-learning, technology-enhanced learning, computer-assisted learning, web-based learning, computer-based learning, online learning, hybrid learning and blended learning. Although the term Technology Enhanced Learning (TEL) has been gaining in popularity (JISC, 2009a), it was 'e-learning' that was chosen for this study since it was the term most accepted at the university in which the research took place. Although 'e-learning' was the term used when communicating with participants, it was not pre-defined. Rather participants had the opportunity to talk about 'e-learning' in terms of what it meant to them. This approach had its limitations as on some occasions participants were discussing different forms of technology. Overall, however, most participants saw e-learning as the use of WebCT (the Virtual Learning Environment) in a blended learning format, even though the participants' use and perceived benefits of the tool differed. This common definition of 'e-learning' as one particular tool is, in itself, insightful given the full range of technologies

currently available for teaching. Throughout this thesis, the term 'e-learning' will be used interchangeably with three other terms ('technology-enhanced learning' (TEL), 'technology,' and 'educational technology'), and is understood as meaning : "*Learning facilitated and supported through the use of information and communications technologies (ICT) or Information and Learning Technologies (ILT)* " (JISC, 2009a).

The term 'factor' is also worth clarifying as it can be used in several different ways. In Q-methodology and other forms of factor analysis a 'factor' is the outcome of statistical calculations. The term 'factor' is also used when referring to the 'issue' or 'phenomenon presumed to affect behaviour.' In this thesis, to avoid confusing the two, the results from the by-person factor analysis will be denoted by a capitalised 'Factor,' while the lower case 'factor' signifies 'issue' or 'phenomenon.'

Pedagogy is a term that has been adopted in the HE literature to refer to teaching strategies for adult-learners, although the more accurate term is andragogy. For ease of consistency and communicability, 'pedagogy' has also been employed in this thesis. When discussing teaching, an educator's pedagogical approach is seen as resulting from their own experiences as learners, their personal and disciplinary style and the constraints of their instructional environment (McGee and Diaz, 2007).

An important underlying theme in this thesis is the concept of 'motivation.' Motivation theories have originated from the field of social psychology in attempts to try to identify and explain human behaviour (Hewston *et al*., 2008). The motivation construct is often defined as either intrinsic or extrinsic, both considered two major drivers in human behaviour. Intrinsic motivation is personally derived and is the pleasure gained from conducting a particular activity, such as the feeling of accomplishment or success when performing a task that one enjoys. Extrinsic motivation, on the other hand, comes primarily from the desire to achieve a specific goal or reward that has been externally determined, such as by pay, benefits or recognition. The tension between 'intrinsic' and 'extrinsic' motivation will be discussed in the following chapters in reference to the types of factors influencing e-learning adoption (institutional/extrinsic versus individual/intrinsic) and is related to the underpinning theoretical framework (Bourdieu's Theory of Practice, described in Chapter 3).

Finally, it is important to point out that when crossing over into a number of different fields (nursing, higher education, e-learning, computer science, education, social psychology) there is a risk in employing 'value-loaded' terms, theories and constructs such as motivation, attitudes and behaviour. It is therefore important to outline the boundaries of this study. Whilst overlapping into the fields of higher education, educational psychology, social psychology, organisational change, e-learning and computer science, this study did not focus on any one of these in particular, although the findings can serve to inform them. Nor was this study about the development of e-learning or the effect of a specific technology on teaching and learning. This study is about nurse education and the factors influencing e-learning adoption in this context. While not directly contributing to the evidence-base of e-learning in NE, this study aims to offer a deeper understanding of the issues influencing its adoption to then better confront the barriers and lead to its more effective use.

1.6. Thesis outline

This thesis is organised as follows:

Chapter 2 provides a critical analysis of the literature surrounding the factors influencing e-learning adoption in both HE and NE. Several factors are identified in the review as having been under-explored and are proposed as additional influences on e-learning adoption. The chapter concludes with the specific objectives and further justification for the use of Q and Bourdieu's theoretical framework in meeting these objectives.

Chapter 3 introduces the theoretical underpinnings that guided the design and analysis of this study. French sociologist Pierre Bourdieu's Theory of Practice (TOP) is described to set the stage and unpack the concepts of *field*, *habitus* and *capital*, as they underpin Chapters 4 and 7. A reflexive exercise by the researcher concludes the chapter to make explicit any biases that potentially influenced the research process.

Chapter 4 develops the case study of the university and department in which the research took place, examining the *field* and the forms of *capital* accepted as currency using Bourdieu's framework and a macro, meso and micro level approach. The chapter ends with a discussion of the use of Q in exploring *expressions of habitus*.

Chapter 5 presents a description of the method and process of Q-methodology while Chapter 6 describes the four Factors identified using by-person factor analysis. Each Factor is presented in a narrative description using both the placement of the Q-sort statements and participants' comments for added depth.

In Chapter 7 the four Factors are analysed as *expressions of habitus* using the case study in Chapter 4, the literature and the post-sort interviews in a discussion surrounding the changing image of the nurse, nursing pedagogy and the role of e-learning in nurse education. The discussion then returns to the relationship between individual (intrinsic) and institutional (extrinsic) factors on the four Factors' responses towards e-learning.

Chapter 8 concludes this thesis by evaluating the attainment of the research aim and objectives, evaluating and critiquing the research design. Then the wider implications of the findings are discussed, followed by recommendations for adapting the findings into practice. The chapter concludes with ideas for future research and a closing word.

Chapter 2. Factors influencing e-learning adoption

2.1. Introduction

The adoption of ICT in teaching practice is complex and there have been a number of methods used to investigate this phenomenon. Many of these approaches have either examined technology adoption from an institutional perspective, focusing primarily on external factors (e.g. incentives, infrastructure) or from an individual perspective, focusing primarily on internal factors (e.g. computer competence, perceived usefulness). This dichotomy served to frame the outline of the literature review as presented in this chapter with factors categorised as having either 'institutional' or 'individual' influences on e-learning adoption in HE.

Other authors have similarly classified factors influencing e-learning adoption, describing 'institutional factors' as available resources, time and technical support, and 'individual factors' as attitudes toward ICT, computer confidence or responses to change (McPherson and Nunes, 2006; Al-Senaidi *et al.*, 2009; Bhati *et al.*, 2009). Of particular note in the context of this study is that some factors, such as time, can arguably be classified in both categories. An educator's perceived lack of time may be an organisational issue, making it an institutional barrier; or it could be related to an educator's time management or personal preference, making it an individual barrier (Al-Senaidi *et al.*, 2009). A closer examination of these subtleties sought to understand the extent to which these were affecting adoption in order to help determine the most appropriate and effective strategies for addressing them.

The terms 'e-learning implementation' (institutional factors) and 'e-learning integration' (individual factors) are both considered to be two critical phases of one strategic process. The e-learning 'implementation phase' (Nichols and Anderson, 2005) is influenced by 'macro' level bearings such as socio-economic and political events. These then influence the 'meso-level' institutions of higher education (HE) that are 'putting-into-operation' the technology across universities and into departments. The focus during the meso phase is on the physical arrangement of the institution and the development of a robust infrastructure that will allow technology to be made available to staff and students. Decision-makers can develop a strategy addressing the provision of time, training, incentives and other rewards that demonstrate the institution's commitment to e-learning and encourage academics to experiment with technology in their teaching. To develop this strategy, decision-makers might examine the Critical Success

Factors (CSFs) influencing ICT implementation. CSFs were initially proposed by Rockhart (1979) and became a widely used top-down methodology for examining factors affecting institutions' ability to succeed in the implementation of change (McPherson and Nunes, 2008). Such 'institutional' or 'hard' factors are generally measured using quantitative approaches as these tend to relate to tangible products or services (e.g. numbers of computers available; types of software installed on computers; width of broadband; numbers of IT or support staff etc.). Both macro and meso level issues lie largely out of the control of individual academics.

As noted by May and Finch (2009) in their Normalization Process Theory (NPT), implementation is more than the accumulation of extrinsic elements. Whilst not using two separate terms to describe the process, as done here, May and Finch (2009) clarify that for effective implementation to have taken place it must have become 'integrated' into every day practice. Hence, the second phase, or the 'integration phase,' occurs at the individual level (Jochems *et al*., 2004). The integration phase involves individuals adopting the technologies and integrating them into their teaching practice. This phase demands that academics carefully consider their teaching in light of the new technological tools available to them. It is this 'human element' of technology adoption that has proven to be more complex, requiring a deeper analysis of individual beliefs.

To date many studies exploring this 'human element' have focused primarily on university-wide surveys exploring the factors influencing academics' intentions to use e-learning, with only a few employing qualitative approaches (see Keengwe *et al.,* 2009; Sridharan *et al*., 2010; McPherson and Nunes, 2006). This chapter will review the existing literature on factors influencing e-learning adoption across higher education (both institutional and individual) and then nurse education specifically. Then factors identified during the literature review as not having been adequately examined in terms of their influence on e-learning will be discussed. The chapter will conclude by delineating the specific objectives of the research study.

2.2. Methodology of the literature review

The library databases used to explore the literature surrounding e-learning adoption included ASSIA, CSA, ERIC, BNI, Cinahl, Embase, Medline, DH Data, AHMED, Psychinfo and OVID. The main search terms used were e-learn$, blended learn$, online learn$, technology-enhanced learn$, web-based learn$, web-enhanced learn$, distance learn$, virtual learn$, asynchronous

learn$ and computer-mediated learn$. The previous terms were then used with other key terms such as nurs$ education, attitudes, perceptions, motiv* (motivators/ motivation/ motivate), barriers, inhibitors, beliefs, assumptions and deterrents. A grid was used to organise and classify relevant articles, highlighting research methods, strengths, limitations and results.

From the initial review other factors were noted as potentially influencing e-learning adoption. The next round of searches therefore included variations of the above terms with the following: organisational culture, academic culture, professional culture, nursing culture, higher education culture, social networks, communities of practice, peer learning, mentoring, pedagogy and teaching beliefs. Since this search yielded few empirical studies the search was expanded to include white papers, government reports, conference proceedings, blogs and corporate reports. In addition, several articles were found through a non-systematic search, such as by using the reference lists of studies found through the systematic database searches, as well as broad, general searches using the search engine Google Scholar. Subscriptions to a number of RSS (Real Simple Syndication) feeds also 'pushed' relevant articles and publications to a Google Reader box. Some of the websites subscribed to were: BECTA emerging technologies; BERA; CETL news, Educause; e-learning weekly; Emerging Technology Centre; E-health Europe News; HEFCE News; HEA news; JISC News Web Feed; Journal of Nursing; and Teaching and Learning Research Programme (TLRP) news.

It is important to note that there were a number of challenges in conducting a literature review on a topic as broad and encompassing as the adoption of e-learning in modern day nurse education. Technology and e-learning are emerging and dynamic fields; whilst broad concepts such as 'social networks,' 'pedagogy,' 'communities of practice,' 'motivation,' and 'behaviour' cross over into a number of disciplines. Moreover, as argued in this thesis, nursing and nurse education have a relevant and charged historical background that have been underestimated in previous studies on this topic. This demanded both significant breadth and depth to ensure that all the issues were accurately reflected within their historical context, whilst also describing a contemporary state of affairs. To create the boundaries of the literature review, the primary fields explored were nursing, nurse education, higher education and e-learning, although occasionally certain seminal papers were included that fell within other disciplines such as sociology, educational psychology, social psychology, organisational change, information services and

computer technology. To limit the scope of the term 'e-learning,' the review focused specifically on HE and pre-registration NE, avoiding the literature outside these parameters (e.g. continuing professional development or corporate e-learning).

2.3. Factors influencing adoption in HE

The literature on technology adoption is extensive. In fact, a recent online game was developed allowing players to take on the role of the 'change agent' making use of different strategies to persuade teachers to adopt a particular educational innovation (Indiana University, 2009). This suggests that the adoption of technology in higher education (HE) has not been as straightforward as the high profile rhetoric endorsing its use might have initially expected. The following two sections outline the institutional and individual factors influencing its adoption.

2.3.1. Institutional factors

Eleven years ago, Haywood *et al*. (2000) conducted a comprehensive survey of senior managers and academics in Scotland's HE to explore the barriers inhibiting e-learning adoption (N=982). The following themes were identified as barriers: 1) lack of time provided; 2) perceptions of low status of teaching compared to research; 3) lack of infrastructure; 4) lack of appropriate resources; and 5) lack of basic IT skills. Several years later, Newton (2003), using a self-designed survey with open-ended questions and interviews (n= 134), reported a number of similar findings in England. Newton's (2003) study included only academics who were already using technology within the Information Services department in one university.

Little has changed over the years as found in McPherson and Nunes (2006) who examined institutional CSFs influencing e-learning adoption across several universities using focus group interviews with practitioners, administrators and academics. They identified four clusters of CSFs: 1) leadership; 2) structural and cultural issues; 3) technological issues; and 4) delivery issues. Similarly, Nichols (2008) undertook a study focusing on the strategic managerial perspective of e-learning implementation within universities. He interviewed e-learning representatives from 14 different institutions in New Zealand and overseas. His findings suggested that the institutional context (internal culture, institutional structure and systems) and power structures were critical to the dynamics of change and e-learning diffusion (Nichols, 2008). He also found that those institutions that had had very rapid e-learning diffusion

invariably included e-learning as a top managerial priority with mandated professional development.

Arguably, leadership, a commonly identified factor, can be associated with a number of other institutional factors due to the position of power attributed to those in decision-making positions. For example, the provision of time to access training might be something someone in leadership might conceivably offer to encourage academics to engage with e-learning. Yet the issue of 'time' is contentious and there have been conflicting findings in the literature. The confusion is primarily linked to whether time is something academics 'make' or whether it is something that institutions (or leaders) 'give,' and links back to the underlying theme of intrinsic versus extrinsic motivation.

Another misunderstanding relates to the lack of clarity when defining exactly what kind of e-learning is being discussed since the time required will differ depending on the extent to which it is being used and integrated (e.g. developing a PowerPoint™ presentation versus developing an online module). Despite conflicting findings in the literature, studies have generally tended to support the 'time-factor' as a significant deterrent for academics developing and facilitating online modules (Pajo and Wallace, 2001; Strauss, 2001; Barker, 2002; Bruner, 2007). Cavanaugh (2005), using a case study, found that academics spent 150% more time in the e-learning environment compared to the in-class format. Not distinguishing between the 'how' of technology-use (as discussed in Chapter 1, section 1.2), Cavanaugh argued that e-learning demanded a shift in pedagogy toward a more student-centred focus (considered more time-intensive), while traditional classrooms could be more teacher-centred (considered less time-intensive) (Cavanaugh, 2005). To better explain the 'time-factor' issue, DiBiase (2000) proposed that academics arguing that e-learning was too time-consuming might have been confusing frequency of contact with increased time demands given the 24-hour nature of the Internet. This points to the ways in which technology is changing the nature of teaching and learning indicating that new methods of 'measuring' teaching hours might be necessary.

If e-learning is agreed to be time-intensive, then a lack of recognition for the time spent developing e-learning (especially if it is perceived as 'time-made' versus 'time-given') is going to be a secondary barrier dissuading engagement. Indeed, lack of recognition is often cited in the literature because academics participating in e-learning perceive that their activities will not be

(or are not) rewarded by management (Pajo and Wallace, 2001; Newton, 2003; Naidu, 2004; Thornton *et al.*, 2004). Kotze and Dreyer (2001) found that more than half of their participants indicated a lack of recognition from their superiors as a disincentive and were required to rely on their own intrinsic motivation to develop e-learning resources.

What actually counts as institutional 'recognition' is contentious as well. While recognition might include financial bonuses, Salmon and Jones (2004) found that monetary rewards were not a significant incentive for the academics in their study. This contrasts with Parker (2003) who argued that financial compensation was a strong incentive for academics participating in his study and Bruner's (2007) findings that academics expected all good teaching to be met with adequate 'rewards,' both in traditional and e-learning environments.

Thus, infrastructure, time, recognition, leadership and staff development have been identified as having had an influence on academics' e-learning adoption. This points to academics' expectation that their institution will take responsibility to lead change by adapting structures and processes to meet the challenge of integrating technology. Yet, integrating e-learning also requires significant changes within academics themselves (OLTF, 2011). Recognising the importance of institutional factors, the next section will explore the influence of individual factors on e-learning adoption.

2.3.2. Individual factors

In a US-based survey conducted in 2003, Allen and Seaman found that although technology had penetrated into all types of institutions, academics' attitudes remained conservative about the quality of online learning and its ability to equal face-to-face instruction. In a similar study four years later, the same researchers found that this attitude had not drastically changed, with only one in four academic leaders agreeing that their staff accepted the value and legitimacy of online education (Allen and Seaman, 2007). It would seem logical that if academics' perceptions of value were directly influencing their subsequent use of technology, then a clearer understanding of these attitudes could help explain adoption behaviours. Yet social psychologists have struggled for many years to identify a causal relationship between attitude and behaviour (Fishbein and Ajzen, 1975). Despite this tenuous link many studies exploring technology adoption have used Davis' (1989) Technology Acceptance Model (TAM) (itself adapted from

Rogers' Diffusion of Innovations theory), which assumes 'intention to use' as equivalent to 'actual usage.'

Walker and Johnson (2008), for example, used a quantitative, cross-sectional survey design to examine the relationship between individuals' Perceived Intended Usage (PIU), Perceived Usefulness (PU), Perceived Ease of Use (PEOU), computer background and Organisational Support-End User (OSEU) on a sample of 143 participants across a university campus in the US. They employed correlation analysis and regression analysis in a first instance, followed by factor analysis to reduce the variables down to six factors, using an arguably low value of 0.2 to determine significant correlations. The findings showed significant correlation between Perceived Usefulness (PU) and Intended Usage (PIU), but no correlations between individuals' computer background and Perceived Ease of Use (PEOU). Nor was there any correlation between Organisational Support-End User (OSEU) and the Perceived Ease of Use (PEOU) and Perceived Usefulness (PU). The factor found to most likely predict use of e-learning was Perceived Usefulness (PU) and Perceived Effectiveness (PE) (Walker and Johnson, 2008).

Liaw *et al*. (2007) identified similar findings using a survey exploring instructor and learners' attitudes toward e-learning usage. In an uneven sample of 30 staff and 168 students completing a survey, Perceived usefulness (PU) and self-efficacy were identified as predicting behavioural intention to use e-learning. Like Walker and Johnson (2008) they found Perceived Usefulness (PU) to be the greatest contributor (Liaw *et al*., 2007). Whilst Liaw *et al*. (2007) emphasised the importance of attitudes in determining behavioural intentions to use technology, the actual issues responsible for influencing these attitudes were not discussed in more detail.

Mahdizadeh *et al*. (2008), exploring factors influencing e-learning adoption in HE, used a questionnaire completed by 178 academics teaching at masters' level across a wide range of departments in one university in the Netherlands. Using exploratory factor analysis, the results reflected similar findings as the two preceding studies, with 43% of the variance in academic use of e-learning being explained by its perceived usefulness (PU). The authors accurately noted the limited value of previous research that had only explored *intentions to use* e-learning rather than actual use, so their study focused on actual use of e-learning tools as well as opinions about the added-value for learning. The authors concluded that implementing technology was complex and influenced by a number of issues such as pedagogical beliefs and curricular requirements

(Mahdizadeh *et al.*, 2008). Like Liaw *et al.* (2007) and Walker and Johnson (2008), Mahdizadeh *et al.* (2008) identified that academics' use of e-learning was related to their perceptions of its added-value (PU). Yet Mahdizadeh *et al.*, (2008) took this further by suggesting that these perceptions were influenced by academics' teaching approach and experiences and their general interest in and opinion about e-learning (Mahdizadeh *et al.*, 2008). Although Mahdizadeh *et al.*'s (2008) findings provided a more informative picture than previous studies by using 'actual usage' data and pointing to the issues influencing perceived 'added value,' they did not explore their participants' perceptions in any depth nor did they make distinctions between the disciplines included in their study. The authors concluded that further studies were required to gain better insight into the large unexplained variance (57%) influencing academics' use of e-learning and noted that there were still unidentified factors influencing its adoption (Mahdizadeh *et al.*, 2008).

Sridharan *et al.* (2010) note that participants' roles, backgrounds and the nature of the courses they taught in their study had contributed to different perceptions about the factors influencing e-learning use. Yet only a small number of scholars have researched e-learning through a disciplinary paradigm (e.g. mathematics in Trenholm, 2006 and business education in Arbaugh, 2005). Smith *et al.* (2009) have stressed that while there are features common across disciplines, there also differences making it necessary to conduct research about e-learning within disciplines to identify what is unique, and how the challenges of individual disciplines interact with and affect e-learning. For example, as a high demand field with specific needs and high stakes, nursing is different from other disciplines, requiring e-learning to be employed in distinctive ways (Smith *et al.*, 2009). Whilst a number of the cross-disciplinary factors discussed in this section echo barriers noted by nurse educators (e.g. lack of time, recognition and training) (Gilchrist and Ward, 2006; Moule *et al.*, 2010), discipline-specific research also points to particular issues affecting nurse educators integrating e-learning into their teaching.

2.4. Factors influencing adoption in NE

Blake (2009), as mentioned in section 1.3.1, explored nurse educators' uses of, and attitudes towards, e-learning and the factors influencing adoption among academic staff in the same DON as this current study. Blake's (2009) study used both a web and paper-based survey sent to all teaching staff in the DON (n=228) and midwifery (n=30). Only a small percentage (4%) were

found to have negative attitudes towards technology itself; were unwilling to change their teaching; or were unenthusiastic about technology because they felt it did not enhance learning (Blake, 2009). The findings did suggest, however, that although most staff acknowledged benefits of e-learning, many also identified barriers such as a lack of confidence (32.4%); lack of time (32.4%); and lack of support (26.5%). Other issues identified as interfering with e-learning were problems with the network (65.7%); poor facilities (69.9%); and students' limited IT skills (73.5%).

A recent review of the literature on e-learning adoption maintained that a lack of computer confidence was a primary barrier influencing nurse educators (Kala *et al*., 2010). Similarly, Wishart and Ward (2002) and Boyle and Wambach (2001) have confirmed a lack of confidence and limited IT skills as contributing particularly to health and social care professionals and thus influencing their limited use of technology. This was also seen in Ragneskog and Gerdner (2006) who noted that fewer than half the nurse educators in their study considered IT skills as a necessary element of their job.

Yet it is not only nurse educators' IT skills that influence technology adoption but also nursing students' skills, as found in Blake (2009; 2010). Indeed, Smith *et al*. (2009) found that nurse educators saw their students' limited technical abilities as challenging. They explained this to be related to healthcare as 'traditional' and not computer-oriented, indicating that nursing students were not as knowledgeable in technology as other disciplines (p.102). Others have also noted the importance of recognising the impact of students' computer competence as it has been consistently reported as limited among nursing students, many of whom are classified as 'mature' (Ali *et al*., 2002; Cartwright and Menkens, 2002; Adams and Timmins, 2006; Blake, 2010).

Indeed, a recent exploration of nursing students' attitudes toward ICT found many were resistant to the use of technology and lacked the requisite confidence to engage with it successfully, with only 50% of them rating they felt 'very confident' using a computer (Levett-Jones *et al*., 2009). Another study found that when comparing students in both a nursing and medical school, although there were no significant differences in reported access to the web between the two groups, nursing students (17.5%) were three times more likely to report lower confidence than medical students (5.5%) (Blake, 2010). In a paper emanating from North America, however,

Earle and Myrick (2009) have disputed these views pointing to the current discourse about digital natives and emphasising the rising digital literacy of this generation's 'Millenials.' These authors argue that nurse educators from the 'Baby Boomer' generation need to recognise the differences between intergenerational pedagogical approaches and harness new technologies in their teaching.

Except for Earle and Myrick (2009), many studies suggest that digital nativity and students' ICT competence are a misguided assumption. This points to the importance of acknowledging that digital literacy skills are not always a reality for students entering HE. Furthermore, although students of any age might make use of technology socially, it should not be assumed that they automatically apply these skills to formal learning. This lack of transferability in IT skills was noted in a national attitudinal survey on the use of technology instruction in NE. This study found that while nursing students had an overall positive attitude toward technology in general, it was when technology was applied to *formal* education that students demonstrated negative attitudes (Maag, 2006). This could be related to a lack of computer confidence or a preference for face-to-face instruction.

Nursing students' relationship with technology in formal learning might also be related to its perceived relevance in their future profession. Levett-Jones *et al.*'s (2009) mixed-methods study revealed that 26% of the students felt unsure about the relevance of ICT in clinical practice. Nursing students' doubts about ICT's relevance reflect those of nurses on the wards, many of whom do not consider ICT skills as a significant part of their role (Gosling *et al*., 2004). Although the perceived lack of relevance of ICT might be a failure to adequately justify its value, it is also a reflection of the reality of clinical practice where nurses and students make little use of computers whilst on the wards (Gulati, 2006).

The relationship nurses have had with technology has a long history (Sandelowski, 2000) and has been linked to the predominance of women in nursing and the high percentage of mature students entering the profession (Glen and Moule, 2006). Despite drastic improvements in gender-balance within the workplace, nursing is still a predominantly female profession attracting a number of 'second career' and 'non-traditional' students. Age and gender, therefore, could be considered relevant factors influencing technology adoption amongst nurses. Indeed, studies dating back ten years suggested that a lack of access to computers had limited women

from engaging with computers and developing their IT skills (Barrett and Lally, 1999; Yates, 1997), and were argued to have placed women at a disadvantage when using computer technology in general, and the Internet in particular (Washer, 2001).

Whilst some of these barriers are becoming less of a concern as technology becomes more affordable, available and accessible, recent studies have continued to point to age and gender as contributing to imbalances in computer access, skills and professional choices (Sanders, 2006). Conflicting findings in the literature tend to be due to the numerous interfering variables such as socio-economics, education, family life, ethnicity and culture. In one study, the relationship between age and adoption of technology was mediated by cognitive abilities, computer self-efficacy and computer anxiety (Czaja et al., 2006). In another, the 'gender gap' was shown to be closing as measured by computer access, computer use and self-efficacy (Imhof et al., 2007). The issues relating more specifically to nurses, their IT competence and the place of computers in nursing practice and education are discussed in more detail in Chapters 4 and 7.

It is worth noting that the findings linking nurses' limited e-learning adoption with their poor computer skills contrasts with the wider literature. Walker and Johnson (2008), for example, found no correlation between computer background and Perceived Ease of Use (EOU). Drent and Meelissen (2008) also found that computer competence had no direct influence on technology use. These authors explained this finding to be related to educators' motivation to develop the necessary computer skills based on particular educational goals rather than because they began with initial computer competence, thus pointing to an intrinsic driver underlying the time made to train to use e-learning.

Having reviewed the existing literature on e-learning adoption in both HE and NE, the next section presents those issues that were identified as not having been adequately explored but that could also be influencing e-learning adoption.

2.5. Mind the gaps

Mahdizadeh et al. (2008) and Cornford and Pollock (2003) have argued that the reasons commonly cited as barriers to e-learning (the technology does not work; no time; no training; limited access) have been superficial, surface manifestations of much deeper tensions. Similarly, Legris et al. (2003) surmised that the commonly cited barriers to engagement with e-learning

were masking other barriers. They questioned what academics might identify if these were not offered as choices on surveys (Legris *et al*., 2003). If commonly cited barriers to technology adoption have been masking other underlying issues, what might those factors be and how do they influence individual disciplines differently?

Newton (2003) and Ertmer (2005) both suggested pedagogical belief as a strong influential force but one that had not been adequately researched empirically. Following this literature review, three additional factors were also identified as possibly influencing e-learning adoption. These were the influence of academic culture, nursing culture and social networks. This section provides the rationale for considering three of the four under-examined factors (pedagogy, academic culture and social networks). The fourth issue (nursing culture) is examined in more depth in the case study in Chapter 4.

2.5.1. Pedagogical beliefs

E-learning has been argued to directly challenge some of the critical assumptions on which HE was founded, thus questioning years of didactic approaches to teaching (Newton, 2003; Schnekenberg, 2009). An academic who believes that face-to-face instruction in the traditional classroom is the best way for students to learn will design their teaching accordingly (Meyer, 2002). For example, Steel and Hudson (2001) found that a number of the academics they interviewed considered face-to-face, didactic teaching as the most crucial element in all pedagogic processes. Hence, it follows that an academic's choice to use technology will depend on how much it fits with what they see as the best way for students to learn (Jaffee, 2003).

Yet as mentioned in section 2.3.2, there are tenuous links between espoused beliefs and actual practice. Seminal research conducted by Fishbein and Ajzen (1975) demonstrated the low correlations between attitudes and behaviours, a finding echoed in a recent study investigating technology acceptance using real system-use data that found behavioural intentions had weak effects on actual system usage (Saadé and Kira, 2007). Moreover, Hativa *et al*., (2001) conducted a case study examining academics' beliefs and knowledge about teaching to explore how these reflected actual teaching strategies. They noted some incoherence between academics' beliefs about effective teaching strategies and their actual teaching practices (Hativa *et al*., 2001). Yet these findings conflict with Samuelowicz and Bain (1992, 2001) who have long maintained

the notion of teaching practices as based on theories held about teaching and learning. A hypothesis supported by Legris *et al*. (2003) who also found that academic beliefs and attitudes about teaching and learning were accurately reflected in their teaching practices.

Despite this lack of consensus, it is argued here that exploring teaching beliefs is critical when examining e-learning adoption. Fanghanel (2007) contends that pedagogical stance has a powerful influence on teaching and learning experiences. According to this author, pedagogical stance is defined as choices and interventions made within a learning environment and is developed from prior learning experiences which are often taken for granted. This view is further developed by Belland (2009) using Bourdieu's concept of *habitus* to explain the development of pedagogical beliefs and practices. According to Belland (2009) it is *habitus* that determines if and how technology is adopted. Reflecting Fanghanel's (2007) pedagogical stance, Belland (2009) argues that unlike formal learning theories pedagogical *habitus* may not necessarily be obvious to those espousing these beliefs, but is what academics act on rather than their professed beliefs. This *habitus* is shaped by personal biographies and professional experiences. Placing *habitus* as an important force influencing teaching practice (rather than professed beliefs) may partly explain why links between attitudes (as professed beliefs) and behaviours have been so tenuous. Underlying pedagogical beliefs were therefore considered as influential in e-learning adoption. A full description of Bourdieu's Theory of Practice (1977), including the concept of *habitus,* is described in the following chapter.

2.5.2. Academic culture

Traditionally, culture has been understood as the learned and shared human models for living created by a set of people for perceiving, interpreting, expressing and responding to the social realities around them (Scott-Findlay and Estabrooks, 2006). In HE, academic culture has been generated by a historical model shaped by the culture of traditional universities and their disciplines (Becher, 1989; Becher and Trowler, 2001; Shneckenberg, 2009). In the context of this study, it was surmised that academic culture could influence academics' views and responses towards e-learning, since as noted by Newton (2003), the challenges faced when integrating e-learning had more to do with people and their environment than the technologies being integrated. Some of these challenges involve traits of academic staff and long-standing cultural values in academia (Shneckenberg, 2009), as discussed in section 1.2.

The culture that develops within a department in academia is influenced in part by its discipline (e.g. nursing culture as will be discussed in Chapter 4, section 4.3). Discipline influences tradition, history, styles of leadership and collegial relationships, leading to the areas of differentiation noted among departments (Mehlinger and Powers, 2002). Academic culture, on the other hand, is influenced by the institution and plays an important role in determining the components that receive the most emphasis in reward structure, tenure and promotion (Mehlinger and Powers, 2002).

In HE, academic culture was once traditionally described as exhibiting characteristics that included a process of shared decision-making by a collegial group (Harvey, 1995). Over the years, however, it has been described as increasingly moving towards individualism (Salmon, 2005). Bolton (1995) also pointed to individual academic achievements as ranked above contributions towards teamwork in promotion criteria. Others have similarly described individualism as being the key to personal recognition and advancement within the HE system (Taylor and Hill, 1993). Since, as discussed in Chapter 1.2 (p.17), e-learning development requires collaboration between subject matter and IT experts, there is significance in exploring whether academic culture is perceived as encouraging such collaborations or whether it promotes based on individual accomplishments since this could influence e-learning development.

2.5.3. Social networks

In adoption and diffusion research, social modelling is seen as occurring through interpersonal networks (Rogers, 2004). In e-learning, social networks are important because they provide an opportunity for educators to learn from one another by sharing ideas about their experiences using certain technologies in relevant environments and contexts. Newton (2003) found that educators in his study wanted more feedback mechanisms to disseminate good practices and encourage the promotion of quality e-learning resources.

Social networks is also one of the fundamental elements in Rogers' diffusion of innovation (DOI) theory. He pointed to the power of peers talking to peers as being critical to adoption behaviours (Rogers, 2004). There is also contemporary evidence to support the power of these social communities through a number of Web 2.0 technologies such as Facebook and Twitter. Increasingly these tools are being used by students, corporations, politicians, universities and

celebrities as a means of communicating and in some circumstances, mobilising crowds. How these tools might be exploited formally to improve learning is still in its infancy. Yet it is through informal social networks that many academics can share their knowledge about e-learning practice.

2.6. Summary

Some have argued that the failure to adopt technology points to academics' unwillingness to move out of their comfort zones (Legris *et al*., 2003; Salmon, 2005; Schnekenberg, 2009). Yet this 'resistance to change' argument appears too simplistic. Indeed, the studies reviewed in this chapter demonstrate the real complexity involved in understanding e-learning adoption. At the institutional level, the CSFs point to the need for a robust strategy and infrastructure, while studies exploring the individual level point to perceived usefulness and ease of use. Yet most of these cross-disciplinary studies have left out the unique variations of individual disciplines and their socio-cultural context, and have not examined the relationship between institutional and individual factors in e-learning adoption.

Moreover, healthcare disciplines have been rarely included in cross-disciplinary institutional surveys, thus resulting in limited understanding of how 'practice-based' professions are responding to technology in their curriculum (Blake, 2009). Whilst Moule *et al*. (2010) provided the current status of e-learning use in nursing and health science programmes in England, they acknowledged that their broad brush approach failed to ascertain a number of key characteristics that might provide more depth in understanding technology adoption. Blake (2009) highlighted the way technology was being used by nurse educators but also acknowledged that there were few studies deeply examining the context shaping the views of academics towards e-learning in nursing. Much of the research to date has settled for 'face-value,' surface responses but has not reached the heart of the phenomenon.

2.7. Research objectives

To address the gaps identified above and examine e-learning in more depth using a socio-cultural lens, the specific objectives of this research study are:

1) *To identify whether pedagogical beliefs, academic culture, nurse culture and social networks are influencing responses to e-learning in a nurse education context;*

2) *To examine the relationship between individual and institutional factors on responses to e-learning in nurse education and form recommendations for education practice and policy;*

3) *To explore the use of Q-methodology as a method for eliciting expressions of habitus in the context of a research study using Bourdieu's Theory of Practice;*

4) *To use Bourdieu's theoretical framework as a lens to interpret the Factors identified using Q-methodology.*

2.7.1. Meeting the research objectives

A researcher's choice of methodology reflects the aims and objectives of their research study. Identifying the influence of different factors is complex and this research project demanded a methodology that could allow participants to express the richness of their views, but that could also enable the researcher to systematically analyse and interpret this data. As briefly introduced in Chapter 1, Q-methodology was considered to be such a tool and one that resonated with the theoretical underpinnings of this study. Q-methodology was seen as a means of facilitating the identification of the shared viewpoints in a thorough and systematic fashion (Watts and Stenner, 2005), while Bourdieu's theoretical framework (1977) would provide the lens through which to analyse and interpret the Factors. The next chapter outlines the Theory of Practice and a more detailed examination of Q-methodology is presented in Chapter 5.

Chapter 3. Theoretical framework

Autobiography, if there is really such a thing, is like asking a rabbit to tell us what he looks like hopping through the grasses of the field. How would he know? If we want to hear about the field, on the other hand, no one is in a better circumstance to tell us - so long as we keep in mind that we are missing all those things the rabbit was in no position to observe. (Golden, 1998, p. 1-2)

3.1. Introduction

Philosophers of science argue that one of the most important functions of a theoretical framework is its role in guiding observation and analysis. Theory facilitates the development of appropriate questions, the choice of methodology, the manner in which data is collected and the strategies used in its analysis and interpretation. Without the language provided by theories it would be difficult to contextualise investigated phenomena. An underlying theme in this research study is the tension between extrinsic and intrinsic factors in their influence on e-learning adoption. The previous chapter highlighted this tension, distinguishing factors as either intrinsic (individual) or extrinsic (institutional). One of the objectives of this research study, however, was to explore the relationship between individuals' responses and the context in which these responses occur. This was to recognise the perennial philosophical debate of structure and agency in terms of e-learning adoption. Indeed, studies that have focused on only institutional factors have failed to acknowledge individual agency, whereas those that have examined only individual factors have ignored the influence of context.

To address these limitations it was surmised that an in-depth socio-cultural examination of e-learning adoption would provide greater insight into academics' responses to e-learning, and contribute to the literature that has thus far been largely 'de-contextualised.' This required a theoretical framework that would recognise both individuals (agency) and their context (structure). While there are a number of adoption-diffusion models and theories, for example Rogers' (2004) Diffusion of Innovation theory or Davis' (1989) Technology Adoption Model, these were seen as having an inherently pro-adoption bias associated with them (Straub, 2009). The premise underpinning many of these theories is the view that there has been a failure in the process if all individuals do not adopt a particular technology, rather than recognising behavioural change as a stage in a complex chain of events set against a wider structural backdrop.

3.2. Bourdieu's Theory of Practice

Bourdieu's Theory of Practice (TOP) was found to be the most useful theoretical framework as it was not designed from a technological perspective but rather approached phenomena from a broader sociological angle. In Bourdieu's TOP, we see a challenge to the dichotomy between individual and structure, and a strategy for reconciling these two concepts when addressing issues in the social world. Bourdieu argued that the artificial divide between subjectivism and objectivism in the social sciences was unhelpful in understanding social phenomena (Bourdieu, 1990). Similarly, underpinning Q-methodology is the view that subjective viewpoints are reflections of existing social discourses, reflecting the iterative relationship between the external and the internal, and pointing to the coherence between Bourdieu's TOP and Q.

To unify these antinomies, Bourdieu turned these seemingly antagonistic paradigms into a form of analysis designed to recapture the double reality of the social world (Maton, 2003). Bourdieu did this by combining three central concepts (*habitus*, *field* and *capital*) in a Theory of Practice (TOP) aimed to understand behaviour (practice). Bourdieu was thus able to "weave together a 'structuralist' and a 'constructivist' approach" (Bourdieu and Wacquant, 1992, p.11). The relationship between the three concepts is shown in Figure 1. This figure illustrates how individual practice (behaviour) is a result of the interaction between a person's *habitus* and the *capital* they have access to, which is itself determined by their position in a *field* (the social arena).
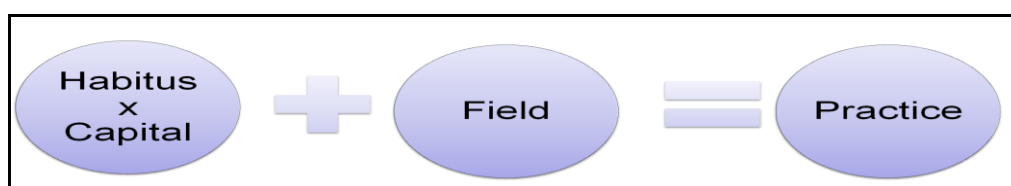
Figure 1: *The relationship between habitus, field and capital in influencing practice (Bourdieu, 1984, p.101)*

Although Bourdieu was reluctant to define his theory prescriptively, arguing that practical applications constantly redefined it, the three primary concepts that make up his theory are presented next.

3.2.1. Field

A field is a structured social space... It contains people who dominate and people who are dominated. Constant, permanent relationships of inequality operate inside this space, which at the same time becomes a space in which the various actors struggle for the transformation or preservation of the field. All the individuals in this universe bring to the competition all the (relative) power at their disposal. It is this power that defines their position in the field and as a result, their strategies.
(Bourdieu, 1998, 40-41)

Bourdieu argued that when exploring social phenomena it was insufficient to look at what was said or what happened. To understand social events and behaviours it was also necessary to examine the social space in which they took place (Bourdieu, 2005). The *field*, according to Bourdieu, is the frame of analysis when studying social phenomena. It can be described as objective structures, institutions, authorities or activities, all of which relate to the people acting within them (Rhynas, 2005).

This social space, or *field,* is analogous to a 'game,' itself defined by the rules or forces exerted by the individual actors involved. Each actor brings '*capital*' (described next) to the game, consequently giving them more, or less, power to influence the rules. The result is a fluid and shifting mix of alliances, negotiations, agreements and conflicts between the actors/players in the game, with actors not always consciously aware of their own part. The *field* is not seen as static but changing through time as power dynamics challenge the boundaries of the *field*.

The concept of *field* should not be perceived as a single structure, however, but rather as a series of smaller structural *field*s of social practice, as illustrated in Figure 2. Using the context of this research study as an example, this figure shows individuals (H – for *habitus*) operating within layered *fields*, each conferring different levels of influence on the individuals within them. The first *field* is a department within a university system, which itself is contained within a wider *field,* influenced by external forces, such as regulatory bodies like the Nursing and Midwifery Council (NMC) and the Higher Education Funding Council for England (HEFCE). The capitalist system also influences the socio-economic and political *fields* which exert a global influence on the internal *fields*. The smaller circles (H) are influenced by subjective factors, but also by the external influences from the wider *fields* (concentric spheres). Bourdieu describes the interactions occurring within them as 'fields of struggle,' in which actors strategically operate to

maximise their positions. This is not always necessarily for financial gain (economic *capital*),

but can include attempts to improve their acquisition of more social, cultural or symbolic *capital*

(as defined in the Glossary).
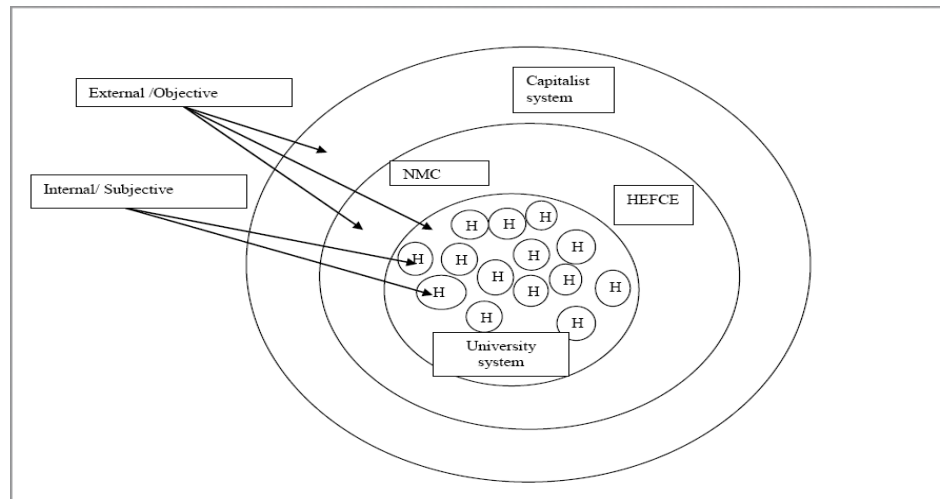
Figure 2: *Bourdieu's TOP in a nurse education example illustrating the influence of 'fields'(concentric spheres) on 'habitus' (H).*

To further illustrate this dynamic model, nurse education can be understood as the interaction

between individual nurse educators and students within the *field* of healthcare education. Each

player comes to the game with their own *habitus* and access to *capital* based on their position in

the *field.* This consequently influences their power, or ability, to make certain decisions. Practice

(or behaviour) is in turn formulated and modified through the interactions with other players in

the *field* both in a local context, but also in response to the influences of the larger macro-*field*s,

such as the political and socio-economic landscape.

Analogous to the 'concourse' examined when developing a Q-methodology study (described in

Chapter 5), the *field* forms the conceptual walls that help define the space in which the actors

operate. The *field,* therefore, should be a significant area of investigation in any research project

as it helps define and explain the behaviour of those actors within it. This shows Bourdieu's view

of the influence that wider structures of society have on the way individuals interact within the

field. While relationships and interactions between individual actors and the structures of the

field have the potential to alter the nature and structure of that *field*, it may also serve to reinforce

existing imbalances of power.

3.2.2. Capital

Bourdieu argued that the 'game' occurring in the *field* is competitive, with various actors competing to maintain or improve their position. At stake in the *field* is the accumulation of *capital,* which is both the process within, and the product of, the *field* (Thompson, 2008). This *capital* can be found in four different forms: economic, social, cultural and symbolic. Although Marx would have claimed that social, cultural and symbolic *capital* were forms of 'fictive *capital'* because they have no direct economic value, Bourdieu argued that these forms of *capital* could be, and were, converted back into economic *capital*. For example, school tuition (economic *capital*) is traded for academic credentials (cultural/symbolic *capital*), which is then converted back into economic *capital* on the job market (Jenkins, 2002).

Thus the volume and composition of the *capital* possessed and the degree of valuation of that *capital* within the *field* in question, allows the possessor to "wield power, or influence and thus to exist, in the *field* under consideration" (Bourdieu and Wacquant, 1992, p.98). Differences in actors' acquisition of *capital* equate to differences in power, with each form of *capital* (economic, social and cultural) having the possibility of being converted into a form of symbolic *capital*. The significance of symbolic *capital* is that it confers authority and credibility, as in academic reputation, and in many cases can be converted back into economic, social and cultural *capital* (Jenkins, 2002). Actors can thus be seen as seeking to increase their volume of *capital* as well as trying to ensure that the form of *capital* on which their position depends remains (or becomes) the valued marker of status in their *field*. Actors' ability to do this, however, is dependent on the structure of the *field*, their specific location within it and on the personal, social and career trajectories (*habitus*) by which they have arrived in the *field* (Thompson, 2008). Understanding why certain individuals within a *field* have more or less access to various forms of capital requires an examination of the concept *habitus*.

3.2.3. Habitus

Habitus is Bourdieu's attempt to incorporate cultural and traditional aspects of life into his theoretical framework and explain features of social life that cannot always be rendered explicit (Maton, 2008). More specifically, *habitus* is explained as the durable set of dispositions that individuals embody as a result of their social experiences, their backgrounds, professions and

personal circumstances. As such, *habitus* is seen as underlying individual actions, dictated by the unconscious relationship between *capital* and *field*. It is differences in individuals' *habitus* that contributes to variations in responses to situations and social interactions between members of the same subculture within the same *field*. While culture and traditions may be explicit examples of *habitus*, other elements transmitted through socialisation are equally important and differentiated from behaviours learned through explicit teaching (Maton, 2008). Although such internal schemata are sometimes difficult to recognise, identify and change they can be modified incrementally as new information is absorbed and new experiences or situations are encountered.

To illustrate this and the relationship between *habitus*, *capital* and *field*, Bourdieu's research on Algerian farmers offers a useful example (Bourdieu, 1979; 2000a). The farmers in his study, faced with historical acceleration from French colonisation, found themselves suddenly endowed with wealth and increasing exposure to western values. His study showed how societal changes (new *field*) led Algerian farmers to adopt new attitudes towards time and money as they developed more economic wealth (*capital*). Yet at the same time, these farmers also maintained for some time traditional modes of acting (practice/behaviour). This was not done irrationally or stubbornly, but rather certain 'peasant' dispositions (*habitus*) had been forged in a different social world (original *field*) and although this world was being transformed, these durable dispositions could not be expected to change at the same rate (Maton, 2008). Such changes can sometimes result in 'hysteresis' (arguably similar to 'cognitive dissonance') until newer practices slowly begin to adapt and change in a process of creative reinvention rather than passive accommodation (Bourdieu, 1979; Bourdieu, 2000a; Maton, 2008).

It is Bourdieu's focus on the relationship between these three concepts that he argues is missing from other structuralist accounts. *Habitus*, *capital* and *field* are interrelated both conceptually and empirically. Therefore when analysing one, all concepts must be placed into context in terms of their relationship with the others to give them meaning. Thus, *habitus* interacts directly with *capital* through the actions of individual actors in the *field*, yet is also simultaneously constrained and regulated by both.

Experiences nurse educators have had whilst in nurse training, or even as school-children, for example, have served to shape their *habitus* and have subsequently influenced their own teaching strategies (practice/behaviour), even if not consciously. These experiences, along with other life

conditions such as socio-economic status (SES), professional background and parental

occupations influence their responses within their social world (primary *habitus*). Once in

practice, nurse educators are influenced by hierarchical, legislative and organisational structures

within the *fields* of healthcare, higher education and nurse education which continue to shape

their *habitus* (secondary *habitus*). The different types of *capital* acting as currency within these

*field*s continue to influence their *habitus*, including the exchange of economic *capital* through

paid employment, the symbolic and cultural *capital* of status, uniform, office, role and social

network, all of which influences their practice/behaviour.

3.3. Bourdieu versus Giddens

There are a number of similarities between Giddens' Structuration Theory and Bourdieu's TOP.

Both Giddens and Bourdieu are grounded in Marxian theory and are considered 'critical' with

their emphasis on the influence of power and structure. However, they differ on a key point and

it is this difference between the two sociologists that made Bourdieu's TOP more appropriate in

the context of this research study. This divergence relates to the reflexivity of individuals in their

responses to their external surroundings.

Giddens can be described as more micro-sociological in comparison to Bourdieu, with his

reliance on Garfinkel's ideas of individual proficiency and everyday accomplishments. This

proficiency is seen as influencing the way structures are creatively interpreted by people who

always have their own agendas and interests. Structures are not fixed externalities or objective

realities that exist without individuals being aware of them. Rather structure is seen as both

constraining and enabling since it exists in the mind-sets and actions of individuals. Although

structures can restrict the range of individual actions, they can also be interpreted in

unconventional ways and be employed creatively to suit individual needs: "the structural

properties of social systems...are like the walls of a room from which an individual cannot

escape but inside which he or she is able to move around at whim" (Giddens, 1986, p.174). Thus,

for Giddens, agency is actively reflexive, signifying that individuals are acutely aware of their

actions and the conditions and consequences of these actions (Giddens, 1986).

As pointed out above, it is on this point in particular that Bourdieu and Giddens differ. "*Habitus*

represents a deep-structuring cultural matrix that generates self-fulfilling prophecies according to

different class opportunities" (Swartz, 1997, p.104). This aspect of *habitus* implies the

acceptance of a certain degree of socio-cultural determinism and lack of reflexivity. Bourdieu explains this through another concept which serves to explain how actors unconsciously contribute to power imbalances in the *field*. *Doxa* are the unwritten rules of a game underlying the practices within that *field* and explains how certain social structures continue to persist. *Doxa* describes how dominator groups impose their preferred structural and cultural arrangements upon others, often without recourse to force or coercion, because the dominated groups accept the existing arrangements as perfectly natural and even desirable (akin to Marx's False Consciousness). A contemporary example provided by Bourdieu of the effect of *doxa* is the widespread acceptance of, and reverence for, the high-priced and class oriented system of privatised higher education in the United States. This is an example of '*doxic'* acquiescence to the unequal distribution of social goods and services which few in the US question.

Bourdieu's ostensibly pessimistic view of individuals' ability to lead social change should not be misunderstood, however. Given the right opportunity, individuals can become more reflexive and aware of the structures constraining them and thus become more perceptive of how their own *habitus* has enabled the continuation of the *doxa*. Such awareness can then lead to subsequent action for change: "*habitus* is not the fate that some people read into it. Being the product of history, it is an open system of dispositions that is constantly subject to experiences" (Bourdieu and Wacquant, 1992, p.133). Bourdieu developed his theory of practice over the course of his career in a case-by-case examination of different forms of social organisation, from the Kabyle in Algeria to social inequality in cultural production and education. Relevant to the aims of this study, Bourdieu's theory addressed the dichotomy between individual agency and structural constraints. Through his Theory of Practice (TOP) he sought to understand and explain individual and group actions as operating within a social world. Recognising that the actions of social groups could not be explained simply by the aggregate of individual behaviours, Bourdieu argued that they were best understood as actions that incorporated the influences of culture, tradition and other objective structures within society (Jenkins, 2002). Bourdieu's TOP represents a vision of the world as made up of complex symbiotic relationships between the 'individual', the 'social' and the 'external, objective structures.'

3.4. Operationalising TOP

Operationalising the abstract concepts found in theoretical frameworks can often be challenging when researching empirical phenomena. Indeed, the process of developing the concepts of *field, capital* and *habitus* can seem particularly complex given the wide range of interpretations of Bourdieu's theory in the literature. Vaughan (1996), for example, used Bourdieu's TOP to explore why NASA launched the Challenger against the advice of engineers. In doing so, she admits having delineated the boundaries of the *field* over time as her understanding of the relevant actors became clearer. Vaughan's (1996) study included both NASA-as-*field* (top administration, the Space Flight Centre and the contractor) and the wider layers of the socio-economic *field* (the political and economic climate of the aerospace industry; other organisations connected to NASA; the education of trained engineers and external safety regulators; and suppliers, customers and partners directly related to the project). The data in her study included a combination of secondary data sources (archived minutes from NASA meetings, statistical data, videos and the broader literature) as well as interviews conducted with key participants to illuminate the micro-dynamics of conflict and the social reproduction of *capital*. By tracing the professional *habitus* of the actors involved in the project and connecting the history to the present, she proposed that the Challenger was launched as a result of a 'normalisation of deviance' (Vaughan, 1996, p.75).

Vaughan's (1996) study points to the significance of symbolic *capital,* which in this case was held by the top actor in the project, superseding all other kinds of cultural *capital* (e.g. education, expert knowledge) held by the engineers. This demonstrated that the 'organisational *habitus*' valorised hierarchy over knowledge. This subsequently led other actors to perceive this unequal distribution of power as legitimate (*doxa*), thus contributing to these individuals not speaking up despite their superior knowledge and understanding of the risks involved. Vaughan's study depicted the 'engineering *habitus'* as conferring inferior status within a team that prioritised management, finance and budgets. This study exemplifies the manner in which professional and organisational *habitus* influenced the accepted form of *capital* in the *field* thus influencing the interactions among the actors operating within it.

On the other hand, in Kunda's (1992) examination of a high technology company, Bourdieu's three concepts were seen as interacting through a very narrow conceptualisation of *field*. While

echoing Vaughan's (1996) study with the supremacy of symbolic *capital,* in Kunda's (1992) study the *field* was presented as the organisation alone and its high commitment to work practices. This *field* consisted of a charismatic founder, a low-level workforce and a highly-skilled technical workforce interacting within the organisation itself. Professional *habitus* was seen as shaped by the preparation of engineers and secretaries, but more so by the strong organisational *habitus* of the firm itself (Kunda, 1992). The system of symbolic *capital* was defined by the leader, the expertise of the engineers and the firm's organisational *habitus* and it was this that was considered to be the most dominant power struggle occurring within the *field*.

Although these two examples of Bourdieu's theory 'in practice' incorporate all three concepts, most studies have employed only one or two, presenting them as individual theories (e.g. Theory of *habitus*, Theory of *field* etc.) or have used the theory more broadly as a lens with which to examine tensions between agency and structure. One example of the former is seen in Brosnan (2010) who explored the *field* of medical schools to understand the differences between universities and their curricula and how this influenced the type of students they attracted. Brosnan (2010) discussed the differences between entry requirements and the extent to which these aligned with the GMC (General Medical Council) guidelines in *Tomorrow's Doctors*. To examine the forms of *capital* sought, Brosnan (2010) conducted interviews with staff members and students on their perceptions of the curriculum at two different types of UK medical schools. The first was a long-established university and the other a former hospital medical college that merged with a multi-faculty institution. To augment the interviews, Brosnan (2010) used league tables, student satisfaction surveys and graduate prospects. The main forms of *capital* identified were similar to other studies exploring HE (including this one) and included academic *capital* (quality of research and high achieving students); economic *capital* (funding awarded based on the success of Research Assessment Exercise) and symbolic *capital* (high ranking compared to other medical schools). Brosnan (2010) concluded that the existing struggle related to the two types of universities striving for different forms of *capital.* While one valued academic recognition, the other focused on producing graduates for the healthcare sector and fulfilling the GMC agenda. This explained why some schools followed different curricular strategies and attracted different types of students (Brosnan, 2010).

Grenfell and James (2004) employed Bourdieu's theoretical framework to highlight the tension between social constraint and individual agency. In a longitudinal case study that looked in-depth at a cross-section of Further Education (FE) provision within four colleges, data took the form of interviews and survey results, as well as observations and shadowing of lecturers. The authors discussed how the *field* of educational research itself had changed during the course of their research project, effectively reshaping and replacing previously valued *capital* through changes in funding structures. This was reflected in the common discourse of what constituted 'good' research (Grenfell and James, 2004). Like in Brosnan (2010), there is no mention of *habitus,* nor is there any specific discussion on how the main concepts were operationalized. Rather the focus was on the shifting quality of the *field* and the effects it subsequently had on the form of *capital* valued within it.

Similarly, Lingard, Rawolle and Taylor (2005) only briefly discussed the conceptualisation of Bourdieu's concepts in their paper on policy writing. This study aimed to illustrate the manner in which the development of public policy documents was associated with the production of media releases. They pointed to evidence suggesting that the processes of policy text production took place prior to the writing of any text, with journalists and media advisors being called in during the development phase of official policies (Lingard *et al*., 2005). This study reinforces Bourdieu's notion of *field* as requiring a more critical analysis of policy text to avoid missing the actual dynamics and identifying the form of *capital* really at stake.

Finally, in James' (1998) study on teaching, research and the student experience in HE, a wider picture connecting structure and agency was described. James conducted interviews with twenty-one mature undergraduate students and nine lecturers in one Higher Education Institution (HEI) over four years. Using a case study approach, the interviews were augmented with some observations, documentary sources (type or analytic approach not specified), a research diary and a 'large number of conversations' (James, 1998, p.110). Although the exact boundaries of the *field* were not discussed in detail, James pointed to the literature surrounding the relationship between teaching and learning and the current discourse on evaluating the student experience. He argued that 'the student experience' could only be understood in relation to teaching and research. James (1998) contended that students' daily experiences were intimately connected to the structural features of quality measurement of research. Moreover, pedagogy was only

understandable in relation to the academic discipline and the nature of the academic community in which it was located (James, 1998). Taking instead Vaughan (1996) and Kunda's (1992) example, this current study sought to combine the three concepts to maximise the dynamics between them and meet the research objectives.

As seen in the examples above, operationalizing the *field* requires first determining the key figures in a *field* and assessing the kinds of *capital* they possess and that appear to be at stake in their interactions. In the beginning, the researcher is guided by a basic knowledge of the *field* and by exploring the most pertinent indicators, properties or principles of division within it. Bourdieu emphasised that this was a "protracted and exacting task that is accomplished little by little" through a series of choices that must be guided by 'le métier' (sense of craft) (Bourdieu and Wacquant, 1992, p.228). Moreover, as shown in Lingard *et al.* (2005), it is also essential to remain alert to the crucial distinction between official discourse and the actual form and volume of the *capital* recognised by individual actors within it.

The process of developing the *field*, therefore, obeys "principles that are less than a method (a route that one retraces after the fact) and more than a simple theoretical intuition" (Bourdieu, 1996, p.232). Establishing the *field* must attend not only to internal structures, but also to the relations between the *field*s and the larger complex of *field*s within which they are embedded. Challenging many researchers is that these boundaries are continuously shifting:

> *If it appears that we have introduced, within the limits of available information, all the relevant criteria…it remains the case that research discovers and reproduces uncertainties which are inherent in reality itself: struggles for the imposition of the principle of legitimate hierarchization do in fact cause the dividing-line between those who belong and those who do not to be constantly discussed and disputed, therefore shifting and fluctuating, at every moment and above all according to the moment*. (Bourdieu, 1988b, p.77).

3.5. Reflexive intellectual history

In the past researchers using Q laid claims of objectivity. Contemporary Q researchers, however, have acknowledged that this positivist tenet is impossible to maintain (Robbins and Krueger, 2000). Rather than making the researcher invisible, recent scholarship has focused more on the presence of the researcher and the democratisation of the research process (Kitzinger, 1986) and reflexivity has regained prominence. Bourdieu also stressed the need for thorough and critical examination of all assumptions and presuppositions, not only of the object being investigated,

but also of the stance and location of the researcher relative to the object studied. Reflecting on one's personal background allows the researcher to explicitly acknowledge how their own *habitus* and access to *capital* might have influenced the way in which the research was conducted and interpreted.

Reflexivity has been defined by Wilkinson (1988) as "disciplined self-reflection" and in qualitative studies has been associated with the 'validity' of the findings, providing the reader with a map to understanding the researcher's interpretations. For researchers embracing a positivist paradigm (with its focus on 'objectivity') such inner musings are considered a source of bias creating barriers to uncovering the 'truth.' However, within an interpretative paradigm (emphasising the human element in constructing reality), reflexivity is taken seriously and is seen as central to the analysis of research data.

As it is relatively impossible to completely 'bracket' one's own perspectives, one can merely identify them and explore how these biases might have influenced the research. With this in mind, it is important to point out that a significant assumption underpinning this study is that the appropriate use of technology for teaching is a positive contribution to nurse education. This acknowledgment is an invitation to explore how my own upbringing may have shaped this view and inadvertently influenced the design and interpretation of the results. To begin, my 'pro-technology' perspective may have originated from having been brought up as a Caucasian female in a liberal western European country which tended to perceive 'technology as progress.' These views were reinforced during post-secondary schooling in Economics and Small Business Development in the United States. My second degree was in nursing, followed by a Masters in nurse education also completed in an American context. This is equally significant given the strong predilection for technology seen in the nurse education literature emanating from North America (most notably 'nursing informatics').

Original versions of the design of this research project were quasi-experimental. The research proposal developed for admission into the PhD programme was a comparison between a face-to-face and online classroom delivery. Once the PhD programme had begun, this plan was dismissed because the literature was suggesting such comparisons would not contribute to improving the quality of e-learning in nurse education (my ultimate objective). The next line of research explored how different technologies might improve learning outcomes (e.g. online

discussion forums; handheld mobile devices etc.). However, the possibility of implementing a new technology into a module and evaluating its outcome was complicated by my status within the institution where I would be conducting the research. First, few staff were using technology in their modules and e-learning was only beginning to emerge. Second, not a lecturer, I had limited access to staff and students. Thus, setting up a collaboration with another lecturer to develop a project in a realistic timeframe was not feasible. However, the changes that were occurring in relation to e-learning within the DON made it an opportune moment to explore how staff were responding to the growing pro-technology discourse. This thus became the primary focus of my investigation.

In summary, this chapter has presented the underpinning structure of the research study. As discussed, Bourdieu saw the *field* and the valued forms of *capital* as instrumental in the development of *habitus,* ultimately resulting in a particular practice (behaviour). It was through the interactions between these three concepts that the *field* could be apprehended and the relationship between the past and the present analysed. Indeed, Bourdieu argued that action was neither wholly determined by social context nor wholly free from it. This approach allowed him to circumvent the unhelpful division between the micro and the macro and instead conceptualise the relationship between the objective and subjective, or the 'outer' and 'inner.' It is in the context of this theoretical framework that e-learning adoption in nurse education will be examined, placing the Factors identified in the Q-study as *expressions of habitus* against the backdrop of the *field* developed in the case study in the following chapter.

Chapter 4. The case study

4.1. Introduction

To recapitulate, the overall aim of this research study was to explore the issues influencing e-learning adoption in a nurse education context. To do so, Q-methodology was employed as a method for identifying these Factors and as a means of exploring *expressions of habitus.* Bourdieu's Theory of Practice was used as a backdrop against which to analyse the Factors by providing the socio-cultural context. Following the Bourdieusian approach, this chapter presents the *field*. Whilst the macro-level *field* extends beyond the confines of the research site, the research itself was conducted in a Division of Nursing (DON) operating within a research-focused institution of higher education (HE) renamed "Hillgate University" to maintain anonymity, and constitutes the main subject of this 'case study.'

When exploring an educational system both social psychology and sociology are necessary to examine the dynamics of relationships and the structural constraints in which these take place. Yet as discussed in Chapter 3, these two approaches have often focused respectively on either a micro or macro-level of analysis. Bourdieu's Theory of Practice - combining *habitus*, *capital* and *field* - allows the researcher to overcome this dualism by using *habitus* as the analytic 'connective tissue,' linking individual behaviour to social structure (Vaughan, 2008). Bourdieu contended that the analysis of objective structures inevitably carried over into the analysis of subjective dispositions, destroying the artificial division ordinarily established between sociology and social psychology (Bourdieu and de St. Martin, 1982). As this chapter will demonstrate, the case study enabled this relational analysis by examining macro and meso-level *fields* and their influences on micro-level practices (as *expressions of habitus)* (Emirbayer and Johnson, 2008; Vaughan, 2008).

It is important to emphasise that this will be a small intensive look at one large and complex institution. The scale and nature of such an exercise inevitably results in some distortions and omissions. The reality of a social institution as varied as a DON within a larger university, itself operating within a wider *field,* is multi-faceted and is not able to be represented through any one method. It is also important to emphasise that Hillgate University as a whole, and the DON specifically, had undergone radical processes of change long before the research took place and that continued throughout the duration of the study. It is expected that these changes will

continue after the study has concluded. The aim of this chapter is to provide a picture of the processes that were taking place within this complex organisation during a specific period of time (1995-2011) and as such, is a 'historical snapshot of an institution in the process of change' (Ball, 1981, p. xviii). As these are artificial boundaries it is likely that individuals were differentially influenced by events and experiences that pre-date the historical snapshot included in this analysis. An acknowledgment of this influence is reflected in the brief historical review in section 4.3.1.

4.2. The field

According to Bourdieu, theoretical concepts are supposed to be 'polymorphic, supple and adaptive' rather than rigidly defined and applied (Bourdieu and Wacquant, 1992, p.23). To develop a research project, Bourdieu suggested a 'logic of research' when constructing an object, pointing to theory and method as part of this construction rather than rigidly separated (Bourdieu and Wacquant, 1992). While Bourdieu's theory might be critiqued for lacking a prescriptive methodological formula (Schuller *et al.*, 2000), it can be an inviting prospect for researchers who want to avoid pre-constructed conceptualisations.

Vaughan (2008) and Emirbayer and Johnson (2008) have pointed to the challenges in fully operationalising Bourdieu's theory. In the case of researching an organisation, for example, the multiple goals within such institutions, their variability over time and the complexity of the multi-layered spaces that exist within them can make developing the relational analysis of these *fields* appear a daunting task. The challenge in collecting the vast amounts of data necessary to operationalize Bourdieu's theory has consequently led to few studies using the 'total conceptual package' (Emirbayer and Johnson, 2008; Vaughan, 2008), as discussed in the previous chapter. Yet despite the challenges inherent in operationalizing Bourdieu 'tools of analysis,' his theory provides a degree of flexibility necessary when researching the complexity of social behaviour and is commendable for enabling the development of unique research designs.

This study followed Bourdieu's guide to design the *field*. Using a wide lens, the macro level was represented by socio-economic and political power and its influence on the *field* under investigation (e.g. higher education and nurse education). Next the lens was narrowed to the sub-*field* (Hillgate University and the DON) with a final focus on the social agents at the micro level (professional *habitus* and *expressions of habitus* as explored through the Q study). Even with this

guide, however, collecting and analyzing data at the three levels would have yielded an unwieldiness of information. Thus following Vaughan's (1996; 2008) approach, the development of a case study was considered a promising way to further delineate the study's boundaries while still allowing insightful links to be made between the particular and the general.

Of primary interest when developing the *field* are the relationships and tensions amongst the existing structures that might influence individual practice (in this case adoption of technology). This was the focus during the examination of the literature and the documents selected as artefacts to develop the case study as *field*. As discussed in section 3.4, Vaughan (1996) had developed a case study from archival documents to reconstruct the events leading up to the launch of the Explorer. Like Hillgate University, NASA was conceptualised as not only an organisation-as-*field*, but also an actor in, and affected by, the wider *fields*. Although the data available from NASA was unusually abundant, Vaughan (2008) noted that accessing all the data was unnecessary to establish a relational analysis. Rather, she selectively drew from the data based on the requirements of her research question. Using analogical comparison during her analysis, Vaughan's (1996) approach was inductive, allowing her to become more systematic over time as she looked for differences and analogies in the existing repertoire of theories and concepts informing her views, and those she discovered in the documents.

In another approach to developing the *field,* Grenfell and James (2004) examined the 'educational research' *field* using a critical and interpretative approach when analysing interviews and surveys. Using a 'relational' approach between social constraint and individual agency, there was an implicit acceptance of the fluidity of the *field* over time based on their analysis of social space, position and relationships between the actors involved (Grenfell and James, 2004). Likewise in this study, 'thinking relationally' about e-learning adoption meant examining the relationship between people, the organisation, time and place within the *field* in which the e-learning adoption was taking place. To show the 'nexus of layered spaces and practices,' various artefacts were used to develop the case study. The macro-level *field* was developed using external government publications and seminal papers and are cited within the text.

The artefacts used to develop the meso-level *field* are listed in Table 2 and include a number of internal documents, such as formal strategies, policies, minutes from meetings, contributions to online discussion forums by the e-learning community and internal newsletters. Since details and titles of specific documents and publications produced by Hillgate University and the DON have had their names amended to maintain anonymity they are not referenced. The actual names and their associated pseudonyms are in a separate document available upon request.

Table 2: *Primary sources used to develop meso-level field*

Policies and strategies	Websites
Hillgate's *E-learning and E-knowledge strategy* (2006-2009)	Hillgate website (2009-2011)
Hillgate s *Learning, Teaching & Assessment Strategy* (2009-2012)	'E-learning at Hillgate' webpage (provides tutorials, resources, links etc. for staff and students)
Hillgate University's Plan 2007-2010	HillOCW (open courseware initiative)
Hillgate's *Widening participation strategic assessment* (2009-2012)	Hillgate's E-learning Community website (2008-2010)
Hillgate's *Research and Teaching Job Family* document (2005)	Hillgate's '*Teaching at Hillgate*' website (resources include case studies and staff videos discussing innovative teaching strategies)
Hillgate's *Strategic ICT toolkit* (2010)	'Teaching and Learning' Hillgate website page (2009-2011)
DON strategy *Towards 2012* (2008-2012)	DON website (2009-2011)
DON's *E-learning strategy* (2001-2005), (2005-2008) and (2008-2013)	DON Educational Technology Special Interest Group's website (2008-2011)
Publications and brochures	**Meeting minutes and emails**
'*The Focus'* Hillgate's teaching and learning newsletter (biannual publication Spring – Autumn 2008-2011)	Hillgate's E-learning Community meetings (2008-2010)
'*The Voice'* - Student Union Magazine (monthly publication 2008-2011)	DON Research Group minutes (1997)
'*Toolkits to encourage academic adoption of e-learning by reducing technological barriers'* Internal paper (2009)	DON Educational Technology Special Interest Group quarterly meeting minutes (2008-2011)
Hillgate undergraduate prospectus (2008-2010)	DON Research Knowledge and Transfer Committee minutes and emails (2009-2011)

Initially, to stage the *field,* the literature in nursing; higher education; healthcare; and government policy was reviewed broadly. Documents were examined looking for tensions and evidence of valued forms of *capital* and how this could influence individuals' responses to e-learning

adoption. For example, one of the tensions identified between academia and nursing practice concerned the types of 'skills' (*capital)* that should be developed. Since the choice of valued nursing skills influences the curriculum, this consequently affects pedagogical strategies employed and was thus considered relevant to e-learning. Other tensions and struggles considered significant in terms of e-learning adoption were issues surrounding the 'essence' of nursing; academic versus clinical skills; the value of research versus teaching; the changing role of nurses in practice; and the debate between degree versus non-degree nurses.

When choosing which 'artefacts' to include in the development of the meso-level *field* it was important that they help identify the tensions existing within the organization-as-*field* as well as the valued forms of capital. Using an inductive analytic approach the artefacts were examined for evidence of differences between 'explicit' and 'implicit' levels of power and their influence on what was recognized as *capital.* Questions guiding the analysis of the artefacts included: Did certain academic activities garner more rewards and recognition than others? What was the level of support for e-learning in the DON? What was the 'rhetoric' surrounding e-learning in teaching both across Hillgate and within the DON? What were the various forms of valued *capital (e.g.* academic degrees, research grants, teaching, job titles, clinical competence, reputation, links or association with other discipline such as faculty of social sciences versus medicine)? Was the struggle over different forms of *capital* (cultural, symbolic, social or economic) or between different species of the same *capital* (level of educational degrees; number or value of grants received)?

As stressed by Emirbayer and Johnson (2008) and LiPuma (1993) the researcher must distinguish between official institution 'position-taking' with their formal power, and the volume and forms of *capital* that are actually valued by the actors in the *field.* Position-takings are actions, works, services, arguments and products that derive their significance in relation to other position-takings within the field (Emirbayer and Johnson, 2008). While official roles might endow actors with *capital* relevant to the position itself, the 'profits' attached to the role are not the only source of *capital* for that actor, who also brings other forms of *capital* acquired along their personal trajectories. For example, charisma and leadership qualities may enable those individuals without official roles to wield substantial power and influence based on social forms of *capital* recognised by peers and colleagues (Emirbayer and Johnson, 2008, p. 23). This

becomes significant in e-learning adoption in the context of social networks, mentoring and the sharing of teaching practice.

Thus, artefacts were examined for evidence of 'position-takings' by the actors as they reflected the wider tensions existing within the macro level *field* of power. Whilst developing the *field*, attention was placed on both the objective indicators of positions (the size of the institution, its remit, investment in IT, policies, organisational structure, promotion and reward criteria) and the indicators of position-takings (as explored through Q and informed by artefacts in developing the case study). Like Vaughan (1996) whose inductive approach allowed her to become more systematic over time, a return to the literature following the Q-study enabled a secondary analysis of the *field* to identify any differences and allow for a follow-up on the insights resulting from the Factors identified. The ultimate aim was to synthesise the two spaces (those of positions and position-takings) into a map of the *field* being investigated (Emirbayer and Johnson, 2008) and present these as a case study.

4.3. Macro-level

Understanding behaviour, according to Bourdieu, requires an examination of both the evolving *field* in which actors are situated and the *habitus* that those actors bring to these *fields* of social practice (Bourdieu, 1990). To do so, he stressed the importance of identifying the historical development of a *field,* highlighting its dynamic and ever-changing process. This demonstrates that it is not only the volume and composition of *capital* within a *field* that is important, but also the trajectory of the *field* over time. Before entering academia, nurse education had a significant history that contributed to what it has become today. A brief historical perspective of nurse education's journey demonstrates the changing nature of nursing in healthcare over time and points to how this has influenced its identity and its pedagogy. The historical boundaries were chosen based on the age group of the participants included in this study since recent events were considered to have been more influential.

4.3.1. Significant events in NE since the 1970s

Although there were a few universities in England offering nursing degrees in the late 1960s, these were only educating about 2 per cent of nurses at a pre-registration level (RCN, 1985). The first of these began at Manchester University in 1969. During that time, nurse education was

primarily being delivered through NHS hospital colleges using an 'apprenticeship model.' This style of training was implicitly understood as an 'apprenticeship' to the medical profession and it was the medical profession that dictated the standards by which nurses were measured. Nursing students were considered employees of the NHS and spent most of their training in practice. At that time, the popular view of nursing, both within and outside of the profession, was that it was grounded in practical skills and was a 'soft option,' leading most 'bright' women to turn away from nursing (Doyal, 1995, p.169 in Miers, 2002).

Nurses wishing to become nurse 'tutors' did so through a 'linear transition' from the NHS into education (Kenny *et al*., 2004, p.630). The close relationship between the clinical setting and NHS colleges ensured a steady supply of teachers firmly rooted and competent in practice. With this linear transition, the role of the nurse tutor was clearly defined and their tasks centred on the production of a trained workforce for the clinical area. As a logical step in their career progression, nurse tutors were at the top of their pay scale in their sector, earning significantly more than their colleagues in practice. The forms of *capital* valued at this time related to clinical competence, pedagogical skills and the role modelling of the essence of nursing, as defined by hands-on patient care (Caldwell, 1997).

Caldwell (1997), echoing Rafferty (1996), noted that nursing curricula was always heavily influenced by the power of socio-economics and politics. During the 1960s and 1970s, resulting from the values prevalent in society at the time, nursing curricula began shifting away from its earlier biomedical influences, towards a model that reflected the social and behavioural sciences. This led to increasing use of experiential methods of teaching guided by the notion that individuals had unique needs, beliefs and attitudes (Caldwell, 1997). This holistic philosophy was reflected in both nursing curricula and in clinical practice.

The socio-economic status began to change again in the late 1980s in response to events dominated by the marketplace. This led to a growing political interest in the way nursing services could be delivered more economically. It was around this time that *Project 2000* was proposed and presented as a new type of education coinciding with nurse education's move into academia (UKCC, 1986). This transition removed nursing students' status as NHS employees and transferred responsibility for their education to the university sector.

As political and economic forces increasingly began to govern and influence the nursing profession, notions of efficiency, economy and a growing attention to outcomes rather than process became paramount (Caldwell, 1997). Presciently in 1997, Caldwell predicted that the purchasers of nurse education (the Department of Health) would inevitably seek to secure more control over the product of their investment and would be reluctant to allow academics to determine the knowledge and skills required of nursing graduates. Indeed, although *Project 2000* was originally designed to turn nurses into 'knowledgeable doers' and initially hailed as a victory for the 'professionalization' of nurses, the project was soon criticised for being too academic and lacking clinical exposure (Stevenson, 1996). This led to a renewed emphasis on clinical practice (UKCC,1999) and a pendulum swing back towards a curriculum that was more responsive to the needs of the NHS, as evidenced by the *Making a Difference* report (DOH, 1999). These events matched the development of the 'competency-based' outcome model in nurse education. This model was itself triggered by a government intent on benchmarking clinical competence as part of a 'knowledge and skills' agenda to develop a pliable workforce (Winch, 2002). These changes led to a shift in recognition towards different forms of *capital* set by regulatory boards and meant that nurse educators faced increasing challenges as they moved into the new *field* of academia, a game with new rules and different forms of *capital*.

4.3.2. The field and capital of HE

The field of academia is a market wherein the stock of reputation and status falls and rises throughout an individual's career as a consequence of its valorisation, or not, by the informal and formal process of peer-group evaluation and institutional hierarchical consecration. (Jenkins, 2002, p.103)

Having written prolifically on education, Bourdieu conceptualised HE not only as a hierarchical structure of 'haves' and 'have-nots,' but also through their competing views of what should count as 'having.' This principle of hierarchization forms the basis of struggles that exist between the dominant and the dominated groups. Bourdieu's studies of HE in France were originally conducted during a period defined by a compact between society and academia insulating universities from wider pressures. This allowed them to develop into a highly autonomous *field,* albeit still susceptible to the wider *field* of power (e.g. politics and economics).

The situation was similar in the UK in the 1960s (Grenfell and James, 2004), but has radically changed over the years as discussed in section 1.2. Government has increasingly begun viewing HE as a policy lever for achieving greater competitiveness within the politico-economic *field,* as seen recently with rising tuition fees, placing more demands on HE and influencing what is valued as *capital*. Traditionally, the academic *field* has been predicated, and thus legitimated, on knowledge in the pursuit of objective 'truth' (Grenfell and James, 2004). The type of *capital* operating in universities has been an institutionalised form of cultural *capital* generally called 'academic' *capital*. Bourdieu has made distinctions between two types of academic *capital*: one linked to the power of reproduction of the university body; and the other the intellectual *capital* linked to scientific authority or intellectual recognition.

In HE the differential holdings of prestige and honour associated with activities such as research, publications and grants are highly valued (James, 1998). The systems of power relations amongst members of academic staff are conceived accordingly. Unlike other sectors, such as government or business, it is not political power or economic wealth that are the most highly prized commodities in the academic community, but rather individual reputation (Becher, 1989). Reputation is a form of symbolic *capital* and is related to and converted back into other forms of *capital*, such as social and economic *capital*. Within departments, academics are recognised by their holdings of the various forms of valued *capital*. This is in some cases explicitly codified, such as through the criteria for the Research Assessment Exercise (RAE) awarding groups of researchers a score based on the quantity and types of specific research accomplished (Elkin, 2002). High scores reflect positively on both the researchers and the department and ultimately contribute to the acquisition of reputation and promotion, but also additional grants and funds.

This brief exploration into the forms of *capital* that make up the currency of HE demonstrates the relatively low ranking generally associated with teaching in terms of recognition and reputation. With the valued forms of *capital* associated with research, grants and publications, academics considering the integration of e-learning into their teaching may be both explicitly and implicitly influenced by how these endeavours might affect their ability to acquire the recognised forms of *capital*.

4.3.3. The field and capital of NE

Education lies at the centre of professional work and expertise and therefore occupies a pivotal position in the shaping of occupational culture and the politics of nursing. Far from being a value-neutral and disinterested activity, education represents a powerful vehicle for socialisation and the transmission of culture. (Rafferty, 1996, p.1)

Relatively new in higher education, nursing departments make particularly rich units of analysis for studying the links between strategic resources (*capital*), sites of contestation and the reproduction of inequality (Meerabeau, 2006). To examine nursing's position within the *field* of HE and its possession (or lack) of *capital*, Huber (1990) has suggested that the *field* in question be analysed in respect to its adjacent *field*. For nursing, the *field* of medicine is the most logical comparison case because the two occupations have been closely linked since the 19th century (Meerabeau, 2006).

In general, it is acknowledged that medical academics possess greater quantities of all the forms of *capital* than do the majority of nursing academics (Meerabeau, 2006). This *capital* relates to salaries, education, prestige, authority and credibility. In a somewhat dated (yet still accurate) article, Strong and Robinson (1990, p.45) described nursing and medicine as being a 'reverse image of the other.' Doctors numerically small but powerful, nurses numerically large but weak in influence; doctors educated and wealthy, nurses ignorant and poor; medicine scientifically-based, nursing hardly at all (Strong and Robinson, 1990). Moreover, the socio-economic backgrounds of applicants for medicine and nursing programmes have differed. This was noted by the HEFCE, the body responsible for the funding of medical studies, where medicine was seen as recruiting a larger per cent of their intake from independent schools (Davies, 2001). In comparison, nurse education often takes place in universities that have a higher percentage of students from state schools and working class backgrounds and that are generally less well funded (Boxall *et al.*, 2002; Meerabeau, 2006). Unlike medicine, nurse education continues to be funded by the Department of Health (DOH) through Strategic Health Authorities (SHA). This places considerable power over nursing curricula into the hands of their future employers (Chambers *et al.*, 2010). Indeed, Meerabeau (2006) has argued that few other professions have had employers holding such control over departments within universities, an arrangement that has seriously impeded the development of nursing. Maslin-Prothero (2005) has questioned whether nursing might have followed a different trajectory and held a different position within

the *field* had it followed the medical model when transitioning into academia. This would have divided their week into sessions of practice, education and research allocated according to experience and expertise rather than the needs of the department. Yet as noted in section 4.3.1, nursing has historically been controlled by the needs of the wider *field* rather than its own, and the transition into academia instead led to a subsequent distancing from clinical practice.

While a *field*'s autonomy is determined by its ability to generate its own values of achievement, the relative nature of this autonomy is the extent to which it is influenced by the potent *field* of power (economics and politics). In nursing and nurse education, where there has been little autonomy, the balance of power and control has meant a significant shift outwards towards the regulatory mechanisms of the state and the market. In such circumstances, precedence is given to rules, procedures and practices not particular to the discipline or profession (Young, 2008, in McNamara, 2009). This further weakens their level of autonomy and significantly undermines their production and application of new knowledge (Young, 2008, in McNamara, 2009).

4.3.4. Tensions between NE and HE

Fulton (1996, p.157) described academia as being stratified into 'noble' and less noble disciplines; ancient and new universities; and professors and lesser staff. As a new academic discipline in the *field* of HE, nurse education was not recognised as holding equal status compared to the more established disciplines (Luker *et al.*, 1995). This inequality was described as the 'bedpans and brooms' repertoire, with nursing seen as a Trojan horse smuggled into academia, diminishing the status of traditional forms of *capital* and undermining the valued identities of more established and strongly bounded tribes (Becher and Trowler, 2001; Watson and Thompson, 2004; McNamara, 2008). The original members within HE were concerned with preserving the integrity of the boundaries existing between disciplines and maintaining their sacred forms of knowledge (Becher and Trowler, 2001).

To compete, nurse educators were faced with the responsibility of earning the valued forms of *capital*. As such, pressure was placed on nurses who had been educated at diploma level to elevate their standards of education to degrees at the Masters and PhD level as a means of gaining academic credibility and developing their research portfolios. Recognising their 'inferior status,' a number of research-active universities placed nurse educators on teaching-only

contracts to avoid diluting the percentage of staff 'returners' in the RAE (Meerabeau, 2006). Justifiably, concerns abounded among nurse 'tutors' who had come from NHS colleges regarding their integration into a system that would not understand the complexity of their role and their teaching remit (Miers, 2002).

While the move to HE might have been considered an opportunity for nursing to gain a new form of *capital* (academic recognition), to the new actors the coveted *capital* was often perceived as conflicting with their professional nursing *habitus* (described in section 4.5.2). Whereas nurses in the past had placed significant pride in attending nursing schools attached to hospitals with a good reputation, valuing learning through practice and quality care (Miers, 2002), the *field* of HE demanded a reorientation of nursing's traditional goals and values to acquire other forms of *capital* to compete effectively (research grants, publications, conference presentations).

The move to HE (and the renegotiation of *capital*) not only led to a redefining of the role of nurse educators but it also led to the changing character of nurse education and nursing knowledge (Corbett, 1998). In an effort to function strategically in the new *field* and address nursing's association with profane, menial activities many nurses in academia began turning their attentions towards more theoretical endeavours. This distancing of NE from healthcare delivery began what has now been identified as a 'deskilling' of nurse educators (Macleod Clark *et al.*, 1997). In the earlier years of the transition to HE, Fletcher (1995) had pointed to the rising tension between nurse tutors still committed to maintaining strong ties with clinical practice and those wishing to fully integrate (or who had already fully integrated) into academia. Over time, this physical separation between the healthcare setting and academia led to a severe chasm between nurse education and nursing practice (Corbett, 1998). It also created significant difficulties in developing coherent role definitions and career pathways for nurse educators.

To address the growing tension between academic nursing and nurses in practice there has been a growing drive to define the boundaries of nursing. Nurse academics have tried to gain disciplinary autonomy, coherence and specialisation by grounding nurses' academic and professional identities in a 'particular kind of humane relationship to knowledge' (Beck and Young, 2005, p.184). This carving out of a niche of expertise by making precise contributions to a discipline was perceived as a means of earning academic *capital* and subsequent status and reputation (Becher and Trowler, 2001). Yet what counts as scholarship is also subject to a

hierarchical pecking order, placing nursing research with its focus on 'soft' concepts such as caring and the development of nurse-patient relationships (frequently employing qualitative research methods) subordinate to other forms of research. Thus, even when attempting to carve out a specialised niche, nursing's epistemological *capital* has still been, in many cases, 'too weak to be persuasive or to have influence' (Latimer, 2000, p.94).

McNamara (2009) has argued that their consistent lack of symbolic *capital* has compromised the identity of nurse educators and devalued the legitimacy of academic nursing, thus further contributing to nursing's invisibility, both in the academic and the clinical practice setting. These issues have 'impaled' nurse academics on the horns of 'a double-edged dilemma of disciplinary development' (Rafferty, 1996, p.187). Despite their fifteen years in higher education, nurse educators continue to lack the 'critical mass and pedagogic continuity over time' essential to establish, grow and maintain a unique epistemic community (McNamara, 2008, p. 467). Competing demands on nurse educators' time since entering the new *field,* such as lecturing, large volumes of assessments, research and administration has meant they have continued to lack the symbolic *capital* usually accrued through sustained research and scholarship (Maslin-Prothero, 2005).

Identifying disciplinary boundaries is significant, however, as these dictate the development of knowledge production and relevant pedagogical practices (Young, 2008). To (re)create their identity and (re)define their image, nurses must articulate a bridge between nursing science and disciplinary practice, or risk undermining their professional and academic identity, sabotaging their curriculum and eventually compromising the quality of patient care (McNamara, 2008). The role that technology might play in nursing curricula can only be fully apprehended by locating it within these tensions existing between the *fields* of nurse education, higher education and the healthcare sector.

4.3.5. Tensions between NE and the healthcare sector

As discussed, nurses have historically had little control over their own profession (Rafferty, 1996). This situation persists today as external bodies continue influencing nursing curricula and the profession. The current funding arrangements exacerbate the issue because when nursing moved into HE (unlike other countries such as Australia or the USA), funding did not go to the

Department of Education, but remained with the Department of Health (DOH). When regional health authorities (RHA) were transformed into regional offices of the NHS Executive, the consortia of NHS trusts became the primary purchasers of nursing places (Meerabeau, 2006). Nursing (and other allied health professions), therefore, holds a rather unusual status in HE in England because its services are purchased in a quasi-market, linked to government procurement policy and underpinned by competition for the best value for money (Meerabeau, 2001).

In the *Funding learning and development for the healthcare workforce* report (DOH, 2002) it states that because the NHS funding is geared to the delivery of particular skills, that contracts should be flexible enough to maximise the scope for the greatest local freedom. The local NHS trusts therefore have considerable financial power and influence over nurse education. Such a strong influence on nursing curricula by the NHS has led to considerable tension between academia and practice surrounding the skills perceived as necessary for nursing graduates. Much of this debate focuses on the question of whether nurse education should be a process of developing a skilled and productive worker for the NHS, or whether it should be developing broader intellectual abilities. This has led to a fundamental disagreement over what defines 'competence' and 'graduate skills' (Redfern *et al.*, 2002; Watson *et al.*, 2002).

The 'product' of nurse education as described in *Making the Difference* report (DOH, 1999, para 4.2) is seen as a graduate who is 'fit for purpose, with excellent skills and the knowledge and ability to provide the best care possible in the modern NHS.' Incidentally, when again compared with medicine, the term 'fit for purpose' is rarely used in their literature because the medical profession is recognised as having a wider remit than merely providing workers for the NHS (Sanders, 2001). However, with the funding bodies that employ future nurses directly dictating nursing curricula, future nursing graduates are still specifically prepared to meet the needs of the local NHS services (Meerabeau, 2006).

The tension between academia and clinical practice points to the radical transformation nursing has experienced since its origins. Historically emphasising moral character and a devotion to a calling (McNamara, 2009), the vocational 'essence' of nursing is perceived by some as having been destroyed and replaced by 'intellectual confusion' caused by an overload of academic nursing theories (Bradshaw, 1995, p.89). The distance between clinical practice and the classroom has led to a number of contemporary media portrayals of nurses being described as

'too posh to wash' or 'too clever to care' (Scott, 2004), with reports of nurses standing with crossed arms considering certain sorts of care beneath their duties (Magnet, 2003). These changes surrounding the 'essence' or core of nursing has impacted the curriculum and the way that it is taught. Nursing's identity and the desired 'product' of nurse education inevitably determines the teaching strategies employed and consequently the role e-learning might be perceived as playing in nurse education.

In summary, the macro-level tensions making up the *field* of this study have been examined. This broad backdrop is argued to have played an important part in shaping the way nurse educators identify themselves and their profession. Whilst it is difficult to demonstrate the extent of these influences on particular individuals, the underlying tensions between training and education, the status of nursing in academia and the changing role of the nurse in healthcare practice are all recognised as implicitly influencing and shaping individual actors' views and their behaviours toward education, and consequently e-learning. The next two sections will focus the lens on the meso-level *field* and micro-level professional nursing *habitus*. The former will focus on one institution of HE and its DON and the latter will examine nursing's professional *habitus* to 'set the scene' for the analysis of the Factors identified in the Q study.

4.4. Meso level

4.4.1. Hillgate University: Excellence in research and teaching

Recognised as a member of the illustrious 'Russell Group' (http://www.russellgroup.ac.uk/our-universities.aspx), Hillgate can be characterised as a university located in the dominant sector of the *field* of HE. In promotional materials, Hillgate University describes itself as one of the world's best universities, known for its commitment to learning and research, with high results in past Quality Assurance Agency (QAA) assessments, Research Assessment Exercises and international league tables (Hillgate University website; Hillgate University brochure; Hillgate University's Plan 2007-2010). According to its University Plan 2007-2010, its mission is to become the world's greatest university, distinguished for its international reach, its commitment to learning and its research.

As a member of the 'Russell Group' Hillgate's core emphasis on research can be expected and is promoted as a means of providing the context for excellent teaching (Hillgate website and

prospectus, 2011; University Plan, 2007-2010). This excellence in teaching is considered possible because active researchers are also involved in teaching their subject matter. Yet, the relationship between these two academic responsibilities is often highly abstract and the assumption that active researchers lead to excellent teaching has been challenged in the literature (James, 1998). As discussed in Chapter 3, identifying such conflicts is relevant when analysing phenomena using Bourdieu's theory as these tensions inevitably shape the *field* and the forms of *capital* accepted as valued currency. In section 4.3.2, academics were shown to be influenced by the value their organisation placed on research (as symbolic or economic *capital*) consequently impacting the priority they placed on this activity. While Hillgate University points to the complementary relationship between the activities of research and teaching, James (1998) described evidence suggesting conflict between the two. In his study, James (1998) noted that individual academics experienced tension when they focused primarily on teaching. This activity was seen as systematically undervalued by superiors, and colleagues acknowledged that teaching-focused staff were unlikely to gain promotion. Fox (1992) investigated publication productivity amongst academics from four different disciplines, looking at their declared interests, time commitments and 'orientations.' He concluded, 'the findings point to a strain between research and teaching.' His data indicated that in practice 'good,' or at least productive researchers, had less classroom contact with students, spent fewer hours preparing for courses and considered teaching much less important than research (Fox, 1992, p.301).

Although these are both dated studies and the priority in HE has recently begun to shift, recent reports have also identified similar tensions between research and teaching (Hughes, 2009; OLTF, 2011). Yet future economic uncertainties have led to an increasing interest in the quality of teaching at Hillgate (E-learning and E-knowledge strategy, 2006-2009; Learning, Teaching & Assessment Strategy, 2009-2012). Hillgate has begun placing emphasis on widening participation to balance the significant budget cuts expected from HEFCE (its major funding body) (Widening participation strategic assessment, 2009-2012). Attempts to increase tuition revenue by widening participation has required Hillgate to explore more flexible learning options and focus on the needs of their student-consumers (Learning, Teaching & Assessment Strategy, 2009-2012). This has triggered the recent focus on the 'student experience,' acknowledging and recognising the value of good teaching practice (e.g. the National Student Survey).

At Hillgate, the recognition and catering to students' needs has led to investments in IT totalling more than £13 million, including over £1 million on setting up a new Primary Data Centre, upgrading the information network, developing new technologies such as portals and mobile computing and providing access to major electronic collections (Strategic ICT toolkit , 2010; Widening participation strategic assessment, 2009-2012; Hillgate University website, 2011). Hillgate acknowledges the numerous challenges it faces in both maintaining and promoting excellence in teaching and learning (E-learning and E-knowledge strategy, 2006-2009; Learning, Teaching & Assessment Strategy, 2009-2012). These challenges are attributed to increases in student numbers; the diversity in learning styles; teaching across international campuses; and the competition in the international student market (E-learning and E-knowledge strategy, 2006-2009). How technology and e-learning are perceived as able to meet these challenges are addressed in Hillgate's e-learning strategy described next.

4.4.2. Hillgate's e-learning strategy

Although a more recent strategy has since been published (renamed the 'Learning, Teaching and Assessment Strategy 2009-2012') the E-learning and E-knowledge strategy 2006-2009 best reflects the *field* during the time in which the study took place. Aimed at maintaining a competitive edge with other 'Russell Group' institutions, the e-learning strategy's primary objectives were to stay abreast of developments in ICT and communicate its vision for e-learning across the university (E-learning and E-knowledge strategy, 2006-2009). As mentioned above, implementing e-learning at Hillgate was acknowledged as a response to the changing environment and rising students' expectations. The 'digital nativity' rhetoric can be clearly heard in Hillgate's strategy, with students described as increasingly using technology and mobile devices in their daily lives. It is apparent that 'non-traditional' students (which the DON attracts) are not explicitly considered in this 'digital native' rhetoric and a number of assumptions are made about the value placed on technology by all students entering university. As noted in section 2.4, such assumptions need to be carefully considered in light of students' views about technology for social communication versus its application in formal learning.

It is apparent from the substantial investment and promotion of ICT that e-learning is considered a high priority at Hillgate (E-learning and E-knowledge strategy, 2006-2009; University Plan 2007-2010; Widening participation strategic assessment, 2009-2012; Hillgate brochures and

promotional material; Hillgate University website, 2011). As discussed in the internally published paper *Toolkits to encourage academic adoption of e-learning by reducing technological barriers* (2009), the early years of the e-learning strategy focused on providing technical support and resources to a small number of strategic projects aimed at providing a foundation for the transfer of expertise and best practice across the university. Some of these earlier projects included the development of an e-assessment tool in the Veterinary department; the development of RLOs using an e-learning template developed by Hillgate's e-learning Team in the School of Community Health Science; and the development of podcasts in the School of Economics (E-learning Community website , 2008-2010; 'Teaching at Hillgate' website, 2009-2011; Hillgate prospectus, 2011).

Given the significant fixed costs associated with developing e-learning, particular attention was given to exploiting the potential for reusability (E-learning and E-knowledge strategy, 2006-2009; HillOCW, 2010-2011). As such, one of the most publicised projects was the launch of an open courseware endeavour to make selected e-learning material publicly available on YouTube to enhance the university's visibility, reputation for innovation, leadership and 'social responsibility' ('Toolkits to encourage academic adoption of e-learning by reducing technological barriers,'2009; HillOCW, 2010-2011). Some of Hillgate's more recent technological initiatives have included the development of several islands in Second Life; an online e-learning toolkit; and the adoption of a new university wide Virtual Learning Environment (VLE) to support modules and courses (E-learning at Hillgate website, 2011).

Other steps taken to further demonstrate Hillgate's commitment to e-learning were: the allocation of e-learning as part of the Pro-Vice Chancellor's portfolio; the appointment of a Director of E-learning; and the creation of an e-learning committee (Strategic ICT toolkit, 2010; Hillgate University's website, 2011; Hillgate prospectus, 2011). The dissemination of e-learning activities and good practice have been facilitated through a 'teaching practice' website, seminars, email alerts and newsletters (e.g. 'The Focus' magazine; E-learning at Hillgate website; Teaching at Hillgate website; E-learning community blog).

Such pro-active steps taken in developing and exploiting the use of ICT across the university creates an image of a supportive and encouraging platform for staff to experiment with technologies in their teaching. The explicit promotion of ICT, the investments made and the

value placed on e-learning in policy documents suggests that Hillgate is attempting to add Technology-Enhanced Learning (TEL) as a new form of valued *capital*. Yet, change is slow and the traditional forms of *capital* are still highly prized due to the wider *fields* of power still influencing HE. This is most apparent in the criteria set by the upcoming Research Excellence Framework (REF) which has explicitly called for 'impact' as shown through easily quantifiable evidence of research benefits to the wider society (REF2014 'Weighting of research impact confirmed,' 2011). Additional evidence of valued forms of *capital* are the promotions to chair during 2009-2010, which show only two out of the twenty as based on a strong teaching portfolio (Hillgate website 'Academic promotions for 2010').

Individual departments and disciplines play a significant role in creating a culture that facilitates or impedes the value placed on teaching and e-learning. This too can influence technology adoption and the recognition of different forms of *capital*. The next section will focus specifically on the DON at Hillgate University.

4.4.3. The Division of Nursing (DON) at Hillgate University

The medical school at Hillgate was established in 1970, within which a small nursing research unit was attached in the 1980s (DON School Strategy Group minutes, 1997; DON school strategy, 1996-2000). This nursing unit was exclusively involved in developing nursing research skills through various modules offered at a Masters level, but was not involved in any pre-registration education. Then in 1990, the research unit expanded to become a nursing studies department offering a four-year Bachelor of Nursing course. In 1997, a merger with the local college of nursing and midwifery run by the NHS led to the development of the official Division of Nursing integrated into the Faculty of Medicine (DON school strategy 1996-2000). This merger included a number of smaller DON sites geographically dispersed across the region.

Today, the DON is a very large department, employing over 300 staff responsible for more than 3500 students (6000 including post-registration students) (DON website, 2011). In addition to the lecturing staff, there are more than 80 registry, clerical, IT, part-time and administrative staff managing over 25,000 assignments per year. It is comprised of five main nursing centres and several smaller satellite sites across a wide geographical area. Speciality clusters covering the main areas in which nurses practice (adult, mental health, child and learning disability) provide

clinical sites for large intakes of students twice a year. There are approximately 2500 practice placements, making use of over 10,000 public, voluntary and commercial sectors that mentor students in their clinical training (DON website, 2011).

As discussed in section 4.3.4, the transition of NHS nursing colleges into academia demanded an assimilation of both the culture of HE, but also in some cases, the particular research-intensive requirements of the university (Hillgate website, 2008-2011; Research and Teaching Job Family, 2005). The challenge was compounded by the fact that although they had merged into HE, unlike other departments, the school and the profession still remained tightly bound to the DOH through funding contracts (DOH, 2009). Unlike the other departments at Hillgate University, HEFCE has not contributed to tuition fees and bursaries for the DON. Instead, student places in the school have been commissioned by the local Workforce Deanery (EMSHA, 2009). According to the Deanery's website, the aims of the deanery are to 'harmonise working practices' for all 'non-medical' workforces in relation to financial control, contract management and salary support (EMSHA, 2009). This arrangement is to guarantee 'fitness for purpose.' As such, nursing pre-registration education is commissioned and contracted in line with local requirements and aims to serve the healthcare needs of the community (EMSHA, 2009).

The responsibilities of nurse academics are outlined in the DON's strategy delineating its objectives and expected outcomes for 2012 (DON's 'Towards 2012', 2008-2012). The plan is to move the DON towards a differentiated workforce that would allow all staff to contribute to at least one foundation session in education, practice development, research and administration, of which the combination of roles would vary depending on individual contracts (DON's 'Towards 2012', 2008-2012). All teaching staff are expected to sustain a minimum of 4-6 sessions teaching per week, yet the objective over the lifetime of the strategy is to move towards a specific target ratio of staff with 20% focusing on education; 40% on practice; and 40% on research (DON's 'Towards 2012', 2008-2012). The emphasis on research over education is clear, while the equal per cent of practice time demonstrates a push towards nurse educators reclaiming clinical competence.

Tensions were found within the DON in relation to the various forms of *capital* and their perceived recognition. Comments made in an email exchange by members of the Research Knowledge and Transfer committee suggested that the 'research group' saw themselves as

having to 'fight for a place' in what they considered to be a school that was predominantly focused on teaching large numbers of students (RKT email exchange, 2011). Yet the value the DON places on research is clear from its website, plainly marketing the strengths of the Division as measured by their research activities, commenting that "staff are active in research, pursuing academic excellence together with clinical relevance with the aim of becoming one of the leading research units in healthcare sciences within the UK" (DON website, 2011). There is nothing on the DON's website that speaks to teaching or pedagogy, and the only mention of 'education' links to the various courses on offer.

4.4.4. The DON's e-learning strategy

Despite the lack of external recognition for teaching, the DON demonstrated an awareness of the importance of ICT from its earliest school strategies. It was clear that the Division anticipated that its presence would continue to be felt in both education and in practice (DON e-learning strategy, 2001-2005). Training in the use of IT was aimed at meeting specific target levels and the 'Staffing, staff development and recruitment' section of the strategy confirmed that all lecturing staff would be allocated one day per week for the development of such skills (DON e-learning strategy, 2001-2005).

The DON's commitment to ICT led to the development of an Education Technology interest group in 2000 and an Education and Health Informatics research group in 2002. Prior to this, an informal group had existed that was primarily involved in the development of Computer Assisted Learning (CAL) projects (DON Educational Technology Special Interest Group's website, 2008-2011). This small group, whose activities began in 1995, were the 'early adopters' of e-learning and laid the foundation on which the DON's e-learning groups were launched. The primary objectives of these e-learning groups were to develop and provide support for e-learning and build research evidence for the delivery of nurse education and the use of technology (DON E-learning strategy, 2001-2005). Projects focused on the development of key skills for nursing practice; the evaluation of e-health; e-learning approaches in the delivery of health education; and the collaborative development of reusable learning objects (RLOs) (DON E-learning strategy, 2001-2005).

In 2005, the unit became one of HEFCE's collaborative Centres for Excellence in Teaching and Learning (CETLs), providing funds to further develop the use of ICT and e-learning over five consecutive years (DON Educational Technology Special Interest Group's website, 2011). The definition of e-learning was left intentionally broad, acknowledging the rapid changes in technology and was described as a spectrum of applications, from the provision of various levels of blended learning to fully online modules (DON E-learning strategy, 2005-2008). As Figure 3 demonstrates, clear distinctions were made between 'web-supported' course delivery (with resources stored in an online repository) and 'fully web integrated' internet-dependent delivery systems (where students collaborate and learn online). This Figure demonstrates that as the use of technology increases, so too does the need for pedagogical input.
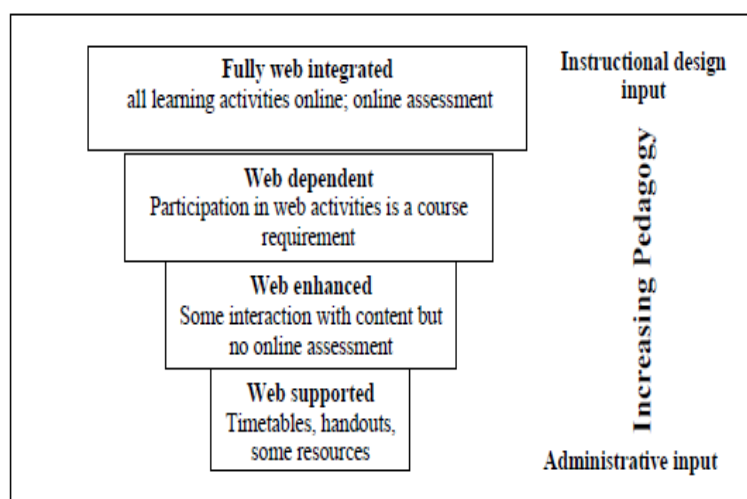
Figure 3: *Levels of e-learning integration adapted from DON E-learning strategy 2008-2013*

Like the wider university, the DON's E-learning strategy 2008-2012 was influenced by the mounting challenges they were facing. Student recruitment and retention were identified as major issues requiring innovative solutions that could increase their competitiveness in a global market (DON E-learning strategy, 2008-2012). The DON promoted e-learning as a way to cater to both the increasingly digital population, but also the diverse and geographically distributed student groups who attended modules across all five campuses (DON E-learning strategy, 2008-2012). To meet the aims of providing a framework for the integration of technology into the nursing curriculum, Table 3 outlines its eight objectives:

Table 3: *DON e-learning strategy: Eight objectives to move e-learning forward*

1) To have basic online presence for all modules (web-supported)
2) To develop e-learning methods encouraging reflection on nursing practice and capturing the process of learning through the use of blogs, e-portfolios, collaborative software and simulation activities
3) To exploit new technologies that can deliver modules to meet the needs of diverse student groups and widen participation
4) To prepare nursing students for new ways of learning in a digital age
5) To prepare staff to support nursing students in a digital age
6) To build virtual communities locally and globally that can inform and support learning about health and allow collaboration on e-learning development and research
7) To exploit the advantages of new technologies for increasing efficiency and making better use of the contact time educators have with students
8) To evaluate and research the use of new technologies and e-learning in health

A 'Short Term Action Plan' was devised in a first instance, of which a number of the key events can be noted in Figure 4. In this figure, the increasing interest in e-learning between 1995 to 2009 led to the appointment of a WebCT officer; financing for academic e-learning mentors to act as facilitators across the different centres; the creation of several Learning Technologist (LT) posts; and funding for PhD studentships. Figure 4 also illustrates the considerable increase in e-learning projects since 1995, reflecting the evolution of technology from the earlier CAL (Computer Assisted Learning) projects to the development of Reusable Learning Objects (RLO), Generative Learning Objects (GLO), the creation of a learning hub and the purchase of electronic whiteboards, podcasting and video-conferencing equipment. The rapid increase in e-learning projects reflects the wider developments occurring across Hillgate University's infrastructure (Hillgate 'Toolkits to encourage academic adoption of e-learning by reducing technological barriers', 2009).
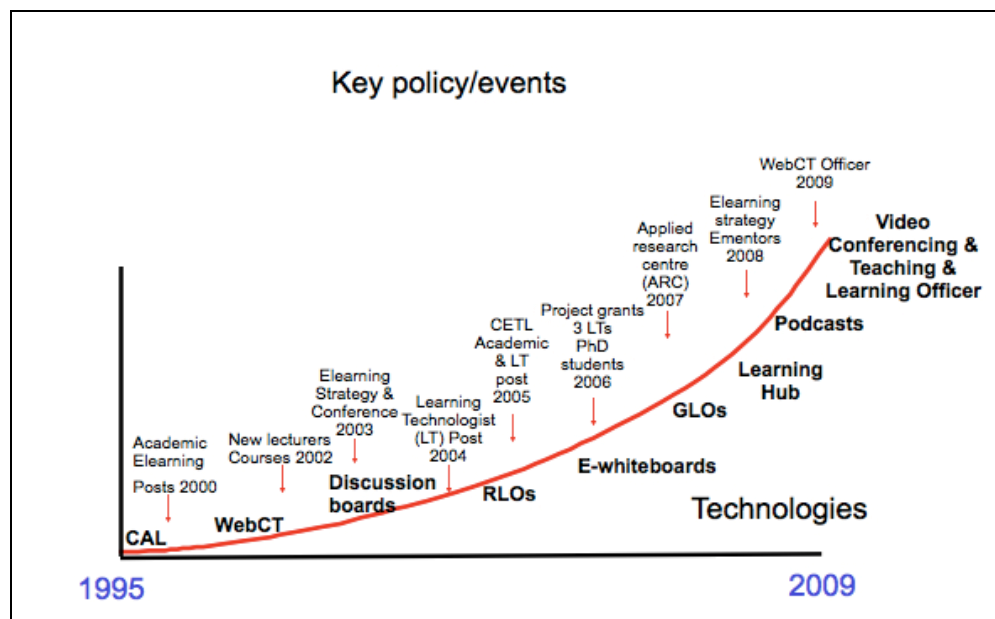
Figure 4: *Key e-learning events in the DON from 1995-2009*

In summary, using a macro level lens, the changing *fields* of HE, NE and nursing practice were examined. Then, focusing on one HEI, the influences of the wider *field* were examined through the experiences of one DON. The next section will continue to narrow the focus on nurse educators themselves. By probing nursing's professional *habitus* at the micro-level (as actors operating within the *field*s just described), we link the final concept of Bourdieu's TOP before exploring actors' *expressions of habitus* as identified in the Q study.

4.5. Micro level

4.5.1. The relationship between field and habitus

Bourdieu argued that it was only when faced with unexpected dissonance that *habitus* could be duly apprehended. Dissonance creates a 'necessity' that demands new strategies for coping. For example, in the context of this research study, educational technology and the changes occurring in nursing practice have required nurse educators to revisit their views about nursing and their own teaching. It is under these changing conditions that actors with *habitus* shaped by the old *field* (and old forms of *capital*) might feel ill at ease in the new *field*, because the rules of the game no longer fit the original conditions which have shaped it:

> *In situations of change...those who were best adapted to the previous state of the game, have difficulty in adjusting to the new established order. Their dispositions become dysfunctional and the efforts they may make to perpetuate them help to plunge them deeper into failure.* (Bourdieu, 2000b, p.161)

Much of nurse education has been focused on socialising future nurses into the discipline. Yet as noted earlier, nursing and nurse education have undergone, and continue to undergo, significant changes. If socialisation is the learning of nursing *habitus*, what happens when the discipline of nursing itself changes? The tension surrounding the role of 'the nurse' has impacted both academic and professional identities. This in turn has influenced the knowledge base of the curriculum and the pedagogy adopted to deliver it (Young, 2008). The nursing *habitus* described below can best be understood as the connective thread that links nursing's history to its current identity. Examining nursing *habitus* identifies the tensions that have developed within nursing relating to the concept of 'caring.'

4.5.2. Nursing's professional habitus

Nurses' overarching purpose, historically distinguishing itself from other healthcare professions, has been the act of 'caring.' This concept has been repeatedly described as the core, essence and central focus of nursing. Henderson (1991) and Leininger (1988) both defined it as nurses' 'authority' and the central unifying and dominant act characterising nurses. Indeed, caring is the basis for much of what has been taught in the nursing curriculum since the 1960s, with its emphasis on the social sciences, communication skills and reflective practice (O'Connor, 2007). Yet, 'caring' is not as simple as it might appear and there has been growing disagreement regarding what it means in nursing (Scotto, 2003). Whilst once considered the glue that held the profession together, it has become a term increasingly difficult to define.

The confusion surrounding caring today is related to the changing nature of what it means to be a nurse. Once associated with the 'physical work' of patient care, nurses today are increasingly involved in duties and responsibilities that would not have counted as 'proper work' (Timmons, 2001). Indeed, nursing students entering a clinical setting in the 21st century are more likely to witness unqualified staff performing the majority of hands-on patient care (basic care), whilst the qualified nurses are planning, coordinating and managing this care. This new style of 'caring' usually involves significant amounts of paperwork and might be argued to be devoid of 'proper' nursing work, which used to be perceived as the touching, moving and handing of patients (Timmons, 2001).

Indeed, in Ireland, where nursing has required a university degree to enter the profession since 2002, the move to an academic qualification has been argued to have withdrawn nursing from 'core nursing' ('personal nursing care, the feeding, the toileting, the touching of the bodies of the weak and vulnerable') (Healy, 2005, p.17). Such 'academic nursing' is seen as having turned away from studying front line care and bedside nursing work which concerns practising nurses (Clarke, 2006, p.177) and that 'nursing knowledge' bears little resemblance to nursing practice (McCarthy and Holt, 2007). This has led to nurse academics being portrayed as motivated only by symbolic *capital* associated with status and reward from theoretical research but who are far removed from the realities of nursing practice (Bradshaw, 1998; Dingwall and Allen, 2001).

Dingwall and Allen (2001) have proposed that nursing must explicitly distinguish between what was once 'traditional' caring ideals and the pragmatic statutory requirements of clinical practice that better reflect the 'care by proxy' as nurses increasingly delegate 'care' to others (Clifford, 1995, in Dingwall and Allen, 2001). Carr (2008) and Ousey and Johnson (2007) have called for the recognition of a new more accurate definition of 'nursing.' Yet with nursing as one of the largest healthcare professions within the NHS, including almost 500,000 registrations on the NMC in 2009 (Prime Minister's Commission, 2010) this is easier said than done. Indeed, as noted in the chasm between academia and practice, there is also a growing gulf between nurses in healthcare. On the one hand, there is a trend towards advanced nursing practice and managerial roles, while on the other hand many continue entering the profession wanting to provide 'basic' nursing care. These different priorities create conflict because the former no longer considers 'basic care' as part of a nurse's duties, while the latter argues that this cannot be abandoned without losing what they consider to be nursing's essence.

These issues have made it all but impossible to offer a generic definition of nursing (Ousey and Johnson, 2007). Whilst 'caring' has remained at the core of nursing, its definition has widened to include other aspects of care, such as planning and evaluation of care interventions, even when these do not include physical hands-on contact (Ousey and Johnson, 2007). As noted by the NMC (2010) 'caring will always be central to nursing, which practices the art of caring using the best of science and technology.' Yet their changing image continues to create tensions within the profession because its evolution has meant that nursing is not actually about physically 'nursing' patients anymore (Carr, 2008). Hands-on nursing has been replaced by the ability to identify,

manage and lead in the care that is ultimately delivered to patients by others (Ousey and Johnson, 2007; NMC, 2010). In summary, the changes outlined in this section point to nursing's shifting role and the changing nature of care. These transformations inevitably impact nursing's professional identity and, in turn, the content of the nursing curriculum. As the skills required of nurses in practice change so to must the delivery of the curriculum and the pedagogical approaches employed. The advent of technology and e-learning adoption must therefore be understood within the context of these professional changes that have contributed to the shaping of the *habitus* of nurse educators.

4.6. Summary

This chapter examined the context in which nurse educators make e-learning adoption decisions and has provided the socio-cultural lens through which the data from the Q study will be analysed. While it is not possible to determine which levels of the *field* have most influenced individual actors, the meso and micro-levels may intuitively appear more influential on daily behaviours than those at the macro level. However, ignoring the macro level *field* would fail to provide the insight needed to understand the logic of the sub-*fields*. Figure 5, adapted from Figure 2, demonstrates how *habitus* and *field* interact to influence individuals' e-learning adoption behaviours. The overlapping forces denote the co-influential relationship existing between the different *fields,* illustrating the iterative rapport between the macro, meso and micro levels. The use of Q-methodology in this study (described next) aims to explore the *expressions of habitus* (H) of those operating within the centre sphere of the figure to examine the impact of the wider *fields* on their e-learning behaviours.
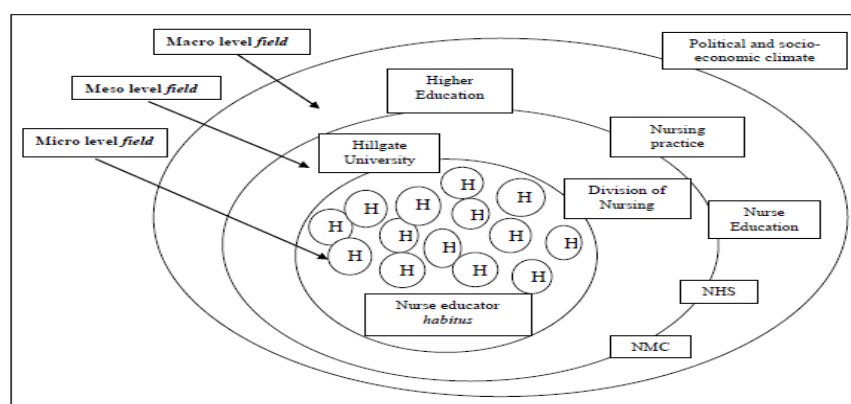
Figure 5: *Representation of micro level habitus influenced by meso and macro level field*

Chapter 5. Methodology

5.1. Introduction

The previous chapter operationalised two of Bourdieu's concepts: *field* and *capital,* leaving *habitus* as the final conceptual element of his Theory of Practice. When exploring the factors influencing e-learning adoption in nurse education, it was Bourdieu's notion of *habitus* as not always obvious to the actors interacting within the *field* that was considered particularly relevant and which demanded a methodology that would acknowledge this potential lack of reflexivity. Since behaviour (e.g. teaching practice, e-learning adoption) is generated in part by *habitus,* examining the latter could offer some evidence of the structuring *field* generating it (Maton, 2008). Similarly, examining the *field* could serve to better understand *habitus.* Thus examining *habitus* was considered a means of analysing "the experience of social agents and the objective structures which make this experience possible" (Bourdieu, 1988a, p.782).

As discussed briefly in Chapter 1, Q-methodology (Q) is a technique that can make internalized structures explicit. Watts (2008/2009) has argued that the world is constituted of not only objective physical bodies, but also semantic 'bodies-of-knowledge,' which are as real as the former. Brown (1986) added that although subjective opinions revealing social perspectives were not provable, they could be shown to have structure and form. It is in the form of these semantic 'bodies-of-knowledge' that researchers can observe and study existing structures and interpret them (Watts, 2008-2009). In seeking to explore 'the dialectic of the internalisation of externality and the externalization of internality' (Bourdieu, 1977, p.72), Q-methodology's tool (the Q-sort) was used as a method to examine *expressions of habitus*, whilst the identified Factors aimed to explore *expressions of shared habitus.* Q's approach also provided an opportunity for participants to prioritise those issues having the most influence on their e-learning adoption decisions, thus engaging with the tension between the individual and the institution and further reflecting Bourdieu's theoretical framework. The Q-Factors (as *expressions of shared habitus*) could then be analysed through Bourdieu's lens focusing on the particular socio-cultural context (*field* and *capital*) that shaped them.

5.2. What is Q?

Q-methodology (Q) is a research method first developed in the early 1930s by an English psychologist and physicist named William Stephenson. Stephenson wanted to demonstrate that people's subjectivities could be examined in a systematic and rigorous manner. At the time, Stephenson was chastised for his ideas because his view of subjectivity as a phenomenon worthy and amenable to analysis ran counter to the predominant positivist approach in psychological research (Cordingley *et al*., 1997). The renowned psychometricians (e.g. Spearman, Burt) with whom he worked dismissed this new methodology claiming it undermined the aims of real objective science. These scientists accused Stephenson of regressing back to an era of introspection into private worlds (Kitzinger, 1986). It is only more recently that Q has resurfaced and has begun gaining in popularity across a diverse range of disciplines and topics.

As mentioned previously, the premise underpinning Q is that while subjective opinions may be improvable they do have structure and patterns that can be rendered in a form manifest for observation and study (Brown, 1986; Watts, 2008/2009). As briefly described in Chapter 1, section 1.4.1, Q does this by engaging participants in a sorting exercise, asking them to prioritise statements that reflect their views toward a particular phenomenon (the discourse, or 'concourse' as will be discussed in section 5.3). It is the process of ranking each statement in relation to the others rather than asking subjects to rank them independently (as in a Likert scale) that captures the way people think about issues holistically (Akhtar-Danesh *et al*., 2008). By-person factor analysis then allows the researcher to systematically compare these rankings with those of the other participants in the study. The name 'Q' was derived as a means of differentiating it from traditional factor analysis, or 'R method' (from Pearson's product moment correlation, r). 'R' method factor analysis involves finding correlations between variables, such as height and age, across a sample of participants (McKeown, 1990). 'Q' method, on the other hand, looks for correlations between participants' Q-sorts (McKeown and Thomas, 1988). Q factor analysis reduces many views down to a few 'Factors,' which are seen as a representation of shared ways of thinking about a topic.

There are differing philosophical principles underlying Q and R that are central to understanding their method and application. In R, scientists view traits as being objectively measurable through scales or questionnaires. Although useful for meeting certain research objectives, it is important

to keep in mind that the researcher defines the characteristics of the trait through the items included in the scale. Thus, the characteristics of the trait occur independently of the participants' own understanding of them. Any unexpected meanings attributed to the terms in the scale are seen as either problematic or irrelevant. In Q, on the other hand, these differences become the focus of investigation as meaning is attributed to each item by the individuals sorting the cards (Cordingley *et al*., 1997). The use of statistics enables the researcher to systematically highlight similarities and differences between groups of participants. 'Post-sort' interviews frequently accompany the sorting exercise to gain more insight into participants' views. This allows each participant an opportunity to explain their interpretations of the Q-sort items after they have sorted the cards (Cordingley *et al*., 1997). It is through these individual and unique constructions that minority viewpoints and subtle distinctions can be identified and how researchers are able to reach greater depth of understanding about a topic beyond simple dichotomies.

To illustrate the potential for Q in identifying greater depths and breadths of viewpoints, McKeown (1990) describes a study by Thomas (1976) who tested Tomkin's (1963) Polarity Scale of political ideologies. Using Q, Thomas (1976) found that the common bipolarity rhetoric was too simplistic and that there were more complex views extending beyond the traditionally discussed 'right-wing' and 'left-wing' ideologies. Similarly, a more recent study tested Samuelowicz and Bain's (1992) model of conceptualising teaching and learning and found that university teachers and students exhibited broadly different repertoires (Lecouteur and Delfabbro, 2001). They concluded that the original model with its bipolar dimensions was too simplistic to capture these complexities. The authors argued that Q, by drawing on a social-constructionist framework, allowed for the demonstration of more complex ranges of accounts and could help researchers better understand phenomena beyond the reductionist descriptions of binary categories (Lecouteur and Delfabbro, 2001).

Q has been used across a variety of fields exploring discourses on topics as diverse as love (Watts, 2001), jealousy (Stenner and Stainton-Rogers, 1998), perceptions of health (Stainton-Rogers, 1991), mental health (Barker, 2008), environmental policy (Addams and Proops, 2000), end-of-life decision making (Wong *et al*., 2004) and euthanasia (Newman, 2005). Q studies in HE also demonstrate the versatility of this methodology. Researchers have explored teacher's attitudes toward pedagogical innovation (Falchikov, 1993); the conceptions of teaching by staff

and students (Lecouteur and Delfabbro, 2001); the use of Q as an alternative method for obtaining student evaluations (Jurczyk and Ramlo, 2004); the evaluation of the success of staff reading circles (Ramlo and McConnell, 2008); and the evaluation of student views and attitudes toward changes made in a course (Ramlo *et al.*, 2008).

Despite this range, it has not been frequently seen in the technology adoption literature where surveys have been more popular. Two unpublished studies have used Q in relation to e-learning, one investigating attitudes towards ICT amongst staff from different departments across one university in the US (Bowe, 2010), and the other study exploring staff, students and managers' views at a vocational college in the UK (Deignan, 2005). There has also been a recent study examining staff views toward the use of simulation in nurse education (Akhtar-Danesh *et al.*, 2009). The latter study only included nurse educators with previous experience using simulation, however, and did not examine the particular context shaping their views. Indeed, there have been no Q studies to the researcher's knowledge that recruited participants with a wide range of experiences (from novice to expert) to examine their views toward e-learning in nurse education in light of their socio-cultural context.

5.3. Strengths and limitations of Q

As with any research, an important first step is determining if Q is the most appropriate methodology for the research question. Next, it is necessary to acknowledge that, like all research methodologies, Q has both strengths and limitations. One strength is its ability to provide participants with the possibility to define their own viewpoint. This focus on subjectivity means that the size of the sample is not an issue, rather it is the "why and how they believe what they do" (McKeown and Thomas, 1988, p.45). Participants are therefore selected based on their representation of diversity within a specified group to ensure that all possible viewpoints are explored (Stainton-Rogers, 1991). This can help identify areas of consensus among individuals who were thought to differ, while also allowing participants to reflect on their own views within a wider context, promoting an understanding of other perspectives. More importantly, Q can provide greater insight into the ways participants see an issue, revealing the logic behind their position and allowing them to bring the most important issues to the fore. These strengths were all considered valuable in the context of the aim and objectives of this research study.

Q also has limitations which researchers must remain cognisant of during the research process. First, its reliance on small sample size, although also a strength, increases the risk of missing some relevant perspectives if the population sample (described in Section 5.4) is not heterogeneous. Similarly, there is a chance that the Q-set (the statements provided) will not sufficiently represent the phenomenon explored and threaten content validity. Moreover, because of its purposive sampling approach Q does not allow the researcher to determine the popularity of a viewpoint and generalise this ratio to the larger population.

Critiques have also centred around issues of 'validity' and 'reliability.' The content validity of a Q study relies on the researcher having a comprehensive representation of the issues surrounding the phenomenon since participants rely on provided items. Thus, it is important to develop a comprehensive and representative Q-set that will allow participants to express their point of view and ensure that participants with a wide breadth of views are recruited. In terms of the validity of the Q-sorting process, there is no external criterion for evaluating an individual's response to a particular statement since each Q-sort is considered a valid expression of that individual's opinion (Brown, 1980). In other words, given a representative Q-set, how each individual ranks the statements is a valid expression of his or her point of view (Akhtar-Danesh *et al*., 2008). Testing the reliability of a Q study would require the same statements (Q-set) to be used with a similar P-set and generate similar Factors. This was seen in Watts (2008/2009) who discussed two studies using the same Q-set eight years apart in two different geographic locations. Despite the differences in time and space, Watts (2008/2009) identified a similar first Factor demonstrating both the 'reliability' of this Factor, but also the presence of a structured and shared 'body-of-knowledge.'

When speaking of 'validity' and 'reliability' it is important to reiterate the purpose of Q, which does not make claims of generalizability. The results from a Q study must be recognised as the distinct views and discourses about a topic, not the accurate percentage of people who agree with them (Brown, 1980). However, Q can offer the means of identifying the depth and diversity in viewpoints that exist surrounding a topic to then subsequently explore the extent to which these views are represented in the wider population using other research methods.

The difficulty in placing Q along the traditional 'Qualitative-Quantitative' spectrum has limited its prominence in a number of research textbooks and journals. The process of having

participants rank order a set of statements provided by the researcher to yield statistically derived categories is often critiqued by those who favour qualitative methods. On the other hand, the use of small, purposively selected sample sizes is faulted by quantitative researchers who argue that it lacks generalizability. The first critique can be countered by pointing out that the use of statistics in Q is a means of categorising and clustering similar themes and concepts rather than making broad parametric claims of attribution. The groupings that arise from the by-person factor analysis could technically be determined without statistics, yet it is this process that is one of Q's strengths because it adds an element of transparency and replicability to this stage of the research process. Despite ostensible similarities with both quantitative and qualitative approaches, Q's philosophical underpinnings make it fall closer to qualitative epistemologies. Unfortunately, this status has been undermined by researchers who have misused Q by focusing only on the derivative of the Q-sort technique with little concern for its underlying philosophical basis (Cordingley *et al.*, 1997).

Ultimately, as in all research studies, Q requires the researcher to make a series of choices. In doing so, it is useful to remember Heisenberg's (1952) remark regarding science as a human enterprise exploring the interplay of subject and object: 'Progress in science has been bought at the expense of the possibility of making the phenomena of nature immediately and directly comprehensible to our way of thought (Heisenberg, 1952, p.39).

5.4. Concourse and Q-set

5.4.1. Identifying the concourse

The concourse is defined as all that is being said about a phenomenon at any given time and represents the many discourses surrounding a topic. It is usually apprehended from the literature and other media, but it can also be based on interviews or text provided by relevant participants. There are several approaches for identifying the concourse. 'Naturalistic' concourse samples come from oral or written communication such as interviews or essays designed with the specific purpose of creating a Q-set (Cordingley *et al*., 1997). An alternative approach is the use of secondary sources ('quasi-naturalistic') that are external to the study and include the literature, media, editorials, radio talk shows and interviews with people who will not necessarily be performing the Q-sorts (McKeown and Thomas, 1988).

The concourse for this study was derived from a quasi-naturalistic sample using the literature surrounding e-learning, nurse education and HE; but also included informal interviews with staff, as well as personal and professional experiences. From these sources, the main issues influencing the implementation and integration of e-learning in HE were identified. Similarly, in Bryant *et al.*'s (2006) investigation of Down's syndrome, the researchers used a variety of sources (e.g. interviews with hospital staff and family members, publications on prenatal testing, web based support organisations) to generate the concourse, but selected a different set of participants to perform the Q-sorts. In another study exploring women's views and experiences with pornography, Senn (1996) used a mixed approach, combining the naturalistic and the quasi-naturalistic. The Q-set was drawn from this hybrid concourse made up of interview transcripts and the media, then some of the original interviewees as well as other mature, female students and professors were asked to complete the Q-sorts (Senn, 1996).

5.4.2. Q-set development

Once the concourse has been determined, the Q-set is drawn out using either a structured or an unstructured approach and can take the form of statements (or words, smells and images) that represent the main issues identified. An unstructured Q-set pulls out themes without specific attention to equal coverage of all the issues, which can result in some areas being over or under represented. If using a structured framework one can employ either an 'inductive' or a 'deductive' approach. A 'deductive' method is based on a priori theoretical considerations, while an 'inductive' design uses a framework developed during the literature search. A team of domain experts or a pilot study can then determine the Q-set's ability to reflect the main issues surrounding the phenomenon being investigated (Kitzinger, 1986). This step is important since participants rely on the Q-set to construct their viewpoint, thus developing an accurate and representative concourse is essential for content validity (Cross, 2005). The exact wording of the statements, with editing for grammar and readability, also assures their face validity and ensures that the participants will relate and engage with the issues presented to them (Valenta and Wigger, 1997).

It is worth pointing out that Stainton-Rogers (1991) has highlighted that achieving adequate coverage is an unrealistic objective since different items hold different meanings for different people. Although the decision to follow some sort of structure might appear meaningless and

"more of an art than a science" (Brown, 1980, p.5), there are benefits to using a systematic approach during this process. The main benefits are that a framework can provide a justifiable subset of the concourse (Akhtar-Danesh *et al.*, 2008) and can make explicit the researcher's perspective (Cordingley *et al.*, 1997). Regardless of the approach, however, the objective should be to 'cover all the ground' surrounding the phenomenon under investigation (Watts, 2008/2009).

The Q-set for this study was drawn out using a structured inductive approach following the literature. It was during the development of the Q-set that Bourdieu's TOP was identified as the most appropriate and relevant theoretical framework to guide the analysis of the research project and served to inform the development of the *field*. It is important to reiterate that the use of Bourdieu's TOP in this Q study was not to test the theory, but rather to employ it as a framework for analysis and to explore Q's ability to operationalise one of its concepts.

During the literature review, three major themes and four sub-themes were identified and this inductive framework was used to draw out ninety-eight statements from the concourse (see Appendix D for Q-set factorial table). The four sub-themes (although arguably linked to the three major themes) were considered particularly relevant to e-learning integration. The first draft of the Q-set consisted of original comments made by research participants in other studies; arguments made by authors in journal articles; or relevant themes or issues relating to one of the seven themes (3 major themes and 4 sub-themes) identified in the concourse.

To further guide the development of the Q-set, several different theories and models were employed as structured guidelines. This was deemed necessary to adequately represent the various issues as well as provide a justifiable and transparent audit-trail for the Q-set development. For the three main themes, these were: 1) 'Institutional' issues guided by elements of Rogers' (2004) Diffusion of Innovation theory (DOI); 2) 'Individual' issues guided by both Davis' (1989) Technology Acceptance Model (TAM) and the Concerns-Based Acceptance Model (CBAM) (Hall *et al.*, 1979); and 3) 'Social' issues guided by Wenger's (1998) work on 'Communities of Practice' (COP). For the four sub-themes: the perceived use and role of various technologies was guided by both the Technology Acceptance Model (TAM) (Davis, 1989) and the Technological Pedagogical Content Framework (TPACK) (Mishra and Koehler, 2006) while issues relating to pedagogy were guided by the principles of Transforming and Enhancing the

Student Experience through Pedagogy (TESEP) (Comrie, 2007). Issues relating to attitudes towards technology and nursing-specific factors were drawn from the literature, personal and professional experiences and informal interviews with staff. All the statements in the Q-set represent one of these seven themes. Appendix C provides the complete list of statements making up the Q-set, the Q-set factorial table with the complete list of the statements and their associated themes, theories or models can be found in Appendix D and finally Appendix E provides a more detailed explanation of each theory and model. Whilst using such a framework ensures specific categories are represented, it is important to reflect back on Stainton-Rogers' (1991) point above. Indeed, a priori categories are not to be used for the subsequent interpretation of the data since the Q-set is not 'measuring' identified categories. Q analysis and interpretation are informed directly by the participants themselves as they 'speak' through the sorting exercise, rather than testing a theoretical framework used to draw out the Q-set (de Hegedus *et al.*, 2003).

Whilst ninety-eight statements were originally drawn from the concourse, this initial Q-set reflected an uneven distribution of themes. Therefore, a more systematic approach was undertaken when the seven categories had been finalised. Seventy statements where then selected to represent all seven themes equally, aiming to have ten cards per theme (7 themes x 10 statements). From these 70 statements a number of them were removed because they were not suitable for 'ranking' in the Q-sort process (e.g. "My courses make use of Wikis to allow students to collaborate on group projects"). These 'teaching-practice' statements were initially included to explore the coherence between participants' pedagogical views and their actual teaching practice, yet were found to be inappropriate for the continuum of subjectivity sought in Q. Following the removal of these statements, another review of the Q-set was undertaken to remove duplicates and repetitious comments. This resulted in a final Q-set of fifty-three statements, with eight cards representing each (sub)theme except for the 'social' theme, which had five cards. This uneven distribution was a result of some overlap between statements in the pedagogy category.

To reflect the tension between 'individual' versus 'institutional' factors (as discussed in Chapter 1, section 1.5) a number of statements were deliberately 'linked' (regardless of their category/theme) based on their representation of either extrinsic or intrinsic drivers. For example,

the issue of 'Time' can be found in both the 'Institutional' theme (#38: *My university provides me sufficient time to learn how to use e-learning*) and in the 'Individual' theme (#4: *I do not have enough time to experiment with e-learnin*g). Although ostensibly similar, there are differences in terms of individuals' locus of control and the responsibility placed on either 'time made' versus 'time given.'

5.4.3. Ethics, expert validity check and pilot study

Since this study included 'healthy human volunteers' in an institution of higher education (as opposed to a clinical trial in a hospital with patients), ethical approval was sought only from the Faculty of Medicine and Health Sciences committee at Hillgate University. The following documents were provided to the committee for review: a completed application form signed by the supervisors; the project research proposal; the consent form; the information sheet; the form letter to be sent to participants; the proposed survey; and the Q-set (Appendix B and C). Ethical approval was granted in February 2009 with only minor changes to be made to the information sheet provided to participants emphasising that their names could not be associated with any data and ensuring that the physical data would be stored in a locked office with no identifying characteristics (Appendix A). Data input into the Q-methodology software (PQMethod) and Nvivo software would be stored on a password-protected file on an office computer.

Once ethical clearance was granted the pilot study began with the objective of gaining content and face validity for the Q-set. Another objective was to practice facilitating the Q-sorting process. For the first objective, five e-learning experts from outside the host department were contacted based on their experiences and expertise relating to the topic. One of the experts had used Q in an e-learning context; two were active in the field of e-learning and healthcare informatics; one was responsible for staff development in HE; and one expert was a nurse academic who had written extensively on e-learning and communities of practice. Each expert provided valuable comments and changes were made to address their feedback. For example, the nurse academic recommended adding a statement that reflected the increasing role of technology in nursing practice (#40: *Nurses in the 21st century are required to know how to use technology*). The expert in staff development, on the other hand, suggested rewording a statement to allow educators who were innovative in their teaching practice, but not necessarily in their use of technology, to be given a voice (e.g. #53: *Innovative teaching techniques are frequently used in*

my modules, rather than 'I use e-learning innovatively in my modules'). The development and results of the pilot study have been described in detail in Petit dit Dariel *et al.* (2010).

To meet the second objective and gain face validity, ten participants were recruited to perform the Q-sorts and provide a critique of the statements focusing on readability and clarity. Participants were recruited from a variety of departments across the university to avoid exhausting potential participants within the sample population in the DON. Given the ultimate objectives of the pilot study, factor analysis was not performed on the data. However, post-sort interviews were conducted to gain a better understanding of the pilot participants' interpretations of the statements. Participants were asked if there were issues influencing their e-learning adoption that had not been adequately represented in the Q-set. One suggestion was made and adapted into the existing Q-set to reinforce its representativeness. The suggestion was to represent the informal sharing of information that occurs amongst staff. This led statement #47 to be reworded from *The School of Nursing promotes an active community of practice* to *There is an active knowledge sharing community in my school*, thus allowing the participants to interpret the card as including both formal and informal information sharing. This process of ensuring the representativeness of the Q-set continued into the final study, although no unrepresented issues were identified in the main study.

The pilot study post-sort interviews also yielded useful feedback about the wording of the statements that led to some minor corrections. These included the replacement of the words: 'course' with 'module,' and 'faculty' with 'lecturer' to facilitate cultural readability; 'lecturers' with 'I' to allow the participants to speak for themselves rather than speculate about others; 'lecture capture' with 'podcast'; and 'computer' with 'ICT' to avoid excluding mobile technologies. One statement "*Lecturers are becoming road kill on the Information Superhighway*" was removed from the Q-set because most pilot participants had difficulty understanding its meaning. The decision to eliminate the latter statement pointed to the importance of remaining sensitive to cultural differences and national misunderstandings that might arise because the researcher came from an American nursing context whilst the study took place in a DON in England. (NB: since one statement was added, #40: *Nurses in the 21st century are required to know how to use technology*, the Q-set remained at fifty-three statements).

5.5. P-set

5.5.1. Determining the P-set

When selecting the participants to be included in a Q study emphasis is not placed on numbers but on the likelihood that they will offer a perspective linked to the research question. A framework similar to the one used to develop the Q-set can be employed for this stage (McKeown and Thomas, 1988). To determine a P-set size the researcher must consider the number of perspectives available, rather than how many people share these perspectives (Mrteck *et al.*, 1996). Brown (1980) has argued that there is only a finite range of perspectives on any given topic. This assumption stemmed from Stephenson's lifelong research into the topic who had found that the structure of most individuals' views was one of order and lawfulness (Stephenson, 1953). Stephenson noted that subjectivity was not only enduring but also limited in its distinct forms, restricted to available cultural and social discourses of the time (Stephenson, 1953). This is one of the most interesting aspects of Q. Despite the vast number of possible sorting configurations available to a group of participants, groupings of similar viewpoints actually emerge, even though this is statistically improbable (Watts and Stenner, 2003). This structure reinforces the existence of a knowledge system shaping the 'body-of-knowledge' humans share (Watts, 2008/2009).Watts (2008/2009) has illustrated this 'shared conceptual space' by comparing it to a classroom in which students self-select to sit in 'groupings,' much as participants in a Q study adhere to groupings that lead to the identification of a Factor. These shared viewpoints in Q are made empirically observable allowing the researcher to interpret these perspectives holistically (Watts, 2008/2009).

For the different perspectives to be revealed as a Factor there should be two to five individuals 'defining' it. This 'minimum rule' (Table 4) would have researchers including between six to twenty-five participants to identify the three to five perspectives existing surrounding any given topic (Webler *et al.*, 2009). Since it is not possible to know in advance who will provide what views, nor exactly how many views exist, Q researchers tend to oversample to compensate. While there are frequent debates in the literature about the appropriate number of participants to include, a sampling strategy that is based on a 'maximum rule' using a ratio of 1:3 (participants: statements), as seen in Table 5, is often seen in Q studies. Using either the 'minimum' rule

(Table 4) or the 'maximum' rule (Table 5), most Q studies tend to have between 12 and 20

participants sorting 40 to 60 statements (Webler *et al*, 2009).

Table 4: *P-set minimum rule*

Perspectives	Participants
3 perspectives x 2 definers	6 participants
4 perspectives x 2 definers	8 participants
5 perspectives x 2 definers	10 participants
3 perspectives x 5 definers	15 participants
4 perspectives x 5 definers	20 participants
5 perspectives x 5 definers	25 participants

Table 5: *P-set maximum rule*

1:3 ratio Statement: participant	Participants
30 statements	10 participants
35 statements	12 participants
40 statements	13 participants
45 statements	15 participants
50 statements	17 participants
55 statements	19 participants
60 statements	20 participants

Brown (2010) recently challenged the use of such abstract rules, arguing that they invariably

originate from R factor analysis and from the logic of large numbers. Indeed, sometimes

researchers using Q unwittingly apply 'R' logic since they both use factor analysis, even though

such reasoning is effectively 'lost in translation.' Brown (2010) suggests that developing a set of

rules to determine the number of participants is 'grabbing the stick by the wrong end.' Rather the

P-set size should be determined after other decisions have already been made. First, as with other

methodologies, a research question should be identified. Then the researcher can determine the

kinds of participants who might have something relevant to say about the issue. Using Newman's

(2005) study on physician-assisted suicide (PAS) to illustrate his point, Brown (2010) describes a

possible P-set for this topic. Participants in such a study might include medical ethicists,

sociologists and psychologists of death and dying (experts); priests, rabbis, preachers, as well as

politicians and journalists (authorities); physicians, grief counsellors, hospice workers and the

terminally ill (special interests groups); and ordinary individuals from different social classes

(class interests). Children or young adults who have not yet faced loss would have little to no

knowledge on the subject. Brown (2010) includes gender and age as two other possible

characteristics possibly influencing participants' views on the topic and presents a factorial

design shown in Table 6.

Table 6: *Example of a P-set matrix*

A. Interests	(a) experts	(b) authorities	(c) special	(d) class	(e) unknowledgeable
B. Gender	(f) male	(g) female			
C. Age	(h) 10-20	(i) 30-70	(j) over 70		

Using these theoretical considerations as characteristics, the matrix yields thirty possible

combinations of participants having the required criteria {5 (A-interests) x 2 (B-gender) x 3 (C-

age)}. A researcher might select three of each kind (n = 3 male experts, 3 male authorities, and 3

female with no knowledge). This would require a P-set size of: nABC = 3 x (5)(2)(3), or 90

participants.

Brown (2010) stresses that examples such as these should only be used as a guide since it could

be difficult to find participants meeting the characteristics of each different set of combinations.

In Newman's (2005) study, for example, it would have been difficult to find individuals over the

age of thirty who had never experienced a loss, inevitably resulting in some empty cells in the P-

set matrix. Whilst this may occur, the goal is to ensure that no participants representing a critical

group (such as 'authority') are unrepresented in the study. Ultimately, the aim is to have diversity

in the P-set that is comparable to the diversity provided by the Q-set. If both the Q-set and the P-

set are representative it is expected that the main perspectives will be revealed. Brown (2010)

concludes that it is not the number as such, but the diversity that is the goal when selecting the P-

set.

As recommended, the P-set in this study was determined using a matrix. The participant

characteristics were based on the likelihood that they would offer a breadth of perspectives on e-

learning in nurse education. These characteristics were influenced by both theoretical

considerations drawn from the literature as well as professional experiences. The first criterion

(e-learning experience) was determined based on the premise that participants with varying

levels of exposure to ICT would have different views towards its role in nurse education. The

second criterion (roles and responsibilities) was selected because different academic roles within

the DON and across Hillgate University could present varying perspectives about both e-learning

implementation and its integration in teaching. The final criterion (geographic location) was identified because the different sites/campuses had varying levels of support, infrastructure and 'culture' which could also influence e-learning adoption. For example, a nurse lecturer teaching on the adult nursing branch located at the main centre with access to the university's IT infrastructure may have had different experiences with e-learning compared to another lecturer from the learning disabilities nursing branch at one of the remote satellite centres. To widen the breadth of perspectives and reflect the meso-level case study, two participants from Hillgate University's e-learning team were recruited as it was theorised that their strategic and operational perspective would be different from a nurse lecturer teaching in a classroom.

A matrix was designed yielding twenty (5 x 2 x 2 = 20) possible combinations as illustrated in Table 7. Since the aim was to have at least two participants representing each combination (20 x 2 = 40), a minimum of forty participants was initially sought when recruitment began. This number was an approximation because one participant could have embodied more than one characteristics:

Table 7: *P-set criteria matrix*

A. Academic role	a) Adult lecturer b) Mental health lecturer c) Child lecturer d) Learning disability lecturer e) Strategic and operational staff
B. Geographic location	e) Main centre f) Satellite centres
C. E-learning experience	g) Expert h) Novice

5.5.2. P-set characteristics

Additional socio-demographic data was collected to explore the characteristics of the P-set. Q does not make claims for generalizability thus this data cannot be linked to the Factors defined, yet it can provide additional context that might shed light and contribute to a better understanding of the views identified. As Table 8 shows, 55.3% of the participants in this study were between forty-one and fifty years old. Overall, the youngest was 28 years old and the oldest was 64 years old.

Table 8: *P-set age range representation*

	Frequency	Per cent
20-30	2	5.3%
31-40	4	10.5%
41-50	21	55.3%
51-60	9	23.7%
61-70	1	2.6%
Age withheld	1	2.6%
Total	38	100%

Table 9 suggests that slightly more females (55%) than males (45%) participated in the study.

Table 9: *P-set gender representation*

	Frequency	Per cent
Male	17	44.7%
Female	21	55.3%
Total	38	100%

Table 10 provides a more detailed breakdown of the main staff roles recruited in this study, dividing them into 'strategic and operational' (S & O) and 'teaching and research' (T & R) staff, further sub-dividing the roles according to gender, comparing the total population with those represented in the study. Compared to the wider gender distribution of the total population in the DON at Hillgate, (76% females and 24% male staff), this study actually recruited a larger ratio of male participants (23%) than female participants (9%) from the available population sample.

Table 10: *P-set academic roles and gender in comparison with total DON population*

	Total Pop	Population %	Total P-set	% of Total pop.
Total DON staff	312	100%	38 (36)	12% (11.5%)
Female	237	76%	21	9%
Male	75	24%	17 (15)	23% (20%)
S & O	108	34.6%	13 (11)	12% (10.2%)
Female	97	89.8%	6	6%
Male	11	10.2%	7 (5)	64% (45%)
T & R	204	65.4%	25	12%
Female	140	68.6%	15	11%
Male	64	31.4%	10	16%

While there is an equal representation of job roles (with 12% of the P-set with S & O roles, and 12% T & R roles), of the thirteen S & O participants involved in the study, two were not from the

DON but were recruited as representative of Hillgate University's wider e-learning initiative. (NB: amended percentages are shown in parentheses).

Table 11 shows the number of participants representing the different branches of nursing and the S & O staff, as well as the percentages compared to the total available population. Whilst 42.1% of the participants in this study represent the adult nursing branch, this is a reflection of the numbers available within the branch in the DON (45.7%). This comparison between the representation of the P-set and the wider population mix across the four branches in the DON demonstrates that the P-set included a representative mix of nurse educators from the four branches.

Table 11: *P-set role representation*

	Total DON population	% Total population	P-set	% P-set
Adult	134	45.7%	16	42.1%
Child	17	5.8%	3	7.9%
Mental health	28	9.5%	4	10.5%
Learning Disability	6	2.05%	2	5.3%
S and O	108	36.9%	13 (11)	34.2% (29%)
Total	293	100	38	100%

As Table 12 shows, 81.6 % of the participants in this study worked primarily from the main centre. Figure 5, on the following page, shows computer confidence based on geographical location. A chi-square test for independence indicated that there was no significant difference between levels of computer competence and geographic location (p = 0.673). Of note is that the post-sort interviews identified that it would not have been possible to make any association between geographic location and computer confidence since most staff worked across centres and could not be categorically assigned to one centre in particular.

Table 12*: P-set geographic location*

	Frequency	Valid
Main campus	31	81.6
Satellite centre	7	18.4
Total	38	100.0
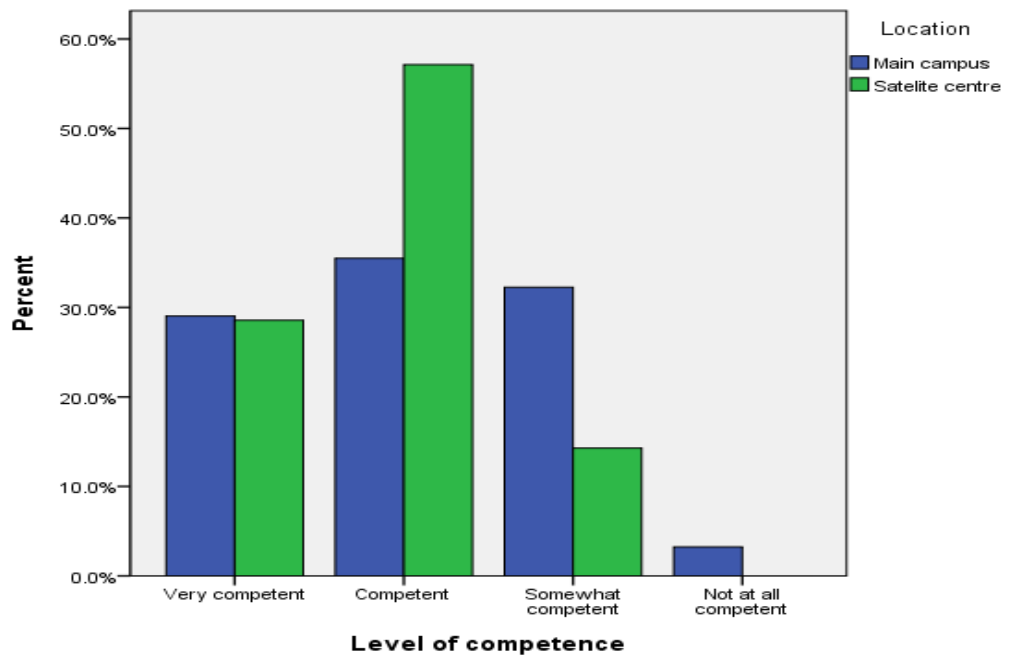
Figure 6: *P-set self-evaluated levels of confidence based on location*

Although the P-set was broadly split between S & O and T & R, finer distinctions between job responsibilities are necessary to reflect the mosaic of responsibilities held by staff in academia. Table 13 represents this breakdown of specific roles held by the participants recruited within the DON and Hillgate. Distinctions are made between IT and e-learning support (the former primarily involved with computer support and the latter focused on pedagogy). These letter codes are also used in Table 14.

Table 13: *Abbreviations for staff roles*

University staff roles	Letter code
DON - Lecturer/ Associate Professor / Professor	T
DON – Researcher	R
DON - E-mentor	EM
DON – Management/Senior staff	NM
DON - E-learning strategy	NEL-S
DON - E-learning operations	NEL-O
DON - IT strategy	NIT-S
DON - IT operations	NIT-O
Hillgate - E-learning strategy	UEL-S
Hillgate - E-learning operations	UEL-O

Table 14 provides additional participant characteristics, including gender; age; job roles; whether or not they are qualified nurses; their primary work location; nursing branch (if applicable); the type of teaching qualification earned (if applicable); number of years

teaching (if applicable); and their self-evaluated computer competence. To easily distinguish the participants' roles, a simple moniker is used to identify those participants recruited for their role as educators (denoted by the term 'Sta' for Staff) and those who were recruited for their S and O perspective (denoted by the by the term 'Ops' for Operational). Their job priorities are noted by placing the highest priority first (job duties as listed in Table 13), followed by subsequent duties holding less priority. The key below provides a reference for the acronyms used in the table that follows.

Key
Sta = Staff/lecturer
Ops = Strategic and operational staff
LT = Learning technologist
LD = Learning Disability
MH = Mental Health
Certificate = Certificate in education
PG = Postgraduate diploma in education
ATP = Associates Teaching Programme
PGCHE = Postgraduate Certificate in Higher Education
EBP = Evidenced-based Practice
IPL = Inter-professional learning

Table 14: *P-set characteristics*

Participant	Gender	Age range	Roles	Nurse	Primary location	Branch	Formal teaching qualification	Years teaching	Self-evaluated computer competence
1. Sta01	F	41-50	T	√	Satellite	LD	Certificate	20	Somewhat
2. Sta02	F	21-30	T	√	Main	MH	PGCHE	5	Somewhat
3. Sta03	M	51-60	T	√	Main	Adult	BA in education	20	Very
4. Sta04	M	41-50	T	√	Main	MH	PGCHE	6	Somewhat
5. Sta05	F	41-50	T ; R	√	Main	Adult	PGCHE	6	Somewhat
6. StaEM06	F	41-50	T	√	Satellite	Child	PGCHE	9	Very
7. Sta07	M	41-50	R ; T	√	Main	Adult	PGCHE	9	Competent
8. StaEM08	M	51-60	T ; NM	√	Satellite	LD	Certificate	22	Competent
9. Sta09	F	31-40	R ; T	√	Main	Adult	PGCHE	8	Somewhat
10. Sta10	F	41-50	T	√	Main	Adult	PGCHE	8	Competent
11. Sta11	F	31-40	T		Main	Adult	ATP	4	Somewhat
12. Sta12	F	*	T	√	Main	Adult	Certificate	28	Not at all
13.StaEM13	F	51-60	T	√	Satellite	Adult	EdD	20	Competent
14. Sta14	F	41-50	T	√	Main	Child	PGCHE	12	Somewhat

Participant	Gender	Age range	Staff roles	Nurse	Primary location	Branch	Formal teaching qualification	Years teaching	Self-evaluated computer competence
15. Sta15	M	51-60	T ; NM	√	Main	Adult	Certificate	23	Competent
16. Ops16	M	41-50	NM ; T	√	Main	NA	Certificate	NA	Somewhat
17.StaEM17	M	41-50	T	√	Satellite	Adult	PGCHE	8	Very
18. Sta18	F	21-30	T	√	Main	MH	ATP	1	Somewhat
19. Sta19	F	41-50	T	√	Main	Adult	PGCHE	1	Competent
20. Sta20	M	51-60	T	√	Main	Adult	EdD	20	Competent
21. Sta21	M	41-50	T		Main	Adult	Certificate	20	Very
22. Sta22	F	41-50	T	√	Satellite	Child	PGCHE	4	Competent
23. Sta23	F	41-50	T	√	Main	Adult	PG	14	Competent
24. Sta24	F	61-70	T	√	Main	Adult	Certificate	10	Somewhat
25. Sta25	M	41-50	R ; T	√	Main	Adult	None	21	Very
26. Ops26	F	51-60	NM ; T	√	Main	NA	None	NA	Somewhat
27. Ops27	F	41-50	R ; T ; NM	√	Main	NA	None	NA	Very
28. OpsIT28	M	31-40	UEL-O		Main	NA	None	NA	Very
29. Ops29	M	41-50	NM	√	Satellite	NA	BA in education	NA	Competent

Participant	Gender	Age range	Staff roles	Nurse	Primary location	Branch	Formal teaching qualification	Years teaching	Self-evaluated computer competence
30. OpsE30	M	41-50	UEL-S ; T		Main	NA	None	NA	Competent
31. Ops31	F	41-50	NM; R ; T ;	√	Main	NA	None	NA	Competent
32. OpsIT32	F	31-40	NIT-O		Main	NA	None	NA	Very
33. Sta33	M	51-60	T ; R	√	Main	MH	PGCHE	10	Competent
34. OpsE34	F	41-50	NEL-O		Main	NA	None	NA	Very
35. OpsE35	F	51-60	NEL-S ; R ; T		Main	NA	None	NA	Competent
36.OpsLT36	M	51-60	NEL-O		Main	NA	None	NA	Very
37.OpsLT37	M	41-50	NEL-O		Main	NA	None	NA	Very
38. OpsE38	M	41-50	NEL-S ; R ; T		Main	NA	PG	NA	Competent

5.6. Data collection

5.6.1. Recruitment process

In July 2009 the first batch of recruitment letters were distributed to participants. The envelopes included a letter of introduction, an information sheet, a short survey, a consent form and a self-addressed envelope if the participant accepted to be part of the study (see Appendix B). Follow-up emails were sent two weeks later to verify the letters had been received and to determine interest. The first round of participants were selected based on the criteria outlined in the previous section, however there were some issues that made this process more complex than initially anticipated. The first challenge was that some of the branches were significantly smaller than others, limiting the number of participants available to represent that branch of nursing. The learning disability branch, for example, only had six full-time lecturers compared to 134 on the adult branch. Another significant challenge was identifying e-learning 'experience.' Whilst finding staff who held particular 'roles' or worked from a specific 'geographic location' was straightforward using the University website and the Staff Lookup pages, 'e-learning experience' was more difficult to ascertain as this was not a widely advertised attribute. Only the e-mentors and other e-enthusiasts known for their work around the DON were easily identifiable. Recruiting individuals with a breadth of e-learning experiences demanded 'insider-knowledge.' This led to a meeting with a 'gatekeeper' directly involved with e-learning within the DON who was able to provide critical information for selecting staff that met the third criteria.

Another recruitment method was the 'snowball' technique. Since the first round of letters targeted e-mentors and those recognised as e-enthusiasts, these participants were asked if they could suggest the names of other staff who might have provided different views from their own. While this strategy might have biased the selection of participants recruited by relying on e-mentors' suggestions, it was emphasised that a balance of e-learning experience was sought. Given their e-mentor role, they were well-positioned in their respective branches and geographic location to know the different levels of engagement in e-learning. This snowball process continued until enough participants covering all twenty criteria were identified. Then a second and third round of recruitment letters were mailed out. Between July and December 2009, sixty-three invitations were mailed out to staff across the DON, including all five centres

and four branches of nursing. The last batch of recruitment letters targeted individuals with S & O roles within the DON and across Hillgate University. Of the 63 invitations, thirty-eight accepted, resulting in a 60% response rate.

5.6.2. Q-sorts and post-sort interviews

Data in Q studies takes the form of Q-sorts and in many cases, post-sort interviews. Participants sort the Q-set statements into a grid using a 'condition of instruction' that provides a frame of reference. These 'instructions' provide the framework for the participants as they read the cards and sort them on the provided grid. The grid generally takes the form of an upside down bell-curve. This is a quasi-normal distribution with columns usually ranging from -5 or -6 to +5 or +6. The precise shape of the grid tends to be a matter of judgement although there is some debate about how much the distribution actually affects the results. Brown (1980) has argued that forcing individuals to sort the cards according to a strict grid shape (versus allowing them to sort them freely) has minimal influence on the pattern of Factors that ultimately emerge.

To make this point, Brown (1980) used a set of thirty-three statements and fourteen different distributions (including a normal, rectangular, inverted distribution and both left and right skewed distributions) to demonstrate the minimal effect this had on the results. Moreover, even with a 'forced' distribution the number of ways in which a Q-set can be sorted is enormous. Brown (1980) has provided an oft quoted example that for a 33 item Q-set there are over 11,000 more ways to sort the statements than there are people in the world. Furthermore, working to the restrictions of a 'forced distribution' facilitates participants' decision-making process, allowing them to prioritise those issues that matter most to them (Brown, 1980; Kitzinger, 1986; Dennis, 1986). It can also unveil the subtle and often complex structures underlying individuals' subjectivity.

The Q-sorts and post-sort interview for this study occurred within the DON. Most of the Q-sorts were conducted in a dedicated interview room, but occasionally they occurred in participants' offices if they did not share with a colleague. Before each meeting the Q-grid, that had been printed on an A0 laminated poster board, was taped to the table with the stack of cards (Q-set) and the typed 'condition of instruction' placed to the left of the grid. The

condition of instruction was: "Think about the issues influencing your use of e-learning while you sort the statements according to how you 'Most agree' or 'Most disagree' with their influence on your decision to use, or not to use, e-learning." For those with Strategic and Operational (S & O) roles, it was specified that they should sort the cards using their 'managerial hat,' focusing on a 'big picture' perspective, even if they also had teaching responsibilities. Before beginning each Q-sort, the objective of the study was reviewed, the Q-sorting process was explained and participants were given the opportunity to ask questions before signing the consent form if they had not already done so. The participants were then invited to look through all the Q-statements, separating them first into three piles: those they agreed with, those they disagreed with and those they were unsure of. The second phase allowed them to distinguish further within each pile, placing the cards in the provided grid, determining which statements they felt more or less strongly about. Once all the statements had been placed on the grid, the digital audio recorder was switched on and the participants were invited to discuss their interpretation of each statement and its placement on the grid. Occasionally the participants would begin speaking about the cards during the Q-sorting process and the post-sort interviews occurred simultaneously with the Q-sorting.

Once all thirty-eight participants had completed their Q-sorts, the card numbers were transferred onto an A4 replica of the grid for easy-entry into the PQMethod software. The digital audio-recordings of the interviews (lasting on average between one to two hours), were transcribed immediately after each meeting whenever possible (or shortly after). As a backup mechanism and for data accuracy, digital pictures were taken of all the completed Q-sorts. The photos of the Q-sorts, the audio recordings and the interview transcripts were uploaded into Nvivo version 7. This served the dual purpose of acting as a data file manager as well as facilitating data coding, discussed in a later section.

5.7. Factor analysis and interpretation

5.7.1. Factor extraction

Data analysis in Q involves three procedures applied sequentially: correlation, factor analysis and the computation of factor scores. The correlations and factor analysis of the Q-sorts allow patterns of similar sorts to be grouped into clusters. Then factor rotations enable the separation between the factors to be optimised (Kitzinger and Stainton-Rogers, 1985). Each Factor has a

number of Q-sorts loading onto it with the highest factor loadings used to produce factor scores for each statement. This results in an 'averaging' of the scores given to a particular statement by the Q-sorts associated with it. In determining the correlation coefficients, factor extractions can employ either the centroid method or principal components analysis (PCA). While the centroid method was Stephenson's method of choice because it maximises the philosophical underpinnings of the methodology, PCA is more commonly used in the recent Q literature (de Hegedus *et al*., 2003).

When determining which factor extraction option to choose, Watts and Stenner (2005) have argued that there is generally little difference in the outcome between the two methods. The main difference statistically is that in determining the correlation coefficients, centroid factor extraction uses an average correlation estimate as the value placed on the diagonal of the correlation matrix. This allows the researcher to pursue theoretical 'hunches' as it does not require a determinant solution. PCA, on the other hand, uses a perfect inter-sort correlation estimate (1.0) along the diagonal of the correlation matrix. This is a very 'clean' method from a statistical perspective because it pursues an ordinary least squares solution. PCA's underlying assumption that there is one 'best' solution explains why Stephenson and other experienced Q researchers prefer the flexibility of the centroid method allowing the exploration of particular theoretical solutions. Thus, although PCA may have good statistical results (the sum of the squared differences is minimised), it can place a restriction on both the data and the researcher, discouraging any theoretical pursuits that may be interesting and relevant to the study (de Hegedus *et al*., 2003).

When all thirty-eight Q-sorts had been entered into PQMethod 2.11 (Schmlock and Atkinson, 2002) several iterations of factor analysis were trialled seeking a solution that would both maximise the participants' Q-sorts whilst also yielding distinguishable Factors that could be clearly interpreted. A process of discovering the best solution to describe the data was embarked upon using a process of elimination of factor solutions until the best one was found. Centroid method was employed for Factor extraction yielding one large Factor (eigenvalue of 17). Whilst this pointed to the overwhelming shared social perspectives held amongst the participants, the interview data that was simultaneously being coded and analysed in Nvivo

provided a deep understanding of the data that could inform the theoretical rotations that might best allow minority views to emerge, as discussed next.

5.7.2. Factor rotation

Following factor extraction the researcher must then conduct factor rotations to simplify the interpretation of the selected Factors. The two most commonly used methods for factor rotation are either judgmental rotation or varimax rotation. While judgmental rotations do not have the convenient statistical properties of varimax, they do increase flexibility and as such tend to follow the use of centroid method for factor extractions. Indeed, a pattern has been noted in the literature linking the use of the centroid method with judgmental rotation, and PCA with varimax rotation (de Hegedus *et al.*, 2003). Factor rotation changes the reference points of the geometric coordinate system to more closely fit the data and obtain a clearer 'picture.' Despite concerns by those unfamiliar with factor analysis that these rotations lead to data distortion, the process actually aims to provide a better vantage point from where the researcher can view the Factors and their relations to one another. This rotation does not affect the data but rather changes the researcher's reference point. Most criteria used for such decision-making come from R-method. Yet if a researcher intends to remain faithful to the philosophical principles underpinning Q, most of these are inappropriate as they assume that factor size measured statistically is equivalent to its theoretical importance.

In this study judgemental hand rotations were employed and informed by the researcher's insight following the analysis of the post-sort interviews. The use of the interviews to extrapolate the unique viewpoints of the Factors reflects Bourdieu's theoretical framework with its focus on contextualising social responses. This process of 're-contextualising' the data yielded four unique, coherent and interpretable Factors. Although only a small number of participants defined three of the four Factors, in Q terms this says nothing less of the nature of the Factors except that only a few people were found to be defining them in this particular study.

Indeed, the advantage of Q is its ability to yield Factors that are theoretically derived. This has been shown most clearly in a study exploring decision-making among team-members in a psychiatric ward. In this study, the ward physician (and the team-leader) defined one Factor on

his own (Brown, 1978). Using R-method, this one Factor would have been discarded given its insignificant eigenvalue (less than 1), yet theoretically this viewpoint was essential to better understanding the political dynamics of decision-making amongst these participants since the ward physician's decision was 'final' (Brown, 1978, p.119). This links back to Brown's (2010) comment relating to certain criteria being 'lost in translation' between Q and R principles. While researchers discuss eigenvalues and scree plots to justify Factor choices, such rules lose their relevance since they are 'a-theoretical' and therefore contradict the nature and principles of Q.

5.7.3. Factor loadings

The ultimate aim of factor rotation is to maximise loadings of Q-sorts on their respective Factors and 'flag' them. A group of Q-sorts flagged to a Factor is what produces the 'model' Q-sort from which the interpretive analysis is developed (de Hegedus *et al*., 2003). It is important to note that the 'model' Q-sort is an average representation of all the Q-sorts that have loaded on that Factor and is calculated based on a weighted average. This places the greatest emphasis on Q-sorts with the highest factor loadings. The formula is $w = f/(1-f^2)$, where the weight, 'w', is based on the participants factor 'f' loading (van Exel and de Graaf, 2005, p.19).

Although PQMethod can pre-flag Q-sorts, it is recommended to override this function using a pre-determined correlation coefficient when deciding which Q-sorts 'load' on each Factor. This demands setting a specific loading value as the 'cut-off' point. Different approaches exist depending on the outcome desired by the researcher. In some Q-studies the aim is to reveal as many minority views as possible, so even the smallest correlations (cut-off) are considered as 'loading.' Others, however, aim for statistical robustness and only include 'solid' factors with high correlations on only one factor. In traditional R factor analysis, a correlation cut-off of 0.5 is generally used (Hair *et al*., 1998), while in Q the following formula can be used to determine the 'cut-off: $(2.58 \, (1/\sqrt{n})$; where n = number of statements).

While both R and Q aim to have Q-sorts highly correlating on only one Factor with little correlations on the other Factors, Q requires this 'simple structure' to be accompanied by coherent and interpretable Factors. Yet such 'simple structure' does not always occur in practice and there are occasions when Q-sorts load significantly on more than one Factor (or

none at all). When a Q-sort loads on more than one Factor it is said to be 'mixed.' When this happens (or when Q-sorts do not load significantly on any Factor) some Q-researchers have suggested excluding them from the analysis (Akhtar-Danesh *et al*., 2008). Including 'mixed' sorts makes Factor interpretation difficult since these sorts will be defining more than one Factor, leading to highly correlated Factors that are too similar to distinguish (Akhtar-Danesh *et al*., 2008). Despite these guidelines, the Q literature shows little consensus on which technique to use when choosing the ideal 'cut-off' for a factor loading (whether a standard 0.5 cut-off, or the formula: 2.58 ($1/\sqrt{n}$)). Ultimately, it is the interpretability and coherence of the Factors from the factor arrays that determines the 'best solution' in a Q study.

To determine which Q-sorts 'loaded' on each Factor in this study, the formula 2.58 ($1/\sqrt{n}$) (where n = number of statements) was initially considered and a factor loading was determined to be 0.35 (2.58 ($1/\sqrt{53}$)). However, this 'cut-off' was problematic because it resulted in a large proportion of sorts being considered as 'mixed.' To retain as many participants as possible (and not eliminate those with mixed loadings) the cut-off was raised to 0.5. Raising the value allowed thirty-six out of thirty-eight participants to be included. Although a cut-off point of 0.5 or greater is common in R factor analysis, it can also be found in the Q literature (e.g. McKeown and Thomas, 1988; Akhtar-Danesh *et al*., 2009).

5.7.4. Factor arrays and interpretation

The aim of factor analysis in Q is to take the many views from the participants and narrow them down to a few social perspectives representing smaller subgroups sharing common ideas. Mathematically factor analysis invents a few new variables to explain the variations seen in many. Once the Q-sorts are flagged to their respective Factors, the weighted averages of the sorts determine the factor arrays (or 'model' Q-sorts). Factor arrays are the Z scores representing the average scores given to all the statements by the Q-sorts associated with it. For ease of interpretation, the Z-scores are converted back to their original values as column numbers (i.e. +5, -5) thus creating the 'model' Q-sort. No participant will have sorted the cards exactly like the 'model' Q-sort, rather the 'model' represents how a "hypothetical respondent with a 100% loading on that (F)actor would have ordered the items in the Q-sort" (van Exel and de Graaf, 2005, p.9).

On the print-out yielded by the PQMethod software, the factor arrays are displayed as a list of statements (and their associated Z scores) arranged to show the overall 'picture' of the Factor. Statements most characteristic of each Factor are at the top of the list, while those most uncharacteristic are at the bottom of the list. Statistically significant statements are identified as either 'distinguishing' or 'consensus.' Distinguishing statements are those that the participants defining that Factor have placed in a statistically significant *different* position than participants on other Factors. These distinguishing statements are calculated based on having exceeded the difference score between two Factors (at $P < 0.05$ or < 0.01) and can be understood as "the magnitude of the difference between a statement's score on any two (F)actors that is required for it to be statistically significant" (van Exel and de Graaf, 2005, p.9). Consensus statements, on the other hand, are those that all participants in the study have placed in a statistically significant *similar* position. Consensus statements do not distinguish between any of the Factors and identify issues on which all participants agree (van Exel and de Graaf, 2005).

While factor loadings play an important part in determining which Q-sorts will 'define' the Factors, it is the 'Z scores' that are the most critical element when interpreting them. These Z scores are what permit the researcher to probe more deeply into the phenomena rather than relying solely on the factor loadings as in R-factor analysis. The difference between these two approaches relates to the focus of attention. In R, attention is directed primarily at the nature of the objects investigated, their traits revealed in the matrix of factor loadings. In Q, attention is directed at the nature of the links, the common views binding the participants and which are made apparent through the factor scores (Brown, 1978).

The four Factors identified in this study were interpreted using the factor arrays ('model' Q-sorts), the distinguishing and consensus statements and the interview data. Whilst the statements placed at the extreme ends of the grid (+5; +4 and -5; -4) were considered significant because they defined the issues most important to the participants loading on that Factor, the distinguishing statements were also essential as a representation of the characteristics that set them apart. The consensus statements provided invaluable information regarding issues on which the participants agreed, while the interview data offered added depth to the narrative reports. The coding of the interview data was facilitated using the Nvivo software. Each statement was assigned a free node (e.g. Statement #1: *Innovative teaching is*

recognised in the school of nursing, was free node #1). As interviews were analysed, any

comment made about a statement was coded to its respective free node. When developing the

detailed factor narratives a representative selection of views, focusing particularly on those Q-

sorts that had loaded the highest on each Factor, were chosen to provide the rationale for the

interpretation and particular quotes were selected to provide added depth. These Factor

narratives are presented in the next chapter.

5.8. Summary

This Chapter has described the methodology and process of Q and its application in this

research study. When choosing a methodology researchers can be metaphorically described as

fishermen who either cast out nets widely or use a pole to fish out particular specimen. When

seeking broad relationships among cases, nets are cast to catch a range of specimen. However,

when seeking to learn more about individual cases, single specimen are examined as a way of

coming to know intensively one single case. In this research study, the 'specimen' was

explored intensively through the development of a case study and the use of Q-methodology to

explore micro-level Factors. This approach enabled an analysis of this micro-level in light of

the macro-level issues presented in Chapter 4. This was to enable the 'single case' findings to

be linked to the broader discourse of the range of specimen as *expressions of shared habitus*.

The next chapter will present the results of the by-person factor analysis which will then be

examined within the context of the *field*.

Chapter 6. Findings

6.1. Introduction

This chapter will describe the results of the by-person factor analysis conducted on thirty-eight Q-sorts collected at Hillgate University from September to December 2009. As discussed in the previous chapter, PQMethod 2.11was used to enter the data; correlate the Q-sorts; and perform factor extractions and rotations (Schmlock and Atkinson, 2002). Centroid method was employed to extract the four Factors, followed by judgemental hand rotations to obtain clearer interpretations of each Factor. A four-factor solution was determined to provide the best fit for the data in its expression of the viewpoints held by the participants.

Section 6.2 illustrates the statistical characteristics of the four Factors and section 6.3 presents the factor narratives, each preceded by their 'model' Q-sort. Section 6.4 describes the areas of consensus between the four Factors and the chapter concludes with a brief summary in section 6.5.

6.2. Four factor solution

As discussed in section 5.6.2.1, a four-factor solution was determined to best represent the views of the participants in this study. Of the thirty-eight participants, most loaded on Factor A (29/38; 76%), with the remaining participants defining Factor B (2/38; 5.2%); Factor C (3/38; 7.9%); and Factor D (2/38; 5.2%), and two participants (5.2%) not loading on any Factor. Before presenting the factor narratives, this next section will briefly present some of the statistical characteristics of the four Factors.

6.2.1. Factor characteristics

Table 15 shows the degree of correlation between the four Factors. According to Cohen's (1988) guidelines, Factors B, C and D have medium to high correlations with Factor A; but only small correlations between Factors B and C (0.1985) and C and D (0.2694). The medium to high correlations with Factor A is due to its large eigenvalue, a commonality that was distributed to the three other Factors during rotations. Factors B and D have a medium correlation of 0.3641. In this study the correlation between the Factors are expressed in the Factor narratives as consensus statements. It is important to note that Cohen's (1988) criteria are arbitrary and interpretation of correlation coefficients depend on the context and purpose.

Table 14: *Correlations between the four Factors*

	A	B	C	D
A	1	0.4098	0.4711	0.5639
B	0.4098	1	0.1985	0.3641
C	0.4711	0.1985	1	0.2694
D	0.5639	0.3641	0.2694	1

Table 16 presents the statistical characteristics of the four Factors. The reliability of the

four Factors is statistically strong as shown through the composite reliability scores

ranging from 0.889 to 0.991.

Table 15: *Factor characteristics of the four factor solution*

	A	B	C	D
No of defining Q-sorts	29	2	3	2
Composite reliability	0.991	0.889	0.923	0.889
Standard error of factor scores	0.092	0.333	0.277	0.333

Table 17, on the following page, lists the factor loadings for each Q-sort, with those Q-

sorts 'defining' each Factor highlighted in bolded italics using the cut-off value of 0.5.

As described in the previous chapter, the Q-sorts with the highest correlation weigh

more heavily on the final interpretation of that Factor through the Z-scores. The last row

demonstrates the percentage of variance explained by the Factors. The key above Table

17 explains the abbreviations used within it.

Table 16: *Factor matrix*

Key:
Sta = Staff/lecturer
Ops = Strategic and operational role
EM = E-mentor
LT = Learning technologist
IT = IT support/development
E = E-learning support/development

Q-sort	Factor	Factor A	Factor B	Factor C	Factor D
1. Sta01	A	*0.6716*	0.2119	0.1708	0.0666
2. Sta02	A	*0.5629*	0.1349	0.2841	0.2658
3. Sta03	A	*0.5348*	0.0354	-0.1309	0.1825
4. Sta04	No	0.2948	0.0186	-0.1361	0.4044
5. Sta05	C	0.3128	-0.2016	*0.5533*	0.2709
6. Sta06	A	*0.5330*	0.4680	0.3556	0.1218
7. Sta07	A	*0.5257*	0.0113	0.3766	0.3054
8. Sta08	A	*0.7321*	0.0597	0.3341	0.1504
9. Sta09	D	0.2671	0.1535	0.1954	*0.695*
10. Sta10	A	*0.5028*	0.1899	0.3532	-0.0418
11. Sta11	A	*0.5187*	0.0189	0.3697	0.4770
12. Sta12	C	0.1851	0.0028	*0.7706*	-0.2261
13.StaEM13	A	*0.8514*	0.1175	0.1711	0.0117
14. Sta14	A	*0.7761*	0.0319	0.2460	0.1643
15. Sta15	A	*0.7766*	0.1711	0.2127	0.0753
16. Ops16	A	*0.7860*	0.3082	0.0025	-0.0626
17. StaEM17	A	*0.8483*	0.3405	0.1768	0
18. Sta18	B	0.3420	*0.7099*	0.1595	-0.1143
19. Sta19	A	*0.8307*	0.3224	0.1124	0.0024
20. Sta20	A	*0.7920*	0.0426	0.0750	0.2995
21. Sta21	A	*0.7651*	0.1655	-0.0062	0.2350
22. Sta22	A	*0.8189*	-0.0154	0.0632	0.1852
23. Sta23	A	*0.6698*	0.2574	0.0025	0.1355
24. Sta24	C	0.2757	0.2831	*0.6216*	0.0465
25. Sta25	A	*0.6621*	0.2433	0.2809	0.0015
26. Ops26	A	*0.6790*	0.0674	0.0459	0.2269
27. Ops27	D	0.4634	0.4334	0.2666	*0.5415*
28. Ops IT28	A	*0.6253*	0.1651	0.1454	0.1769
29. Ops29	A	*0.7766*	0.1173	0.3465	-0.1241
30. OpsE30	A	*0.6985*	0.2859	0.2084	0.1757
31. Ops31	A	*0.6130*	0.0239	0.3704	0.1707
32. OpsIT32	A	*0.6912*	0.1915	0.1460	0.3190
33. Sta33	B	0.1066	*0.7643*	-0.0428	0.1971
34. OpsE34	A	*0.7226*	0.0126	0.2021	0.1631
35. OpsE35	A	*0.6920*	-0.0359	0.2150	0.1303
36. OpsLT36	No	0.3204	0.1842	0.1177	0.1585
37. OpsLT37	A	*0.5943*	-0.2013	0.0761	-0.2317
38. OpsE38	A	*0.8529*	0.1527	0.1428	0.0390
Variance	61%	40%	7%	8%	6%

6.3. Factor narratives

This section will describe the four Factor narratives developed using the statements, their placement on the grid and the post-sort interviews. A replica of the 'model' Q-sorts precedes each narrative to provide the reader with a holistic view of each Factor. A small key is included for the abbreviations used in the 'model' Q-sorts. Each Factor narrative begins with a table of distinguishing statements, their column placement and their respective Z-scores. Another key is included for any abbreviations and symbols used in the table and the narrative.

It should be noted that given the statistical calculations used to determine the weighted averages some factor arrays resulted in a larger or smaller number of statements than available slots in the original grid. This occurred in Factor D's factor array that had eight statements in the -1 column when there were only seven slots. To address this, statement *#34 It is time to rethink how learning happens* was moved from the -1 column to the middle column (Sta9 had placed in -1 and Ops27 in the middle column) because the interview data and the placement of other cards such as *#2 I prefer a lecture format* (in a relatively low negative column compared to the three other Factors) and *#5 It is the lecturers responsibility to cover all the module (*the only Factor to place it in the positive column) suggested that Factor D was ambivalent about 'rethinking' traditional teaching practices. This example demonstrates how critical judgment facilitated by the interview data, can influence the decision-making process when developing the Q narratives.

					Factor A Model Q-sort					
Most disagree -5	**-4**	**-3**	**-2**	**-1**	**0**	**+1**	**+2**	**+3**	**+4**	**Most agree +5**
#14 E is just a fad	#2 I prefer a traditional lecture format	#5 It is the lecturer's primary role to cover all the module content	#26 Students won't bother coming to class if notes are on WebCT	#15 There is no evidence that E improves learning outcomes	#4 I don't have enough time to use E	#1 Innovative teaching is recognised at DON	#7 The quality of all my modules would improve with E	#20 The best way for students to learn is finding things out	#6 Students should take responsibility for their own learning	#24 Learning how to use knowledge is more imp than accumulating it
#19 I'm simply not interested in E	#22 Lectures should talk and students should listen	#9 The use of E has wasted valuable time	#28 The essence of nursing is lost in E	#17 There should be little diff bet F2F and E teaching strategies	#11 The decision to use E should rest with the lecturer	#3 It is my uni's resp to provide training to use E	#10 The most imp barrier preventing use of E is a lack of training	#33 Mentoring and peer support are essential to the learning process	#34 It is time to rethink how learning happens	#25 Effective teaching is about giving learners more control
	#29 E is a problem not a solution	#21 A student-centred class is too time-consuming	#30 Podcasts decrease the value of the lecturer	#18 E is contributing to commercial education	#16 Communication is better in person than online	#8 Is the lecturer's resp to learn how to integrate E in their courses	#12 When trying new things, I need an opp to make mistakes	#37 Reflection should be designed into all learning activities	#36 In E the role of the lecturer is not less imp it's just different	
		#23 It is unrealistic for students to take control of their learning	#35 E threatens the existence of traditional HE	#31 E is driven by economics not by learning	#32 F2F contact is the most crucial element in learning	#13 E provides increased opp for social interaction	#43 Watching peers has inspired me to experiment with E	#40 21st century nurses need to know how to use technology		
		#51 My subject cannot be translated into E	#41 Technology is frustrating and detracts from learning	#45 E creates a disadvantage for those who struggle financially	#38 My uni provides me with time to learn to use E	#39 My uni provides me with reliable access to technology	#48 Nursing students need basic IT skills prior to enrolling	#50 Modules should place greater emphasis on social learning		
			#52 I use E because it is expected	#46 There are adequate incentives to use E at DON	#44 I learn best when working in group with my peers	#42 I feel like I have ownership over my modules	#53 Innovative teaching strategies are frequently used in my classes			
				#49 Students can only learn nursing through hands-on experiences	#47 There is an active knowledge sharing community at DON	#27 WebCT is useful for posting notes to free up class time				

Imp	Important
Diff	Difference
Opp	Opportunity
Resp	Responsibility
Uni	University
F2F	Face-to-Face
DON	Division of Nursing
E	E-learning
HE	Higher Education

6.3.1. Factor A - *The e-advocate*: E-learning can develop contemporary professional nurses

The table below shows the distinguishing statements for Factor A based on a significance of $p < 0.05$. The asterisk (*) indicates a significance of $p < 0.01$. The figures next to the column numbers represent the Z-scores:

Statements	A	B	C	D
# 34: It is time to rethink how learning happens	+ 4 ; 1.46*	-1 ; -0.62	+1 ; 0.55	0 ; -0.27
#13: E-learning provides increased opportunities for social interaction	+1 ; 0.59	-3 ; -1.10	-4 ; -1.45	0 ; -0.16
#3: It is my university's responsibility to provide training on how to use e-learning	+1 ; 0.42	+3 ; 1.16	+4 ; 1.60	+4 ; 1.45
#4: I do not have enough time to experiment with e-learning	0 ; 0.06*	-3 ; -1.05	+4 ; 1.30	+5 ; 1.53
#32: F2F contact between students and lecturers is the most crucial element of the learning process	0 ; -0.08*	+3 ; 1.22	-4 ; -1.38	+3 ; 1 .26
#21: A student-centred class design cannot work in my classes, it is too time consuming	-3 ; -1.11	-5 ; -2.07	-5 ; -1.97	-1 ; -0.31
#14: E-learning is just a fad	-5 ; -1.73	-1 ; -0.45	-2 ; -0.67	-3 ; -0.94
#19: I'm simply not interested in e-learning	-5 ;-1.76	-2 ; -0.91	-1 ; -0.54	-1 -0.27

	Key for narrative abbreviations and symbols
(# ; +/-)	Indicates the number of the statement and the value it was given on the grid
( )	Blanked out to protect identity
(text)	Clarification of concept/issue being discussed or described
...	Identifies the removal of some original text to maintain flow and facilitate comprehension
F2F	Face-to-face

Factor A is defined by 29 participants holding a broad range of job roles and responsibilities (S & O; T & R). These participants work from a number of disparate geographical locations; include nurse educators from all four branches of nursing; and represent an almost equal amount of males and females (15 females; 14 males) aged between thirty to sixty. Their overall computer competence levels are self-evaluated as 'competent.' Some of these participants have no formal teaching qualifications while others hold certificates and degrees, with the highest qualification a doctorate in education (EdD). For those involved in teaching, their years of experience in NE range from one to twenty-three years, indicating that some of these

participants were involved in the transition from the local NHS colleges to Hillgate University during the period of 1995-1996.

Twenty of the 29 participants defining Factor A are qualified nurses: 16 of them with a primary role in teaching, while four of them were recruited based on their S & O responsibilities. The remaining nine participants are not nurses and were recruited for their roles related to teaching, IT or e-learning implementation either within the DON or across Hillgate. Of the nine 'non-nurses' two are involved in teaching; three have operational roles in developing e-learning within the DON (one focusing on technical IT support, one focusing on pedagogical IT support and the third is a Learning Technologist); two have strategic roles in the implementation of e-learning across the Division; and finally two participants represent Hillgate's broader e-learning initiative, with one involved in the operational aspect of e-learning implementation and the other in its strategic implementation.

Factor A is best described as those commonly referred to in the literature as the 'e-enthusiasts.' Despite the vast differences existing between these participants, they are all very interested in e-learning (#19; -5). Furthermore, for those involved in teaching, Factor A considers their subject areas as appropriate for an e-learning format (#51;-3) and does not consider the presence of e-learning in nurse education as a passing fad (#14; -5). For this group, e-learning is not perceived as a problem (#29; -4), but rather a way of improving the quality of modules (#7; +2).

Indeed, these participants perceive the use of e-learning as an opportunity to rethink how learning happens (#34; +4). Not proponents of the traditional lecture format (#2; -4), participants defining Factor A do not see it as the responsibility of the educator to talk whilst students listen (#22; -4). Instead, learning is seen as a process of finding out how to use knowledge rather than accumulating it (#24; +5). Consequently students are believed to learn best when they are actively finding things out for themselves (#20; +3).

As suggested by the following comment, e-learning is seen as a way of facilitating this self-directed process:

> *I like the concept that e-learning promotes a lot of exploring for yourself in different ways that doesn't necessarily need the presence of the teacher...I'm a great believer in deep learning being finding out for yourself because that consolidates it.* (Sta22)

As just mentioned, the integration of e-learning into a blended format is seen as having the potential to shift from traditional 'chalk and talk' strategies towards scenarios where educators are relinquishing some of their control (#25; +5). Indeed, this shifting of responsibility towards students is considered an important and necessary step in the learning process (#6;+4). Hence Factor A does not see it as the lecturer's role to cover all the module content (#5; -3), rather more emphasis is placed on social learning, with students learning from each other (#50;+3).

Although Factor A espouses this approach, the following comment explains why putting these beliefs into practice can be difficult given the traditional emphasis on classroom attendance:

> *I think there are a lot of people who would suggest that because you're not talking to students and students are not talking to you directly, that they're not gaining as much from you as they would. But really there are many different ways that students can learn...We often place emphasis in having to be in a classroom and we often look at students that are not in the classroom on the negative side, i.e. you're marked absent...But for students that are in the classroom, it doesn't mean to say simply because they're there, they're learning whilst they're there. They can be asleep whilst they're there!* (Sta20)

The concern held by some educators that students will not 'learn' if they have not been 'taught' is further explained by the following comment from a participant with a strategic role in education in the DON:

> *I think because traditionalists tend to think, especially in nursing, how do I know that they've learned something? So if they use an e-learning method, how do I know at the end of the day that they've got something out of that that's useful and they've met their learning competencies and they're going to be safe practitioners? But obviously you can put 600 people in a lecture hall and you can ask the same question of them. But somehow they think that because they've delivered it and they've actually done their job, that at least they can tick that box with a certain amount of security. Often the security is not necessarily whether the student's learned, although that's their argument...They don't get that when they say, OK we need students to go out and find out for themselves...*(Ops29)

The placement of statements relating to learner autonomy on the positive side of the grid points to Factor A's alignment with learning theories that have roots in adult learning, constructivism and experiential learning. As such, the view that it is time to *rethink* how learning happens (#34; +4) suggests that the underlying educational paradigm currently underpinning nursing curricula may not match their espoused ideal. Words are carefully chosen by an e-mentor in the following comment, emphasising the importance language plays in understanding this paradigmatic shift and how language can reflect teaching practices:

It's about our philosophy about learning and the way that we work with the people who we are trying to teach, or to help learn, or to facilitate their learning. And a great deal of what we do at the moment particularly within this university is about didactic face-to-face teaching and the idea that we fill empty vessels with some sort of knowledge about nursing and that's our job. And I think if we think in that way, it almost predetermines the methods and approaches that we then use to achieve that. So it's thinking about learning differently in the sense of student-centredness and what approaches help people to learn. As opposed to what approaches help us teach. (StaEM08)

For Factor A, e-learning is seen as having the potential to increase social interaction between lecturers and their students (#13; +1). This acknowledged 'potential' stresses the need for appropriate human application rather than the technology having an inherent ability to increase social contact. This explains why both the statements relating to face-to-face communication and physical contact as essential ingredients to the learning process (#16 and #32; 0) are placed in the middle column. The quality of communication is seen rather as a matter of strategic design, preference and context, not an intrinsic characteristic of either technology or human contact, as described in this comment:

It depends on how you…design online learning in terms of communication. So it can be worse in person if you're not a good communicator. And we know that things like social networking systems encourage an awful lot of communication and interaction that people wouldn't do individually. So there's kind of different facets to the ways that they communicate… So that's why it's neutral for me. (StaEM08)

The relevance of e-learning in nurse education reflects Factor A's views of the current healthcare system and the need for nurses in the 21st century to know how to use technology (#40; +3). Consequently, students entering a nursing course ought to have basic IT skills (#48; +2). Since students are not seen as only learning nursing through hands-on experiences (#49; -1), Factor A is not concerned about the essence of nursing being lost in an e-learning environment (#28; -2). As the following comment suggests, although patient contact is a critical element for developing competent nurses, it is a necessary but insufficient condition of learning nursing. The importance is finding the right balance:

It goes back to how you can learn a lot of the theory through e-learning, but you've got to link that in with the practical skills that are involved. But I don't think you lose the essence of nursing as long as you keep that kind of balance and that combination. (Sta03)

One new lecturer recently introduced to e-learning actually considers technology as an opportunity to capture the essence of nursing. By encouraging students to become more self-

directed whilst learning the theoretical elements of the curriculum, face-to-face time could then focus on applying these theories into practice, thereby modelling the essence of nursing:

> *I think before I started I would have said that myself* (loss of the essence of nursing), *coz nursing is about being able to deliver hands-on care. But I think you can use e-learning to free up time so that we can do more taught content on those skills that don't lend themselves well to e-learning. So that in many ways, the sessions that you teach in lecture format now, if students were taking on board the e-learning style and would go away and actually complete those resources, then you could be applying those skills in the classroom setting, or even look at going into clinical placements more often...You could look at how you could free up time to actually capture the essence of nursing, rather than seeing it as a threat because it's not a face-to-face interactive way of teaching students.* (Sta19)

Just as technology is considered an essential skill for future nurses, so is e-learning seen as an expected part of a nurse educator's professional development. Therefore, Factor A perceives it to be the lecturer's responsibility to learn how to integrate e-learning into their modules (#8; +1):

> *I do think it's part of a lecturer's development that we move with the developments in our world, which is education. And we are in an e-learning world, there isn't any doubt about that. Therefore, if we're seeing ourselves as people that retain a responsibility to develop ourselves, then that has to include development in means and ways that we deliver our programmes.* (StaEM08)

Although Factor A demonstrates an internal locus of control when it comes to learning how to develop and use e-learning, the participants defining this factor also view Hillgate University as equally responsible for providing the necessary technological support and training (#3; +1). Without this underpinning infrastructure, educators cannot be expected to develop e-learning further. Once the training and structures are made available, however, it is educators' responsibility to access it (#8; +1). This explains Factor A's ambivalence towards letting the decision to adopt e-learning rest solely on individual lecturers (#11; 0) rather than being implemented as a top-down institutional mandate. The following comment acknowledges the difficulty in implementing change in a large organisation relying solely on 'champions':

> *Most organisational change doesn't come from individuals moving but by some sort of collective imperative that makes them...you can allow your early movers to champion the thing and take it forward and provide examples of its use and its success. But even with that you've still got to overcome people's thinking about the risk of making the move for them in terms of the way that they teach. And I said earlier, lecturing is pretty safe as a teaching method...And to put people into different modes threatens their security. And that's kind of an accepted facet of successful change that you've got to deal with that somewhere in your systems to make it safe for them...* (StaEM08)

Since Factor A recognises the potential e-learning has for improving learning outcomes, the issue of time, whether related to time made for themselves to experiment with e-learning (#4; 0), or time provided by the university (#38; 0), are both placed in the middle column. As the following comment suggests, the decision to place these cards as neither 'agree' nor 'disagree' relates to their own personal motivation: *I think that e-learning champions learn themselves, they teach themselves, they're willing to explore*... (StaEM08). Although the participants directly involved in teaching may not always feel there is enough time to develop e-learning, it is something they control rather than something provided to them by the DON or by Hillgate. Academic staff are seen as having significant flexibility in their work schedule. For those claiming not to have enough time, this is perceived as an excuse for not engaging with e-learning:

> *I think we all tend to have some spare time and if we manage it a little bit more effectively then that time could be available for e-learning...so they do have time, but they wouldn't consider using that spare time for e-learning.* (Sta20)

For lecturers who are not interested in e-learning and are not making the time to learn how to use it effectively, Factor A believes this is because there have not been the right incentives (#46; -1). Even though they do not feel personally driven by such external drivers, they acknowledge that others might not have the same intrinsic motivation to adopt e-learning. In relation to incentives, it is interesting to note the two different perspectives influenced by the job roles held. The first comment is made by an educator (Sta), while the second is from a senior manager (Ops) in a position to provide such incentives:

> *I don't think there are. But it depends on what kind of incentives you're using and how you judge these things. And it depends on how cynical you're looking at it...whether it's about resources, or lack of will at the higher echelons of the school of nursing, they haven't put the incentives in there.* (Sta07)

> *What is an incentive?...I think that the incentives that are there are about being able to do the job really well and that the evaluations of students would hopefully improve...but I wouldn't give recognition purely because somebody did something in e-learning...as somebody with a responsibility for staff development to some extent, I'm not sure how I would incentivise people to use it. I wouldn't want to be giving financial bonuses, or anything of that sort.* (Ops16)

Another issue Factor A acknowledges as possibly dissuading other academics from using e-learning is a lack of training (#10;+2). However, as noted above, while Factor A believes it is

Hillgate's responsibility to provide training (#3;+1), it is equally the educator's responsibility

to learn how to integrate it into their modules (#8;+1). This points to a mismatch between the

available training and lecturers accessing of it:

> *Yes, I think definitely there is adequate training available for those that seek*
> *it, but there's an awful lot that probably don't seek it because they don't see*
> *it as being the way forward, or valuable. And it's probably those that maybe*
> *should be encouraged in some way.* (Sta20)

In summary, Factor A agrees that e-learning has the potential to improve learning outcomes.

Having positive views towards e-learning, Factor A acknowledges the benefits of a blended

approach, emphasising good design. Intrinsically motivated to learn about e-learning, many of

the institutional barriers commonly identified as preventing e-learning adoption such as a lack

of time, training and incentives do not impact them. However these commonly identified

barriers are acknowledged as inhibiting their peers who are not interested in e-learning.

Factor B – Model Q-sort

Most disagree -5	-4	-3	-2	-1	0	+1	+2	+3	+4	Most agree +5
#7 The quality of my modules would improve with E	#10 The most imp barrier to use of E is a lack of training	#4 I d not have enough time to experiment with E	#9 The use of E has wasted valuable time	#2 I prefer a traditional lecture format	#8 It is the lecturer's resp to learn how to integrate E in their modules	#11 The decision to use E should rest with the lecturer	#1 Innovative teaching is recognised at DON	#3 It is my uni's resp to provide training to use E	#37 Reflection should be designed into all learning activities	#16 Communication is better in person than online
#21 Student-centred class is too time-consuming	#23 It's unrealistic for students to take control of their own learning	#13 E provides more opp for social interaction	#18 E is contributing to commercial education	#5 It's the lecturer's primary resp to cover all module content	#48 Nursing students need basic IT skills prior to enrolling	#17 There should be little diff bet F2F and E teaching strategies	#24 Learning to use knowledge is more imp than accumulating it	#6 Students should take resp for their own learning	#50 Modules should place more emphasis on social learning	#28 The essence of nursing is lost in E
	#46 There are adequate incentives to use E at SON	#22 Lectures should talk and students should listen	#19 I'm not interested in E	#14 E is just a fad	#15 There's no evidence that E improves learning outcomes	#31 E is driven by economics not by learning	#30 Podcasts decrease the value of the lecturer	#20 The best way for students to learn is finding things out	#51 My subject cannot be translated into E	
		#26 Students won't come to class if notes are up on WebCT	#27 WebCT is useful for posting notes to free up class time	#29 E is a problem not a solution	#38 My uni gives me time to learn how to use E	#39 My uni provides me with reliable access to technology	#33 Mentoring and peer support are essential to learning	#25 Effective teaching is about giving learners more control		
		#35 E threatens existence of HE	#41 Technology is frustrating and detracts from learning	#34 It is time to rethink how learning happens	#40 21st century nurses are required to know how to use technology	#42 I feel as though I have ownership over my modules	#47 There is an active knowledge community at DON	#32 F2F is the most crucial element to learning		
			#49 Students can only learn nursing thru hands on experiences	#36 In E the role of the lecturer is not less imp, it is just different	#43 Watching peers use E has inspired me to experiment	#44 I learn best when working in groups with my peers	#53 Innovative teaching techniques are frequently used in my modules			
				#52 I use E because it is expected	#45 E creates disadvantage for those who struggle financially	#12 When trying new things I need an opp to make mistakes				

E	E-learning
Imp	Important
Diff	Difference
Opp	Opportunity
Resp	Responsibility
Uni	University
F2F	Face-to-Face
DON	Division of Nursing
HE	Higher Education

6.3.2. Factor B - *The humanist*: E-learning prevents the development of person-centred nursing

The table below shows the distinguishing statements for Factor B based on a significance of $p < 0.05$. The asterisk (*) indicates a significance of $p < 0.01$. The figures shown next to the column numbers represent the Z-scores:

Statements	A	B	C	D
#28: The essence of nursing is lost in an e-learning environment	-2 ; 0.88	**+5 ; 1.76***	-1 ; -0.14	-2 ; -0.74
#51: My subject area cannot be translated into an e-learning environment	-3 ; -1.21	**+4 ; 1.50***	-2 ; -0.97	-2 ; -0.71
#30: Lecture podcasts decrease the value of the lecturer	-2 ; -1.01	**+2 ; 0.88***	-1 ; -0.62	-1 ; -0.63
#17: There should be little difference between face-to-face and e-learning teaching strategies	-1 ; -0.38	**+1 ; 0.40**	-3 ; -1.12	-2 ; -0.86
#36: The role of the lecturer in e-learning is not less important, it's just different	+4 ; 1.56	**-1 ; -0.51***	+4 ; 1.60	+2 ; 1.02
#4: I do not have enough time to experiment with e-learning	0 ; 0.06	**-3 ; -1.05***	+4 ; 1.30	+5 ; 1.53
#10: The most important barrier preventing the use of e-learning is a lack of training	+2 ; 0.60	**-4 ; -1.16***	+5 ; 1.69	+3 ; 1.14
#7: The quality of all my modules would improve with the use of e-learning	+2 ; 0.62	**-5 ; -1.76***	-1 ; -0.57	+1 ; 0.24

	Key for narrative abbreviations and symbols
(#; +/-)	Indicates the number of the statement and the value it was given on the grid
( )	Blanked out to protect identity
(text)	Clarifies the concept/issue being discussed or described
...	Identifies the removal of some original text to maintain flow and facilitate comprehension
F2F	Face-to-face

Factor B is defined by two educators, both qualified nurses, who teach on the mental health branch. The female is between 21-30 years old and evaluates her computer skills as 'somewhat competent,' and the male is between 51-60 and evaluates his computer skills as 'competent.' The female has only been teaching for one year and has recently completed the Associates Teaching Programme (ATP), a certificate leading up to the PGCHE (Postgraduate Certificate in HE). The male has been in education for ten years and has completed the PGCHE. Both

educators are located at a satellite campus fairly close to the main hub and are both involved in teaching. The male has a PhD and is also responsible for conducting research.

Distinguishing Factor B is their emphasis on human-contact. While e-learning is not considered a problem, as such, (#29; -1) nor a passing fad (#14; -1), the degree of priority is significantly less marked than in Factor A [(#29; -4) and (#14; -5) respectively]. Whilst not a problem for Factor B, e-learning is perceived to offer little value in the preparation of future nurses. Their limited interest in e-learning (#19; -2) is attributed to the strong belief that its use in education causes the essence of nursing to be lost (#28; +5). There is thus little potential for it to improve the quality of their modules (#7; -5):

> *One of the main reasons why I personally came to nursing was coz I'm just genuinely really interested in people...and that would be lost through e-learning coz you wouldn't have that contact. And I worry that if students' learning were to be based almost purely on e-learning that they'd lose those social skills...So I think it's really important to get students to understand people's emotions and how to work with that, to be able to work with people effectively in practice. You only really get a feel for that when you're working with a person, rather than through e-learning.* (Sta18)

According to Factor B, their subject area is not transferable to an e-learning format (#51; +4) primarily because communication is considered to be better in person than online (#16; +5):

> *When you send text messages, the message can be lost... I wonder how much learning done electronically is lost or misinterpreted. Whereas when you're speaking in person, even if someone doesn't necessarily understand you, you can pick up from non-verbal cues. And I think that's really important to learn from as well. Within the role of a nurse there is a lot of non-verbal communication actually happening.* (Sta18)

Despite the differences in views towards e-learning, Factor B shares many similar pedagogical beliefs as Factor A. Factor B also thinks students should be taking more responsibility in their learning (#6; +3); that they can learn best when finding things out for themselves (#20; +3); that effective teaching is about giving students more control (#25; +3); and that learning how to use knowledge is more important than accumulating it (#24; +2). Since adult-learning strategies are considered a significant priority for Factor B, a student-centred class is not considered too time-consuming (#21;-5). This reflects their style of teaching which does not view the lecturer as one who talks while students listen (#22; -3). Factor B acknowledges that not all nursing is learned through hands-on experiences (#49; -2), thus innovative teaching techniques are used in their classrooms (#53; +2), with a special emphasis on reflection (#37; +4) and social learning amongst students (#50; +4).

Although the participants defining both Factors A and B align themselves with adult learning and constructivist models, the main difference lies in how they apply the associated teaching methods in practice. Whereas Factor A sees e-learning as a method for applying these principles, Factor B believes they are best facilitated through human interaction because students and lecturers meeting face-to-face is considered the most crucial element of the learning process (#32; +3):

> *Not meaning to brag but I get really high evaluations from my students. Really high scores...I've always done that. And I know 100% that's nothing to do with technology. I don't not like it, but it isn't why I get the high ratings for my teaching. I know why I get the high ratings for my teaching. It's because I listen to students and I give them an opportunity to speak and get involved. And the kind of comments that I get back are that I'm passionate. It's all about my personality and the way I am in the world and with other human beings.* (Sta33)

Furthermore, technology is not seen as having the potential for providing increased opportunities for social interaction (#13; -3):

> *...Within the group* (face-to-face) *there's a lot more scope for discussion and for people to bounce off ideas. With e-learning, as much as you can set up discussion forums, if people aren't in the same head-space at the same time, or if someone writing a blog about a certain thing and then nobody actually visits that website for a few days, then the idea and that moment is lost. Whereas when you're actually in a group and in a classroom, you know what's expected of you during that time.* (Sta18)

In explaining why the statements about technology being a waste of time in their modules (#9; -2) and technology being frustrating and detracting from learning (#41; -2), were placed in the disagree columns, Factor B notes this is because they simply have not engaged with it:

> *That was a bit of a cop out, yeah I haven't used it at all....* (Sta18)

> *Well, see, I haven't used it. I can't say I've used e-learning. Can I say, I've put stuff on WebCT, hand outs...That doesn't count as e-learning.* (Sta33)

Not particularly inclined to use e-learning in their teaching, neither a lack of time to experiment with e-learning (#4; -3) nor a lack of training (#10; -4) are perceived as barriers. Rather their main barrier is a lack of interest:

> *Well, I'm not bothered actually. I don't want to experiment. I'm a bit...I'm not resistant, but I can't be bothered. You know, I've got lots of other things to be getting on with.* (Sta33)

Thus the barriers Factor A identified as preventing their colleagues from using e-learning (lack incentives and training), do not apply to Factor B. However, despite their lack of interest Factor

B does concede that they are not aware of any incentives to use e-learning within the DON (#46; -4), while also acknowledging that such incentives would not influence their decision:

> *In terms of staff incentives, I don't think there are any incentives...But I guess even if there were incentives to use e-learning, I don't think I'm too driven by external incentives. If I'm doing something then I need to know that I'm doing it for the benefit of something, like for the benefit of even myself...or because it's a better way to learn for the students. But in terms of any other gains...that just doesn't really drive me.* (Sta18)

Since technology is not perceived as offering any learning benefits, there is no intrinsic motivation for them to engage with it. As such, Factor B does not consider it time to rethink how learning happens in nurse education (#34;-1), lest this comment suggest the introduction of more technology:

> *I think there's loads of thinking going on in education...and I don't know if the implication is in order to advance the use of technology....* (Sta33)

Without the belief that technology improves education, e-learning is considered to be driven by economics rather than by learning (#31; +1), but also by reputation, as suggested in the second comment:

> *My default position is, oh yeah, it's a lot cheaper for the university...Coz this new course that everyone's raving about that they set up in (   )...I think they're using e-technology and everything. And I can't help thinking they want to use it as an exemplar for our new curriculum. And I'm thinking, yeah, coz that's economically driven. It's less labour intensive.* (Sta33)

> *(Hillgate) is one of the universities that is seen as being a lot more advanced and it has a really good reputation, that they almost have to keep up with the times and keep up with the technology in terms of e-learning to keep that status...there's quite a big political drive for e-learning.* (Sta18)

Their limited experience with technology explains why Factor B considers e-learning to be less time-intensive and perceives few differences between face-to-face teaching strategies and e-learning delivery (#17; +1). It also explains why the role of the lecturer in an e-learning environment is seen as less important than classroom contact time (#36; -1). Indeed, the use of podcasts is thought to decrease the value of lecturers (#30; +2):

> *In the real world, if I sit and listen to a lecture on the web, after 5 minutes I've lost concentration...So, it makes my lectures worthless...I think that reduces enormously if you're watching recorded, coz you haven't got the human contact. Coz part of what keeps you engaged is the nonverbal communication, the eye contact. Even if it's a group of 60 that I teach regularly. I try to make eye contact with all of them. And I think a podcast would just lose it...To think we can educate people like that. I think it's like going back to Soviet Union broadcasts 40 years ago, where our leader would stare into the camera and give you a lecture. You know, it's ludicrous. I think we're kidding ourselves if we think we can put podcast lectures and we're improving education. I feel really strongly about that.* (Sta33)

With a lack of pedagogical value, Factor B considers e-learning as an initiative that should be led by Hillgate and the DON, who have a responsibility to train staff (#3;+3). It is worth pointing out the conflict between personal responsibility to learn how to use e-learning and the lecturer's choice to do so. Although the *responsibility* of individual lecturers to integrate e-learning into their courses is placed in the middle column (#8; 0), the lecturer's *choice* to use e-learning is in the positive column (#11;+1). As suggested in the following comment, while it would be unreasonable to expect individual educators to drive e-learning, it should also be at their discretion to determine whether or not e-learning is well-suited for their class:

> *It would have to be the university that drives e-learning forward because there are not many people that I know personally that would drive e-learning forward in the school of nursing...I don't see anyone who felt strong enough about the powers of technology* (laughs). *In sessions, I'd like to personally have more responsibility, purely because knowing how my modules are set-up and having a vision of how I want my modules to be and how I develop them, then I'd like to have a say in which sessions might be suitable for e-learning rather than someone coming along and saying yeah you've got to do your whole module in e-learning, because that just wouldn't work.* (Sta18)

In summary, although espousing similar pedagogical beliefs, Factors A and B differ in their views of the potential e-learning has in enabling effective learning to take place and its ability to develop certain skills. Factor B does not see learning occurring through computer interactions but rather through face-to-face contact. This is particularly the case in a profession such as nursing with its focus on the development of human interpersonal relationships. Due to the perceived limitations of technology it is not seen as an appropriate teaching tool for developing essential nursing skills. As seen with Factor A, the commonly cited barriers relating to a lack of time, incentives and training do not influence these educators. Instead it is a lack of interest and the perceived limited value of e-learning that have influenced their choice not to adopt it.

Factor C – Model Q-sort

Most disagree -5	-4	-3	-2	-1	0	+1	+2	+3	+4	Most agree +5
#21 Student-centred is too time-consuming	#13 E provides increased opp for social interaction	#2 I prefer a traditional lecture format	#14 E is just a fad	#7 The quality of all my modules would improve with E	#16 Communication is better in person than online	#1 Innovative teaching is recognised at DON	#9 Use of E has wasted valuable time	#11 The decision to use E should rest with the lecturer	#3 It's my uni's resp to provide training on how to use E	#10 The most imp barrier preventing use of E is lack of training
#22 Lecturers should talk and students listen	#32 F2F contact is the most crucial element in learning	#5 It is the lecturer's resp to cover all module content	#26 Students won't come to class if notes are on WebCT	#8 It's the lecturer's resp to learn how to integrate E into their courses	#18 E is contributing to commercial education	#6 Students should take resp for their own learning	#15 There is no evidence that E improves learning outcomes	#33 Mentoring and peer support are essential to learning	#4 I don't have enough time to experiment E	#12 When trying new things I need opp to make mistakes
	#38 uni provides time to learn to use E	#17 There should be little diff bet F2F and E teaching strategies	#43 Watching peers use E has inspired me to experiment with it	#19 I'm simply not interested in E	#37 Reflection should be designed into all learning activities	#25 Effective teaching is giving more control to learners	#24 Learning how to use knowledge is more imp than accumulating it	#40 21st century nurses need to know how to use technology	#36 In E the role of the lecturer is not less imp, it's just different	
		#20 The best way for students to learn is finding things out themselves	#44 I learn best when working in groups with my peers	#28 The essence of nursing is lost in E	#39 My uni provides me with reliable access to technology	#29 E is a problem not a solution	#27 WebCT is useful for posting notes to free up class time	#49 Student can only learn nursing thru hands on experiences		
		#23 it is unrealistic to expect students to take control of their own learning	#46 There are adequate incentives at DON	#30 Podcasts decrease the value of the lecturer	#47 There is an active knowledge community at DON	#34 It is time to rethink how learning happens	#31 E is driven by economics not by learning	#53 Innovative teaching techniques are frequently used in my courses		
			#51 My subject cannot be translated into E	#35 E threatens the existence of traditional HE	#50 Modules should place greater emphasis on social learning	#42 I feel like I have ownership over my modules	#41 Technology is frustrating and detracts from learning			
				#45 E creates a disadvantage for those who struggle financially	#52 I use E because it's expected	#48 Nursing students need basic IT skills before enrolling				

E	E-learning
Imp	Important
Diff	Difference
Opp	Opportunity
Resp	Responsibility
Uni	University
F2F	Face-to-Face
D	Division of Nursing
HE	Higher Education

6.3.3. Factor C - *The sceptic*: E-learning cannot develop clinically competent nurses

The table below shows the distinguishing statements for Factor C based on a significance of $p < 0.05$. The asterisk (*) indicates a significance of $p < 0.01$. The figures shown next to the column numbers represents the Z-scores:

Statements	A	B	C	D
#12: When I am trying something new, I need an opportunity to test my ideas without worrying about making mistakes	+2 ; 0.84	0 ; 0.25	**+5 ; 1.70***	-4 ; -1.53
#11: The decision to use e-learning should rest with the lecturer	0 ; -0.05	+1 ; 0.31	**+3 ; 1.22**	+1; 0.31
#9: The use of e-learning in my modules has wasted valuable time	-3 ; -1.17	-2 ; -0.96	**+2 ; 0.91***	-4 ; -1.61
#41: Technology is frustrating and detracts from learning	-2 ; -0.89	-2 ; -0.96	**+2 ; 0.86***	-5 ; -1.73
#43: Watching peers use e-learning successfully has inspired me to experiment with it	+2; 0.94	0; 0.14	**-2 ; -0.79**	+2 ; 0.74
#32: Face-to-face contact between students and lecturers is the most crucial element of the learning process	0 ; -0.08	+3 ; 1.22	**-4 ; -1.38***	+3 ; 1.26

	Key for narrative abbreviations and symbols
(#; +/-)	Indicates the number of the statement and the value it was given on the grid
( )	Blanked out to protect identity
(text)	Clarifies the concept/issue being discussed or described
...	Identifies the removal of some original text to maintain flow and facilitate comprehension
F2F	Face-to-face

Factor C is defined by three female educators, all qualified nurses, ranging between 41 to 70 years of age who teach on the adult nursing branch. The youngest has been teaching for six years, has completed her PGCHE, feels somewhat competent in her computer skills, has a PhD and research responsibilities. The two older nurse educators are on a teaching-focused contract, have been teaching between 10 to 28 years and both have a certificate in education. The participant who has been teaching the longest feels she has very little computer skills ('not at all' competent) while the other evaluates her computer skills as 'somewhat competent.'

Unlike Factor B, Factor C is defined by participants who have had experiences with e-learning in the past. Yet these experiences have been negative, leaving them with the feeling that e-learning is frustrating and detracts from learning (#41;+2). It is also perceived to have wasted valuable time in their modules (#9: +2). Furthermore there is an underpinning scepticism about

the overall potential for e-learning to improve learning outcomes (#15;+2). While Factor C is resigned that e-learning is not just a passing fad (#14; -2), they do not think e-learning can improve the quality of their modules (#7; -1). Given these views, it is not surprising that Factor C is the only group to perceive e-learning to be more of a problem than a solution (#29; +1).

The most important barriers identified by Factor C are a lack of training (#10; +5) and not feeling they have enough time to experiment with it (#4; +4). This contrasts sharply with Factors A and B who did not perceive time or training to be significant barriers to their use of e-learning:

> I don't have time to play with it. It's like a peripheral thing. This is costing me time and it's causing me frustration...and it's not my key responsibility...so I delegate it coz I don't have time to play with it. (Sta12)

Unlike Factor B who is concerned that technology interferes with the essence of nursing, Factor C's views toward e-learning are related to past frustrations and a perceived lack of evidence supporting e-learning as an improvement on current teaching strategies. These beliefs give Factor C little motivation to invest in the time and training required. According to Factor C, the lack of time to learn how to use e-learning is an institutional problem since the DON has not given staff sufficient time to learn how to use it effectively (#38; -4):

> I know we have an e-learning strategy and e-mentors and they're offering their support and advice. But my sense is that it's being left very much up to individual people to tap into that and we certainly haven't had any sort of three-line whip saying, 'You must go and seek this course!'...To go on a course you have to give up your own time and you have so many different pressures on your time...I don't agree that they give us enough time. (Sta05)

Factor C places most of the responsibility to develop e-learning on Hillgate stating that because the university is driving e-learning forward that it should invest in its employees by providing training (#3; +4). Indeed, this lack of investment in staff is perceived as a reflection of the inadequate staff incentives available to encourage e-learning adoption (#46; -2):

> For the enthusiasts and the trailblazers, because they're really interested in it and it might feed into their research interests, they will be motivated enough to go off and find other training. But there's always a difference between small pockets of innovative practice and actually trying to scale up and mainstream that. And if you want to mainstream it and integrate it and embed it, then the university has to do it. They have to invest in it. (Sta05)

Yet, as seen with Factor B, the emphasis placed on institutional responsibility to train staff conflicts with their own personal responsibility to learn how to integrate e-learning into their modules (#8; -1). Whilst placing much of the provision of time and training obligation on the

university, Factor C maintains that even if this time and training were provided, the decision to use e-learning should still rest with educators (#11; +2). One participant saw it as "*counter-productive to ask certain lecturers to use it...if they're not going to be any good at it, why get them to do it*?" (Sta24).

Another issue defining Factor C and distinguishing them from the three other Factors is the value they place on having a safe environment in which to try new things out without worrying about making mistakes (#12; +5). Not having the confidence nor feeling safe in experimenting with e-learning has dissuaded them from engaging with technology, as suggested by the following comment:

> *I think you have to be comfortable in your rationale for using it. And I think it's got to serve a purpose that you want it to...it's like a teaching resource, you have to have a sound theoretical premise for why you're introducing it, because if you don't you can't explain it to the students and you can't help them use it.* (Int: Are you comfortable with the rationale for using e-learning?) *No. I think it's worth playing with, but I'm uncomfortable with playing with the students' time in that way. It should be our time as lecturers. We should be confident using it. I shouldn't be imposing that playtime on the students.* (Sta12)

As mentioned, Factor C is also the only group expressing scepticism about the evidence supporting the benefits of e-learning (#15; +2). According to these nurse educators, there has been insufficient evidence justifying a change in current teaching practice. All the technological 'bells and whistles' have not demonstrated improved learning outcomes when compared to traditional methods of teaching:

> *It just seems to me that we're replacing different approaches to teaching...maybe some people find it more enjoyable, or maybe they retain it for a bit longer. Short-term outcomes, possibly, but I don't know whether there's really any convincing evidence for me that to transfer everything into WebCT and coming up with RLOs and podcasts and blablabla, that that will help them to achieve their learning objectives faster and more effectively and get them higher grades than the traditional way. I have yet to see anything like that.* (Sta05)

Although Factor C finds it convenient to post lecture notes on WebCT (#27; +2), it is not seen as a tool that has the potential to increase social interaction (#13; -4). Given its limited value in nurse education, the next comment demonstrates profound cynicism in investing large sums of money in technology when traditional face-to-face classroom meetings, clinical placements and textbooks have been successfully educating nurses for decades:

We could spend a lot of time and money on really going to town on technology, but why? I don't quite see why replace something that works? (Int: Which is face-to-face contact?) Which is face-to-face contact...I mean it goes back to my sort of puzzlement about RLOs. I just don't quite get it. Why we wanted to spend thousands and thousands of pounds doing this given that there are some excellent physiology textbooks and all the information is in there. All you have to do is read it and think about it, you know. Why make little cartoons? I just don't get it. I am genuinely puzzled! (Sta24)

For these nurse educators it is not the newest technological gadgets but rather students' own

motivation and engagement that have the most influence on learning outcomes:

I think so much of it is about the engagement of students. So I suppose if there's anything that needs to change, it's about people coming in to the university and recognising that they'll only get out of it what they put into it and what you put at them doesn't really matter. It's up to them to have that motivation and curiosity. And so whether they read a book, or look at an RLO, or attend a lecture or do something or another, probably doesn't make a massive amount of difference…(Sta05)

Furthermore, the need to apply evidence-based teaching strategies is particularly relevant given

the ultimate responsibilities of nurse educators to produce safe and competent practitioners:

To me it's nice that people try these things out and put energy into it. But I think there is the moral thing that you need to be sure that it's actually a useful use of public money and students' time. And for me, patient welfare at the end. Because, all right, if an RLO helps you understand biology, or how to do neuro obs, fine. But who makes the link between translating something online to a patient? And that's our moral responsibility. (Sta12)

Reflecting similar views as expressed by Factor B, these nurse educators perceive e-learning as

being driven by economics rather than pedagogy (#31; +2):

The atmosphere has changed...I think we all have a lot more to do...less staff, more students, more teaching, more administrative responsibilities. The whole thing has sort of tightened up quite noticeably...The school of nursing is under pressure financially to cut corners, save money and so on... I've done literature searches on e-learning... and so I learned at that time what some of the economic issues were and how many institutions are looking to e-learning as an answer. (Sta24)

Although the notion of rethinking how learning happens is ranked as a low positive (#34; +1),

in contrast to Factor A's interpretation of challenging traditional paradigms, Factor C's

rethinking of how learning happens is actually seen as an opportunity to challenge the growing

emphasis on e-learning in the curriculum:

Well the card doesn't say who should be doing the rethinking. So I supplied my own answer. It just says 'it is time,' so I suppose the reason I put it there was that I was thinking that perhaps the university as an institution has just made some assumptions that students will learn adequately through e-learning. And I'm not really sure they will. I'm assuming there's an economic reason behind it fundamentally. So I'm challenging the university that's made an assumption. (Sta24)

There are some similarities between Factor C's pedagogical views and those seen in the previous two Factors. Like Factors A and B, although to a lesser extent, these nurse educators agree that effective teaching is about giving learners more control (#25; +1) and that students are responsible for taking this control (#6; +1). Lecturers, therefore, should not just talk while students listen (#22; -5), nor are they responsible for covering all the module content (#5; -3). Factor C, however, unlike their constructivist colleagues represented in Factors A and B, does not agree that the best way for pre-registration nursing students to learn is finding things out for themselves (#20;-3):

> I've played around with different approaches. I used to teach in FE colleges and I would really go in for sort of group work and little exercises that they could do and you know experiential learning. I don't think that goes over quite so well in the school of nursing... (Sta24)

Of note is that Factor C is the only group thus far that considers nursing students as only able to learn their profession through hands-on experiences (#49; +3). Yet as previously mentioned, this is not a concern about the essence of nursing getting lost through technology (#28; -1) since face-to-face contact *is not* considered to be the most crucial element of the learning process (#32; -4). Rather the emphasis is on clinical practice as the best method for preparing students for the realities of nursing. This explains why learning how to use their knowledge is more important than accumulating it (#24; +2):

> There will always be a problem teaching what is essentially a practical topic through technology. I know we have sort of virtual hospitals where we rush around resuscitating people but it's just so different from actually being in A and E like I was as a student nurse and helping out at a resuscitation...It's just very different from virtual hospitals online...It doesn't provide the sore knees, or the too short breaks, or the fact that you're really thirsty coz you haven't had a drink for 7 hours, or the fact that you're not getting on too well with the triage nurse, or anything like that. (Sta24)

In summary, Factor C's negative experiences with, and views towards, e-learning have left them feeling frustrated and sceptical about its benefits in the learning process. Confirming Factor A's concerns about the university not providing enough incentives to encourage staff to adopt e-learning, Factor C identifies these issues as having influenced their choice not to further engage with it. Yet deeper probing also shows that extrinsic incentives may not be enough given the underlying scepticism about the benefits of e-learning and the value placed on clinical practice. This and their need to have a safe platform for experimentation suggests that Factor C would require more than the simple provision of time to access training.

					Factor D – Model Q-sort					

Most disagree -5	-4	-3	-2	-1	0	+1	+2	+3	+4	Most agree +5
#41 Technology is frustrating and detracts from learning	#9 The use of E has wasted valuable time	#29 E is a problem not a solution	#17 There should be no diff bet F2F and E teaching strategies	#18 E is contributing to commercial education	#13 E provides increased opp for social interaction	#7 The quality of all my modules would improve with E	#1 Innovative teaching is recognised at DON	#5 It is the lecturer's resp to cover all the module content	#3 It is the uni's resp to provide training on how to use E	#4 I do not have enough time to experiment with E
#15 There is no evidence that E improves learning outcomes	#12 When trying new things I need opp to make mistakes	#14 E is just a fad	#20 The best way for students to learn is finding things out for themselves	#19 I'm simply not interested in E	#22 Lecturer should talk and students should listen	#8 It is the lecturer's resp to learn how to integrate E	#25 Effective teaching is about giving learners more control	#10 The most imp barrier preventing use of E is a lack of training	#6 Students should take resp for their own learning	#24 Learning how to use knowledge is more imp than accumulating it
	#35 E threatens existence of HE	#48 Nursing students require basic IT skills before enrolling	#28 The essence of nursing is lost in E	#21 Student centred class too time-consuming	#27 WebCT is useful for posting notes to free up class time	#11 The decision to use E should rest with the lecturer	#36 In E the role of the lecturer is not less imp, it is just different	#32 F2F contact is the most crucial element of learning	#16 Communication is better in person than online	
		#23 It is unrealistic to expect students to take control of learning	#38 My uni gives me time to learn to use technology	#2 I prefer a lecture format	#44 I learn best when working in groups with my peers	#37 Reflection should be designed into all learning activities	#39 My uni provides me with reliable access to technology	#42 I feel like I have ownership over my modules		
		#26 Students won't come to class if notes are on WebCT	#45 E creates a disadvantage for those who struggle financially	#30 Podcasts decrease the value of the lecturer	#46 There are adequate incentives to use E at the DON	#40 21st century nurses need to know how to use technology	#43 Watching peers use E has inspired me to experiment with it	#33 Mentoring and peer support essential to learning process		
			#51 My subject area cannot be translated into E	#31 E is driven by economics not by learning	#53 Innovative teaching is frequently used in my classes	#49 Students can only learn nursing thru hands on experiences	#47 Active knowledge sharing at DON			
				#52 I use E because it is expected	#34 It is time to rethink how learning happens	#50 Modules should place greater emphasis on social learning				

E	E-learning
Imp	Important
Diff	Difference
Opp	Opportunity
Resp	Responsibility
Uni	University
F2F	Face-to-Face
DON	Division of Nursing
HE	Higher Education

6.3.4. Factor D - *The pragmatic*: E-learning extends traditional teaching practices

The table below shows the distinguishing statements for Factor D based on a significance of $p < 0.05$. The asterisk (*) indicates a significance of $p < 0.01$. The figures shown next to the column numbers represents the Z-scores:

Statements	A	B	C	D
#5: It is the lecturer's primary responsibility to cover all the module content	-3 ; -1.08	-1 ; -0.59	-3 ; -1.08	**+3;1.26***
#13: E-learning increases the opportunities for social interaction	+1 ; 0.59	-3 ; -1.10	-4 ; -1.45	**0 ; -0.16**
#21: A student-centred design cannot work in my class it is too time consuming	-3 ; -1.11	-5 ; -2.07	-5 ; -1.97	**-1 ; -0.31**
#48: Students should be required to have basic IT skills prior to enrolling on a nursing course	+2 ; 0.62	0 ; 0.00	+1 ; 0.44	**-3 ; -0.98**
#12: When I am trying something new I need an opportunity to test my ideas without worrying about making mistakes	+2 ; 0.84	0 ; 0.25	+5 ; 1.70	**-4; -1.53***
#15: There is no evidence that e-learning improves learning outcomes	-1 ; -0.59	0 ; 0.00	+2 ; 0.76	**-5 ;-1.69***

	Key for narrative abbreviations and symbols
(#; +/-)	Indicates the number of the statement and the value it was given on the grid
( )	Blanked out to protect identity
(text)	Clarifies the concept/issue being discussed or described
...	Identifies the removal of some original text to maintain flow and facilitate comprehension
F2F	Face-to-face

Factor D is defined by two females between the ages of 31 and 50, both qualified nurses with PhDs who have a primary responsibility within the DON to conduct research. One was recruited for her managerial role in the Division (Ops), while the other for her teaching role (Sta). The educator has completed the PGCHE and evaluates her computer skills as 'somewhat competent,' and the S &O participant has no formal teaching qualification and considers herself to be 'very competent' in her computer skills.

Factor D represents a mixture of the views described in the three previous Factors which, when combined, provide a unique response towards e-learning. Ostensibly positive about the place of technology in nurse education, Factor D resembles Factor A. However, there are also strong similarities with Factor B with regards to the value they place on face-to-face contact, as well as with Factor C in their identification of a lack of time and training as barriers to engaging

with e-learning. Factor D's most defining characteristic is their view that the nursing curriculum needs to be 'told' to students, thus conflicting with the current autonomous and self-directed paradigm.

Mildly interested in e-learning (#19; -1), Factor D does not consider it to be a problem (#29; -3), a passing fad (#14;-3), nor a waste of time (#9; -4). Yet, the reasons Factor D supports e-learning are far different from those driving Factor A. First, Factor D is ambivalent about the idea of rethinking how learning happens (#34; 0) and thus unlike Factor A does not perceive e-learning as an opportunity to challenge teaching practices. Whilst they do believe there is strong evidence supporting the use of e-learning (#15; -5); that nursing modules are adaptable to an e-learning format (#51;-2); and that it has the potential to improve the quality of their modules (#1; +1), this is because it is a convenient tool used to supplement what they cover during class time:

> *Yeah, I think it...could supplement what I do...Or what I speak to them about in class so they can then use it after...before as prep and after as a kind of top-up or add-on to just give it a bit more strength.* (Sta09)

Factor D's view of e-learning as a useful addition to nurse education is its ability to serve as a repository for module materials and a tool for supplementing face-to-face teaching, but not to challenge traditional approaches to teaching as seen in Factor A. This is because Factor D sees it as their duty to cover all the module content (#5; +3) as this relates to their sense of professional responsibility to develop safe and competent nurses:

> *I like a traditional lecture format in the fact that they're there listening to me* (laughs)*...Sometimes the lecture does require that I have to say to them listen, I'm sorry but this is how it's got to be...I think one of my main jobs is to ensure that the curriculum is delivered...So I think that is a prime responsibility.* (Int: Do you think saying it is more effective than guiding students to a resource that's online?) *Yes, I would. I suppose I feel there are core elements of the aims and objectives of the session that I would definitely want to know that I had provided face-to-face...I wouldn't want to replace that.* (Sta09)

Yet Factor D espouses some similar pedagogical beliefs as found in the three previous Factors. Like the other Factors, students are considered to be adult learners and responsible for taking control of their own learning (#6; +4) and educators should be giving up control (#25; +2) to allow their students to learn how to use knowledge rather than simply accumulating it (#24; +5). Yet differences become apparent because Factor D (like Factor C) does not agree that the best way for students to learn is by finding things out for themselves (#20;-2). Nor does Factor

D (like Factor B) see technology as a method for facilitating collaboration and communication, since communication is perceived as better in person than online (#16; +4) and face-to-face contact is considered to be the most crucial element of the learning process (#32; +3). As suggested in the following comment, the emphasis placed on face-to-face communication has to do with the type of students attracted to the nursing profession:

> *I think building up a relationship and a rapport...facilitates learning. So if students get an opportunity to see you and realise that you're quite knowledgeable about your area of expertise rather than it just being...faceless you know...when they meet me in face-to-face, they can find out about my clinical background...and it kind of validates, gives me role legitimacy in a way...Face-to-face again, it's about me seeing how they're interacting and if I feel they're kind of getting it...* (Sta09)

There is a concern that students might not know what they need to learn hence it is the educator's responsibility to tell them those areas considered critically important. It is the sharing of professional experiences with students that is seen as a critical element facilitating the learning process in the classroom. Social learning between students is also acknowledged (#50; +1) as an opportunity to share stories from clinical practice in a face-to-face context:

> *I think the thing with nursing is because it's a physical thing that you do and you are as a nurse. I think that my clinical experience is something that you cannot replicate with technology...The art of nursing is the thing that you bring...I think that the reason I am in nursing, is the reason I put those things (*pointing to the statements) *there. I think if it wasn't that I was a nurse by background, that whole relationship and contact intimacy I think that you have with students wouldn't be such a priority...* (Sta09)

For Factor D (like Factor B) the physical interaction between other students and the educators is something students value as much as lecturers. Factor D's experiences have shown that even when materials are placed online, students prefer coming to class to hear it directly from the lecturers:

> *There's a great resource for portfolios and I spoke to them before they went out to practice...and I said if you go online there are so many e-resources about portfolio development and I showed them and I said look at this. And still after I got emails saying, 'can you do a session on it.' They want you to tell them.* (Sta09)

It is interesting to note that while Factor D appears to be more positive about e-learning than Factors B and C, they are using it in the same way. Thus what differentiates them is their definition of e-learning, rather than their use of it. While Factors B and C do not consider the use of WebCT to post lecture notes as constituting 'e-learning,' Factor D does.

As seen with the three preceding Factors, Factor D considers it to be Hillgate's responsibility to provide the necessary training for staff (#3; +4). Like Factor A, however, lecturers have a responsibility to learn how to integrate e-learning into teaching (#8; +1). While Factor D (like Factor C) confirms a lack of time (#4; +5) and a lack of training (#10; +3) as the biggest barriers preventing them from further engaging with e-learning, they also recognise it as their choice not to make the time. Although Factor D agrees that not enough time is given to them by the institution (#38; -2), they explain this to be related to their primary job responsibility as researchers, placing e-learning low on their list of priorities:

> *I don't want to blame the university for giving me sufficient time...It's more my priorities in that I would rather do my research. I'd rather be putting in a grant application or writing a publication rather than worrying how to use e-learning...because that's what my contract is about...* (Sta09)

Perhaps related to their research experiences, Factor D does not have the same concerns as Factor C regarding the need for a safe platform for experimentation. Their experiences with the scientific process of peer review and critique in research have crossed over into teaching, thus providing Factor D with the confidence to try out new things without worrying about making mistakes (#12; -4):

> *No, I make mistakes all the time. That's how I learn. I can't imagine how an academic can go through and not make mistakes. I can understand how people might worry about it…and it might be confidence… (*Ops 27)

In summary, Factor D is defined by nurse educators appointed to fulfil a research contract, whilst maintaining a light teaching load. Since developing a teaching portfolio is low on their priority list, learning more about e-learning has been seen as time taken away from a responsibility on which their job depends. Although a lack of time and training are identified as barriers inhibiting the integration of e-learning into their teaching, this relates to their job description. Even if more time were provided, it is unlikely they would use technology differently given their underlying pedagogic beliefs. Factor D sees e-learning as a pragmatic extension of their current teaching practices, not a tool to challenge traditional pedagogies. This is due to their responsibility to develop safe practitioners, the nature of their profession and the types of students nursing attracts.

		Consensus Statements								
Most disagree -5	-4	-3	-2	-1	0	+1	+2	+3	+4	Most agree +5
		#23 It is unrealistic to expect students to take control of their own learning	#18 E-learning is contributing to the commercialisation of education	#45 E-learning creates a disadvantage for those who struggle financially		#1 Innovative teaching is recognised at the division of nursing	#53 Innovative teaching techniques are frequently used in my modules	#33 Mentoring and peer support are essential to the learning process		
		#35 E-learning threatens the existence of traditional higher education	#26 Students won't bother coming to class if lecture notes are posted on WebCT			#39 My university provides me with reliable access to technology				
						#42 I feel as though I have ownership over my modules				
						#47 There is an active knowledge sharing community at the division of nursing				

6.4. Consensus Statements

Despite the differences distinguishing the four Factors there are also some issues on which they agree. Consensus statements are those that all the participants in the four Factors ranked in approximately the same place on the grid when completing the Q-sorts. The table below identifies the consensus statements in the left column and some supporting comments in the right column.

#45 Requiring students to use e-learning creates a disadvantage for those who struggle financially (-1 column)	*I know students struggle financially, but I don't think that this is a particular factor... there is really good access to the library and to computers...* (A/ Sta03)
#35 E-learning threatens the existence of traditional educational institutions (-3 column)	*I think you're always going to have traditional learning...e-learning could potentially open up a whole other market of accessibility for people who wouldn't have traditionally have been able to come to university and particularly in terms of mature learners. So I don't think it threatens the existence, it could potentially afford them greater opportunities.* (A/ Sta14)
#26 Students won't bother coming to class if materials are placed on WebCT (-2 column)	*I think you'll have a mixture of some that always will, some that never will and some never used to come to class even when we didn't have WebCT material...I don't think putting stuff on WebCT influences attendance.* (A /Sta03)
#18 E-learning is contributing to the commercialisation of education (-2 column)	*I disagree with that because there are so many different factors...It's already commercialised because it's a business.* (C/ Sta05)
#1 Innovative teaching is recognised at the division of nursing (+1 column)	*How do you define recognised? 'Oh yes that's different' or, 'Oh yes, have something for it because it's been really good'? I think that is recognised at the (DON), but it's not necessarily rewarded.* (A/ StaEM06)
#39 My university provides me with reliable access to technology (+1 column)	*Within (Hillgate) there's a really good set-up...things have moved on. Five years ago we used to have quite a lot of problems with IT systems crashing, not being able to get stuff, but that's been sorted gradually over the years and I rarely have any problems now.* (A/ Sta3)
#42 I feel as though I have ownership over my modules (+1 column)	*I think most staff would say that we're given a fair amount of flexibility and control over what we teach and how we teach…on the whole you can pretty much do what you want as long as you can demonstrate that it would meet the learning outcomes.* (C/Sta05)
#33 Mentoring and peer support are essential to the learning process (+3 column)	*I think part of the problem is that we all need to learn the processes relatively new in online learning and it's only as good as the information you're aware of... There are experts that you can go to but it's not built into the system.* (A/Sta20)

#47 There is an active knowledge sharing community in my school (+1 column)	*I think there is an active knowledge sharing community but I don't necessarily think everybody's a part of it...there are lots of different communities within the school sharing different knowledge in different activities...*(D/ Ops27)
#23 It is unrealistic to expect students to take control of their own learning (-3 column)	*I think students need to take control of their own learning, to develop skills to keep learning once their qualified and once they don't have a teacher* (B/ Sta18)
#53 Innovative teaching techniques are frequently used in my courses (+2 column)	*I'd like to think so. I know I often do things and I think that's just normal and then I'll discover it may not be...I try to use a variety of ways of teaching...*(A/ StaEM13)

The consensus statements provide insight into those issues on which all the participants agreed. That all the participants agreed on the following issues is significant and reflects a sign of the times and the ubiquity of technology. Statements #45 (*requiring students to use e-learning creates a disadvantage*) and #39 (*my university provides me with reliable access to technology*) both placed in the negative columns demonstrates that technology is now more available and more robust, ceasing to be an issue preventing e-learning adoption. Furthermore, statements regarding e-learning and its impact on education, such as #18 (*e-learning is contributing to the commercialisation of education*) and #35 (*e-learning threatens the existence of traditional educational institutions*), are not considered as direct barriers rather they are a symptom of wider societal changes.

The four Factors agreed that mentoring and peer support were essential to the learning process #33 (*Mentoring and peer support are essential to the learning process*)**,** yet the comment suggests that mentoring should be built-into the system. While there was consensus around the presence of an active knowledge sharing community in the DON #47 (*There is an active knowledge sharing community in my school*) this statement was placed in the neutral column by Factors A and C. This is most likely because, as the comment suggests, while there are avenues available for staff to share their knowledge with others, not all staff make use of them. Not placed high on the Q-sort grid, it exists but with room for improvement. Similarly, while innovative teaching is 'recognised' at the DON #1 (*Innovative teaching is recognised at the school of nursing*), it is also acknowledged that 'recognition' does not necessarily translate into tangible rewards.

Although all four factors arrays showed similarities in the placement of the statements relating to student control and learner responsibility, only one statement was identified as *statistically* significant in its indication of consensus. The placement of statement #23 (*It is unrealistic to expect students to take control of their own learning*) in the negative column of the Q-grid demonstrates the expectation that students can and should assume responsibility for their own learning.

6.5. Summary

This chapter has presented the results of a Q study exploring the factors influencing e-learning adoption in a nurse education context. The objective was to better understand e-learning adoption in nurse education by using Q to reveal how various expressions of professional *habitus* had responded differently within the *field*. To review, Factor A believed that e-learning had the potential to improve nurse education and saw technology as a trigger for reconceptualising the relationship between educators and students. Factor B, although espousing similar pedagogical beliefs, had had limited experiences with e-learning. This was because they considered face-to-face interactions as a critical aspect in learning and that their teaching was not best expressed through the medium of technology. Factor C's negative experiences had contributed to an underpinning scepticism about the value of technology in improving learning outcomes. These doubts, coupled with their frustrations with technology, decreased their motivation to further experiment with e-learning. Finally, Factor D, although ostensibly similar to Factor A in their positive views towards technology, demonstrated differences in their underlying pedagogical views. Factor D valued face-to-face contact because they considered it their responsibility to 'cover' certain material to ensure safe nursing practice. For Factor D, e-learning was primarily a vehicle for extending and reinforcing content covered in class.

In the next chapter these views will be examined more closely as *expression of shared habitus* against the backdrop of the case study developed in Chapter 4 using post-sort interviews and the wider literature. Each Factor will be examined in light of their different views towards the image of nursing, their pedagogical beliefs and the role of e-learning in nurse education. The tension between individual and institutional factors will then be examined more closely.

Chapter 7. Discussion

7.1. Introduction

The goal of this research study was to examine e-learning adoption differently than the vast majority of studies undertaken thus far. It was surmised that an in-depth socio-cultural approach could provide insight into this complex phenomenon, moving beyond the 'at-face-value' issues identified in many surveys and cross-disciplinary studies.

The specific objectives were:

1) *To identify whether pedagogical beliefs, academic culture, nurse culture and social networks were influencing responses to e-learning in a nurse education context*;

2) *To examine the relationship between individual and institutional factors on responses to e-learning in nurse education and form recommendations for education practice and policy*;

3) *To explore the use of Q-methodology as a method for eliciting expressions of habitus in the context of a research study using Bourdieu's Theory of Practice*;

4) *To use Bourdieu's theoretical framework as a lens to interpret the Factors identified using Q-methodology*.

This chapter will argue that the four Factors' responses to e-learning reflected deeper concerns related to nursing as a profession in the midst of radical change. Through the case study and the Q Factors, the results exposed the variety of views that exist towards the use of technology in nurse education. These perspectives were shaped by the four groups' image of 'the nurse' and what they perceived to be the most appropriate strategies for developing required nursing skills. Moreover, this study confirmed a lack of awareness surrounding e-learning technologies and how they might best be harnessed in the classroom to meet learning objectives.

Although previous research identified perceived usefulness (PU) as a significant predictor of technology adoption (see Chapter 2, section 2.3.2) these findings did not provide additional insight into what made the technology seem 'useful' (Straub, 2009). As Straub (2009) observed, what was lacking was an understanding of how individuals judged usefulness

when determining whether to adopt e-learning. This study addressed this by identifying the four Factors' perceptions of e-learning's 'value' (or lack of, in many cases) and the influence this had on their motivation to engage with technology. Indeed this study has discovered much that was previously unknown about responses towards e-learning and adds to our knowledge in a unique and important way. Whilst the findings identified in this study concur with the barriers and facilitators found in the literature, the results add to our understanding of e-learning adoption by showing why certain individuals overcome barriers to e-learning whilst others succumb to them.

To explore how the four Factors as *expressions of shared habitus* came to respond so differently within the *field,* they will be examined in light of the socio-cultural context that shaped them. Drawing on the case study material from Chapter 4, the factor arrays, interview data and supporting literature the first part of this chapter will discuss the Factors' views toward the changing image of nursing, their beliefs about the most appropriate teaching methods and the place of e-learning in the nursing curriculum. This will be followed by a discussion about how each Factor's responses to these issues determined how influential institutional and individual factors were perceived to be. The chapter will conclude with a brief summary. Chapter 8 will then provide a more detailed appraisal of the research design and discuss the wider implications of the findings.

7.2. Q Factors as expressions of shared habitus

As described in Chapter 3, the relationship between *field* and *habitus* operates in two ways. On the one hand, the *field* conditions the *habitus* as 'the product of the embodiment of the immanent necessity of the *field*' (Bourdieu and Wacquant, 1992, p.127), while on the other hand, *habitus* creates the cultural framework through which individuals make sense of the *field*. In other words, *habitus* is developed through individuals' embodied social experiences, backgrounds, professions, personal circumstances and access to *capital*, yet through their interactions within the *field* they are also creating and defining this structure. Although individuals' responses within the *field* are not always actively reflexive, this study sought to explore Q-methodology's potential to examine these 'taken-for-granted' behaviours within the *field* as *expressions of habitus.* As such, each Factor's interpretation aimed to ascertain the underlying *habitus* shaping their expression.

It is recognised that creating average descriptions of *habitus* and claiming these represent the wider population would result in inaccurate (and in Q terms, inappropriate) generalisations. The purpose in this study was to examine how each *expression of habitus* could shed light on the different responses to e-learning that exist within the *field*. This was not to claim causality, attribution or make predictions, but to better understand e-learning adoption in nurse education by contextualising responses within a socio-cultural framework, as well as explore the use of a novel approach for operationalizing one of Bourdieu's theoretical concepts.

Table 18 briefly revisits the four Factors' monikers for easy referencing during the discussion and provides the outline of the four 'isolated' *expressions of habitus.* This chapter will illustrate some of the ways in which the four Factors were interconnected but also draw attention to how they have responded differently within the *field.*

Table 17: *Q-Factor monikers and descriptions*

Factor A	*The e-advocate*	E-learning can transform nurse education and develop contemporary professional nurses
Factor B	*The humanist*	E-learning hinders communication and prevents the development of person-centred nursing
Factor C	*The sceptic*	E-learning does not improve nurse education and cannot develop clinically competent nurses
Factor D	*The pragmatic*	E-learning can reinforce what is covered in class but socialisation into nursing requires face-to-face contact

7.2.1. 'The nurse' image: (Re) defining nursing

The evolution of nursing practice and the nurse's role in the healthcare setting broadly mirrors the four different images held by the Factors in this study. Factor A envisioned a technologically-savvy nurse who held the qualities of a leader, while Factor C reflected Nightingale's vision of nursing, placing more emphasis on the development of clinical skills. Factor B's image, on the other hand, was based on nursing's essence as centred on human-contact and the development of the therapeutic relationship. Although both Factors B and C considered hands-on patient care as the 'proper work' of nurses (Timmons, 2001), the emphasis on the former was on building relationships (emotional), while the emphasis on the latter was the provision of direct clinical skills (physical). This reflects the wider

shifts in the *field* described in Chapter 4 when nursing moved from 'holistic' person-centred care to 'competencies' and outcome-based care. This shift was the result of the *Making a difference report* (DOH, 1999) demanding nurses who were more responsive to the NHS' needs. Finally, one of the characteristics of Factor D was that albeit recognising the need for clinical practice they did not feel that the current healthcare system facilitated the modelling of best-practice and thus felt a responsibility to cover essential elements in their classrooms, as will be discussed in a later section.

Discussing professional identity, Schein (1978) proposed that individuals' views of their profession were influenced by a relatively stable and enduring set of attributes, beliefs and experiences. Yet in nursing, the role and image of the nurse has been in constant flux since the earliest days of the British nurse education system at St. Thomas' Hospital in 1860 (Ousey and Johnson, 2007). From the earliest incarnation of nursing as a woman's 'vocation' aimed at developing moral character (Rafferty, 1996) to today's highly autonomous and clinically skilled professional, there have been massive shifts in the image of 'the nurse.' This has led to understandable confusion surrounding the role of nurses, both by laypersons but also by other members of the healthcare team (NMC, 2010; Prime Minister's Commission, 2010).

Recalling the day the NHS was born in 1948 a recent report described how different nursing had been then, with care structured around a series of tasks as likely to involve 'dust-busting and scrubbing bed-pans as bed-baths and taking temperatures' (Prime Minister' Commission, 2010, p.39). Female nurses wore starched uniforms more suggestive of domestic service than a profession and a 'complicated coding of belts, badges, caps and dresses denoted their strict hierarchy' (Prime Minister' Commission, 2010, p.39). Today the nursing profession continues to retain its inherited public image belonging more in the 19th century and reminiscent of the 'lady with the lamp, the ministering angel' (Meerabeau, 2006; Prime Ministers' Commission, 2010). This out-dated stereotype reveals that there is still widespread ignorance surrounding nursing, with many perceiving it as menial work that requires empathy but not expertise and that nurses are overworked, underpaid, stoic, passive, female and handmaiden's to the doctor (Rafferty, 1996; Meerabeau, 2006; McNamara, 2009; Prime Ministers' Commission, 2010). To respond to its confusing public image, the Royal College

of Nursing published a report, *Defining nursing* (RCN, 2003)*,* with the primary aim of clarifying the profession's role. According to the RCN (2003), nurses embody a set of 'defining characteristics,' which while overlapping with the role of other healthcare practitioners, when combined defined the uniqueness of nursing.

Henderson (1991) over twenty years ago described nurses as independent practitioners able to make judgements, as long as these did not include diagnosing, prescribing treatment or making a prognosis, since these were physicians' functions and nurses authority was on 'nursing care.' Today, nurses have taken on many of these 'physicians' functions,' and in doing so have also, in many cases, abandoned the time spent at the bedside and their authority on 'nursing care,' leaving these duties to unqualified staff (Ousey and Johnson, 2007; Carr, 2008). These changes in nursing practice have inevitably had an impact on nurse educators who ultimately must prepare future nurses to fulfil their new roles, whilst also remaining committed to their own personal vision of what a 'nurse' ought to be.

As described in Chapter 6, the participants in this study included a range of ages and were both nurses and non-nurses. This wide range of experiences and perceptions of nursing influenced their view of 'the nurse' reflecting the many images of nursing that have accumulated over the years. For Factor B, the placement of statement *#28 The essence of nursing is lost in an e-learning environment* in the +5 column pointed to their definition of the nurse as embodying the physical connection with the patient. For the three other Factors, the definition of nursing was more ambiguous. Factor A, recognised the lack of consensus surrounding the nurse's image noting that nursing was "*such a nebulous concept anyway, it's constantly debated and no one really knows*" (A/Sta2). The debate was seen as influenced by the rising presence of technology in nursing in the 21st century, which was becoming "*a very significant part of being a nurse*" (A/Sta2).

Factor C agreed that the actual essence of nursing was difficult to define: "*I'm not quite sure what the essence of nursing is. I mean, neither are nurses, we call it a profession but it's actually sort of cobbled together from lots of different professions, from dieticians, to physiotherapists, you know a bit of junior doctor stuff, bit of cleaning lady stuff*" (C/Sta24). On the other hand, Factor D, composed of research nurses responsible for developing the evidence-base that 'defines' nursing , perhaps unsurprisingly dismissed these disputes by

arguing: "*Oh god, this whole thing 'what's nursing?' I'm sorry the debate just runs and runs and I don't hear many doctors say, what's a doctor?*" (D/Ops27).

Consequently, variations also existed among the four Factors' views about what particular skills ought to be emphasised when developing future nurses. Factor A, for example, saw nurses as more than just demonstrating pure clinical skills, but rather including the "*ethical practice, ethical judgement, ethical reasoning*" (A/Sta8). Another participant saw nurses as requiring "*skills in terms of graduates being leaders, being research aware and research active, being creative thinkers and problem solvers"* (A/Ops16). This new emphasis on the 'knowing' rather than just the 'doing' was one of the main differences in nurse education since entering HE. The 'traditional' approach (the old *field*) had been linked to the 'apprenticeship' model when nurses were trained in NHS colleges and which had been "*much more about training hands-on*" (A/Sta3), and that in the "*old days of nurse training…you did stuff but without really knowing why you did it. You did it basically because you were taught that way…we spent obviously far more time in practice. So it was rare that the theory behind it was explained to you*" (A/Sta3). Recognising the influence of these historical origins on their colleagues' views, especially in relation to technology, one participant noted, "*it's all about hands-on, it's all about touchy-feely (*smiles*)…and a lot of people can't accept that they're learning in a different way, they're learning newer skills, different skills. Yes, you need touchy-feely in practical nursing…and you have to go out into practice and learn some of those skills, but it can be enhanced through e-learning*" (A/Sta20).

Factor B, on the other hand, placed greater emphasis on a different set of skills. According to them it was '*really important*' for nurses to know how to "*understand people's emotions and how to work with that, to be able to work with people effectively in practice*" (B/Sta18), and that nurses became 'nurses' "*…not by the doing*" but by "*reflecting on the doing*" (B/Sta33). Indeed IT skills were peripheral because while it might be '*frustrating*' if individuals did not have computer skills "*…it's not the end of the world. I'd much rather have a student who's useless at technology but that actually got the point of nursing and inter-professional skills and understands the human condition…*" (B/Sta33). This was because "*the essence of nursing is about people skills and having that quality time to spend*

with people…I'd like to see that side happening rather than focusing on the latest technology and learning how to use that. ... I still think nursing is about the people that you work with and the relationships you have with them" (B/Sta18).

Like the 'Traditionalist' group identified in Akhtar-Danesh *et al.*'s (2009) Q-study on nurse educators' views toward simulation, Factor B's attachment to face-to-face contact was connected to the inherent notion of what it meant to be 'a nurse' (Farrell and McGrath, 2001). As discussed in section 4.5.2, the image most representative of the profession has been that of 'the caring nurse.' It is this image and the attributes connected to it that have formed part of the attraction towards nursing. According to Beck (2000) and Boughn and Lentini (1999), it has been the desire to indulge in human contact and join in a collective concern for the well-being of others that attracted a number of individuals to the profession. Indeed, as seen in Factor B and Akhtar-Danesh *et al.*'s (2009) 'Traditionalists', the philosophical heart of nursing has been its high level of social engagement (Kiteley and Ormrod, 2009). As such, in nurse education human contact and the development of interpersonal relationships were seen as vital to the learning process and hence not conducive to technology.

Factor B's views also echo Sandelwoski's (2000) description of the 'Romantic' view of nursing as equating to femininity, including the embodiment of nature, nurturance and caring. Technology, on the other hand, is associated with masculinity, power and control over nature (Sandelwoski, 2000). Factor B's views were representative of those nurse educators who perceive the nursing touch as expressing a unique paradigm of care, with technology depicted as a force for the dehumanisation of both patient and nurse (Sandelwoski, 2000). These distinctions parallel the tensions between nursing and medicine, as noted in Chapter 4, with the former trying to disassociate itself from the latter, leading both medicine and technology to be perceived as 'other' to nursing.

Since Factor B is composed of mental health nurses it might be suggested that the limited presence of technology in their branch had influenced their views (Fetter, 2009). Yet the identification of the 'Traditionalists' in Akhtar-Danesh *et al.*'s (2009) Q-study, and the fact that there were also mental health nurses loading on Factor A, shows that technology was not an anathema to all educators on the mental health branch, just as not all nurse educators

on the adult branch were enthusiastic about technology. Instead, these differences in views are an *expression of habitus* resulting from lived experiences and how the Factors had navigated the *field.* Technological skills, while obviously perceived as valued *capital* for Factor A were not for Factor B as this detracted from the 'proper' work of nursing (Timmons, 2001), which was the development of the nurse-patient relationship.

For Factor C, on the other hand, nursing's core value was the development of competent clinical skills acquired through hands-on physical contact with the patient. This view closely reflected Nightingale's view of nursing. Nightingale believed that nurse training should be practice-based, with little emphasis on academic, or 'book,' learning. This was because 'nursing proper could only be taught at the bedside and in the sick room or ward' (in Rafferty, 1995, p.143). While Factor C recognised that nurses in the 21st century needed to be competent in the use of technology because "*technology's become part of practice*" (C/Sta12), this was a sign of resignation rather than an enthusiastic embracement of it because "*Global Warming is here to stay too and I'm not thrilled about that either*" (C/Sta24).

Both Factors B and C considered contact with the patient as essential for developing the therapeutic relationship and the clinical skills future nurses would need to practice competently. This influenced their views toward technology as it was not seen as able to meet these particular objectives. This relationship with technology has also been noted in Bond *et al*. (2009) who identified similar views held by nurses towards computers in clinical practice. These nurses made comments such as, "patient care giving is a very direct physical contact thing isn't it, getting on a computer (is) a separate issue" and "time on the computer is just time away from the patient and I'm always going to put them first" (p.3). These quotes show that for many nurses in practice, computers are seen as detracting from patient care rather than contributing to it. As such, nurses do not perceive technology as being part of clinical skills and thus do not recognise it as a form of nursing *capital* (Bond *et al*., 2009).

Factor D's image of the nurse most reflected the one described in the Prime Minister's Commission report (2010) which pointed to a time when leadership on the ward was established by the 'ward sisters.' This was a time when nurses had a 'clear, unshakeable understanding of their role' (p.39) having trained in hospital schools of nursing and spent

much of their time in practice. While the move to academia was accepted as an opportunity to improve care and the image of nursing through research, the changes that had occurred in the wider *field* had negatively impacted nursing care in the clinical setting, making it challenging for nurses to model this evidence-based practice:

> *In the last 15 years there has been a mismanagement of the healthcare service...but also within wards... the traditional role of the sister and her ward and how she ran it, that doesn't exist anymore… That culture of the ward and how it runs is very much dependent on who is leading the ward...And that's what's different now....So I think the learning that happens here is not the issue, it's practice.* (D/Sta9)

Factor D's concerns have been supported in the literature with the clinical setting regarded with ambivalence, 'being once feared and revered' (McNamara, 2009, p.1574). The fear has stemmed from its disempowering influence on nursing students, with its 'damaging inappropriate culture,' risking not to produce the kind of practitioners desired (McNamara, 2009, p.1574). The reverence, on the other hand, is the reluctant acknowledgement that the clinical setting is the key site for the acquisition of nursing knowledge and skills (McNamara, 2009).

In summary, the four Factors' reflected different images of 'the nurse,' each image with its own emphasis on particular nursing skills. Dissimilarities among the four Factors were a result of the diverse ideological systems on which they drew, causing them to perceive events differently (such as the advent of technology in the clinical and educational setting). The variations in the image of 'the nurse' and the skills required consequently influenced the teaching strategies the four Factors embraced. This ultimately influenced their pedagogical approaches and the role e-learning was seen as playing in the nursing curriculum, as will be discussed in the next two sections.

7.2.2. Nursing pedagogy: Enabling or empowering?

As just shown, different images of 'the nurse' co-existed within the DON at Hillgate, with each Factor attributing a different valued skill-set to their 'image.' While the findings identified similarities among the four Factors' pedagogical beliefs, there were differences in their views about the final 'product,' and thus differences in the tools perceived as capable of 'developing' that product. When discussing nursing pedagogy, it is important to emphasise that nurse education has both a theoretical and a practical component, thus when

discussing teaching strategies the two should be distinguished. Although this study focused on the 'theoretical' element of nurse education in the academic setting, it is worth spending some time examining the four Factors' views on the clinical component occurring in practice.

7.2.2.1. In the clinical setting

All four Factors recognised the absolute necessity of nursing students spending at least 50% of their time developing their clinical practice skills. While differences existed in the role technology should play in developing clinical skills, there was no question that nursing was a 'practical profession.' Factor D, for example, despite their reservations about students' experiences in clinical practice, still viewed the hands-on element of the curriculum as necessary to socialise students into the profession. This was because clinical skills were only developed and honed through practice, "*it's a little bit like when you learn to drive, you only really learn to drive once you're qualified…and it's only once they're out in practice doing all the actual hands-on stuff that it all falls into place*" (D/Sta9). Moreover, "*…you can't learn it all from books, you need to be out there interacting with patients and working in the healthcare culture.*" (D/Ops27). For Factor B, clinical practicum was an opportunity for students to have '*quality time to spend with people'* but also for students to experience "*observation learning, when you see somebody in practice…and by observing them out in practice you can copy their skills*" (B/Sta18). As previously mentioned, Factor B's views reflect the 'Traditionalists' in Akhtar-Danesh *et al.*'s (2009) Q-study. This group had felt that students did not have sufficient access to real people and insisted that they would not want to replace real practical learning with simulation. They disagreed that this technology helped students get more comfortable with the nursing role and felt strongly that simulations did not help students learn about communication or prepare them for clinical placements (Akhtar-Danesh *et al.*, 2009, p.320).

Similarly, clinical experiences and experiential learning were valued by Factor C, "*...there's lots of skills that unless you do it and have to interact with people that you won't fully understand them*" (C/Sta5), and "*if you're going to be a nurse, it depends on the nursing experience you get. So, it's about working with people and you can't do that in a classroom… I think it's the connection with the client, the practical experience*" (C/Sta12)

(emphasis added). The significant value placed on socialisation by both Factors C and D points to clinical practice as the lynchpin of nurses' professional identity. This has been the argument of those who claim that the academic element of nursing has resulted in students who do not 'care' for patients as well as those who were once trained within the NHS; an issue that has led to the 'present malaise' (Watson and Thompson, 2004, p.73). This was emphasised by Factor C who stated, "*I think we need to spend more time on practice-based learning, or how to learn from the practical experiences*" (C/Sta12). These issues reinforce the confusion related to what it is that nurses 'do,' their changing role and the wider influences of the *field* on nursing practice.

Whether nurse educators should be predominately located in practice or academia has continued to be a point of debate, implying that some nurse educators have not readily accepted nor adapted to the new *field* of academia (Kenny *et al.*, 2004). This has contributed to the disagreement over the ultimate 'product' of nurse education. McNamara (2008) explained this conflict as linked to some nurses perceiving their work as sacred, but whose 'essence was being corroded by the drive to academicise the non-academic' (p.465). Yet as seen through Factor A, there are also nurse educators who embrace the theoretical foundations in nursing curricula as essential for developing the critical thinking skills nurses need to develop their evolving role (Chambers *et al*., 2010).

7.2.2.2. In the classroom

It is in classrooms across schools of nursing in the UK that the academic (or theoretical) element of the nursing curriculum is delivered. As discussed in Chapter 4, having entered HE with either teaching or research focused contracts, nurse educators had to adapt to the rules in the new *field* and many abandoned their clinical skills to acquire the valued forms of *capital*. Hence, many nurse educators in HE are no longer practicing nurses.

Although the form of *capital* most highly prized in Russell Group HEIs has been research, teaching has increasingly become a topic of interest, slowly contributing to its *capital* worth. Chapter 1 introduced the current educational discourse calling for a revolution in education and a challenge to traditional teaching strategies, placing greater emphasis on learner autonomy and self-directed learning (SDL). The nursing literature is replete with calls for a 'disavowal' of the behaviourist paradigm that is argued to have produced

generations of passive learners incapable of instigating much-needed reforms within the healthcare service (Romyn, 2001). This espousal of SDL was reflected across all four Factors through the common thread of 'internalised' learning, only perceived as achievable when students took more control and responsibility. Factor A, for example, linked the current discourse in education to the changing nature of nursing:

> *We're going into a time of change. Nursing is going to become a degree curriculum...I think we need to revisit and think about what it is we want to produce at the end of it and how and why that person might be different from the people we produce now... and we need to think about how they develop those skills through our educational processes...And I think that a student-centred approach and e-learning and problem-solving and inquiry-based approaches have to play a significant part in that. Not a kind of passive attending a lecture approach* (A/Ops16).

It is important to point out that although all four Factors (particularly Factor A) supported autonomous learning, none of the Factors interpreted this as a complete relinquishing of responsibility. The differences between the Factors related more to the degree of structure and support provided to students rather than whether or not structure ought to be provided at all. Factor A perceived it as '*our role as lecturers to monitor that learning to an extent*' (A/Sta3). It was the lecturer's responsibility to make students '*aware of the module content, the range and the scope, but certainly not to cover it all in detailed lectures*' (A/Sta3). This need for close guidance when designing self-directed learning has been noted in the literature as essential for student success, despite misconceptions that SDL is simply telling students to figure it out for themselves (see Malik and Shabbir, 2008; Kocaman *et al.*, 2009).

Despite this consensus, however, there was accompanying evidence pointing to underlying reservations about applying these beliefs in practice due to the perceived risks in allowing students to direct their own study and choose diverse paths that may be inconsistent or in conflict with course objectives (Leyshon, 2002). This was evident in comments such as, "*if you leave students too much to go and find stuff out, some of them won't find the right thing out...there will always be self-directed, it's a good thing, but we need an element of monitoring that*" (A/Sta3) and "*I like the idea of them findings things out for themselves but only once I've had my hands on them...so it's back to this teaching them how to learn...not just off you go...because particularly with nursing, at the end of the day an academic*

qualification but also a professional qualification" (D/Sta9). Factor B, similarly, felt students needed the right guidance "*they* (the lecturers) *still need to make students aware of what needs to be covered…not actually spoon-feeding them, but outlining what they need to know by the end of the module"* (B/Sta18). For Factor C, there was a need to "*have an expert show you the landscape and point out the key landmarks and explain how it all fits together, even to create a landscape…but I just think that at some point someone needs to explain it to you in a way that you couldn't just read it"* (C/Sta5). The sense of responsibility felt by educators has been echoed in Carr (2008) in comments made by nurse educators relating to 'letting them (students) loose on the public' as being a completely different responsibility than those teaching a degree in History (Carr, 2008).

The tension between the reality of teaching practice and the current educational discourse calling for learner-autonomy has also been addressed in Darbyshire and Flemming (2008). They noted that the push towards student autonomy and empowerment were the results of changes occurring in the wider *field,* yet many students resisted these changes because they were accustomed to didactic teaching styles (Darbyshire and Flemming, 2008). Students were more comfortable being told what they needed to know rather than making the difficult decision of determining their own learning needs. This was noted by Factor C who said, "*quite often in nursing our students expect to be a bit more spoon-fed"* (C/Sta5); and Factor D, "*they just want to sit there like they do at school and be given it all"* (D/Sta9). This has also been identified in Hughes (2009) discussing students across HE more generally, who pointed out that students' 'default expectation' is consistency with their school experience and a continuation of 'traditional learning methods in which personal, face-to-face interaction forms the backbone' (Section 50) and was what students believed they were paying for (Section 54).

Others have suggested that not all students are willing to, or equally skilled at making decisions about what to learn and to what depth and breadth (Leyshon, 2002: O'Shea, 2003; Norrie and Dalbie, 2007; Darbyshire and Fleming, 2008). This view challenges the current educational discourse and the assumption made in much of the HE literature that all students are capable adult learners motivated to undertake learning 'in a spirit of enquiry' (Norrie and Dalby, 2007, p.320). To test the accuracy of these assumptions, Norrie and

Dalby (2007) used a questionnaire based on Knowles' (1998) andragogy model. Of interest was that their findings suggested that rather than progressing towards an adult learning style, that nursing students were actually 'regressing from andragogy' (Norrie and Dalby, 2007, p.327).

The results from this current study suggest that tensions arising from SDL were also related to a concern that many students misunderstood it, seeing it as a 'cop-out' by nurse educators because students '*may not want more control*' (C/Sta5) and hence saw SDL "*as a FO-FO style of learning as they call it* [F---Off and Find Out]. *It's making them do their own learning…coz they see it as we're not taking responsibility for teaching*" (C/Sta12). In response to students' misunderstanding of SDL and reluctance to embrace it, some of the Factors demonstrated accommodating behaviours. For example, Factor C noted that "*students expect something different and I'm reasonably comfortable with the lecture approach*" (C/Sta24). Factor B, even whilst espousing a student-centred teaching style, acknowledged that '*there are times when I am charged with the responsibility of communicating some theories or something complex…so I'm not advocating a didactic approach, but sometimes you need it…There is a place for talking and listening*' (B/Sta33).

Thus, conflict between the discourse on autonomy, educator responsibility and students' dependence led the nurse educators in this study to present a picture of valuing learner-control yet demonstrating a need to maintain control of knowledge. Similar behaviour was found in Savin-Baden and Major (2007) who described a nurse lecturer compelled to put on his 'lecturer's hat' to supply students with the knowledge he felt they needed, effectively contradicting his original espoused belief that students should always challenge the 'status quo' in their learning (p.844). The authors recognised that this shift in teaching practice occurred in circumstances when the lecturer no longer wanted students to challenge the 'status quo' so he could ensure they were given the 'right' information. This calls into question whether the application of the current educational discourse is a realistic objective in all disciplines and at all levels.

This issue has been examined in Billig *et al*. (1988) when discussing ideological dilemmas in teaching and learning, as well as in Jingree and Finlay (2008), in a different context, but echoing similar challenges in applying the discourse of increasing autonomy in the reality

of everyday practice. In the latter, staff faced conflicting practical dilemmas when trying to incorporate agendas of empowerment into everyday support of people with learning disabilities (Jingree and Finlay, 2008). Using discourse analysis, the authors identified that while staff organised their talk around issues relating to empowerment and autonomy, these were in conflict with the practicalities of implementing such views. Indeed the participants 'positioned themselves as facilitators of client choice' and presented themselves as 'enlightened individuals, ' but there were a number of contradictions noted when staff justified why choice and control could not actually be given. This was also seen in this study with the educators presenting themselves as facilitators of SDL and autonomous learning (albeit at varying levels), but contradicting these views because students were perceived as needing direction, structure and occasional 'hand-holding' (C/Sta24).

Similar responses were also reflected in Peräkylä and Vehvilfinen (2003) in the context of counsellors directed by ideological principles of learner-centredness, self-direction and empowering of students, but who in practice found this ideology to be too abstract, with little reference to how it could be operationalized. Responding to this lack of concrete application of ideological beliefs, the counsellors were torn between their role as 'advisor' which appeared at odds with the principles of self-direction. This mirrored the conflict noted in the role of 'lecturers' at odds with the educational discourse calling for 'facilitators.' The counsellors managed this paradox by merging learner-centredness with an 'expert knows best' approach (Peräkylä and Vehvilfinen, 2003, p.744), a reconciliation also found in Jingree and Finlay (2008) and Billig *et al.* (1988) with the participants guiding individuals towards making the right decisions.

Wetherell and Potter (1992) have described the response to such ideological conflicts as a 'practice/principle rhetorical device,' leading to what Jingree and Finlay (2008) called 'bounded empowerment,' allowing staff to manage conflicting agendas and appear as facilitators of choice yet still ensuring clients were safe. The 'practice/principle rhetorical device' was noted in the four Factors (less so in Factor D) who positioned themselves as enlightened in terms of the current educational discourse, but who still felt responsibility in keeping not only students safe, but also patients safe. This internal conflict between the beliefs about the ideal (or currently endorsed) pedagogical model and the reality of teaching

plays an important part in understanding the four Factors' responses to e-learning adoption. It could explain, for example, why some participants loading on Factor A, although positive about the use of e-learning in theory had not been actively engaged in it (as will be discussed later in this chapter).

To recapitulate, despite the wider discourse calling for a rejection of traditional didactic teaching and an embracement of SDL, some have critiqued this rhetoric within the context of NE (Leyshon, 2002: O'Shea, 2003; Norrie and Dalbie, 2007; Darbyshire and Fleming, 2008). Given e-learning's positioning as a tool to facilitate SDL, recognising these conflicts is essential for understanding subsequent responses by nurse educators to the introduction of ICT in their teaching.

7.2.3. E-learning: Sustaining or transforming?

From the outset e-learning has been proposed as an ideal tool for facilitating the transition from didactic to facilitative learning, and an opportunity to move away from a teacher-centred style to one that was more learner-centred (DOH, 2008; Darbyshire and Fleming, 2008; Mailloux, 2006). Despite this 'potential,' Muirhead (2007) has pointed to the semantic distinction between 'pedagogy' (with its original association with children) and 'andragogy' (adult-learning) arguing that e-learning development in NE had focused on the former rather than the latter (Muirhead, 2007). This had resulted in e-learning that was 'teaching heavy' but 'learning light' (Bellack, 2008, p.439) and designed to place the teacher as expert, undermining nursing students' role as active learners and reducing their chances of becoming independent and autonomous (Muirhead, 2007).

These views have been echoed by others who have stressed the importance of changing ways of thinking to effectively integrate appropriate technologies in nurse education (Neumann, 2006) and to "reconceptualise the teaching and learning process" (Blake, 2009, p.233). In addition to the issues discussed in the previous section, another factor partly preventing this transformation in teaching has been a feeling of 'safety' and 'security' associated with traditional approaches (as pointed out by Factor A). Some nurse educators have been unprepared and unwilling to shift the power balances because this involves significant risks that threatens expertise and confidence (Hargreaves, 2008). Thus, Bellack

(2008) has urged nurse educators to move out of their comfort zones, overcome their fears and adopt a mental model in which they become active collaborators in their students' learning.

Yet, as found in this study, even educators enthusiastic and open to the idea of e-learning had not actively been engaging with it. Indeed, Factor A was not a homogeneous group of individuals on the bleeding edge of technology use. Although all the participants loading on Factor A supported e-learning, a number of them were not using it. One participant discussed how she had overcome "*serious fears of computers and technology... I (was) convinced it would all go wrong, that I'll blow the computer up at some point!*" and "*not really knowing what I'm doing prevented me from not using it earlier and probably prevents me from not being a bit more experimental because I just don't know what else is there...*" (A/Sta2). Another participant who had recently joined the DON had also had very little experience with e-learning: "*So I have been on the WebCT training, and I haven't delved much deeper at the moment. But I think we're all sort of feeling our way ...*" (A/Sta19).

Rather than being a group of 'early adopters,' the large number of participants loading on Factor A demonstrated the wide variation that exists among those that can be considered 'pro-e-learning.' What united this heterogeneous mix of individuals was their common vision and appreciation for the potential of e-learning and a recognition of its increasing *capital* value in the *field*. For one participant it was seen as a "*gateway to enormous opportunities and it cut down all the barriers*" (A/Sta13). For another participant with a senior role, e-learning was considered more strategically: "*I absolutely see it as critical and in a managerial role I was the one who said we needed to have more IT people in the school...even though I was rubbish at it, because I knew it was where it was going to be...I can tell it's terribly important*" (A/Ops26). As suggested by the last comment, however, acknowledging the value of technology in teaching did not automatically result in its integration in teaching practice.

Whilst the three other Factors had also not integrated e-learning into their classroom, they held different views about its place in nurse education. For example, Factor B, despite sharing similar beliefs about student-centred learning and agreeing that the 'traditional

lecture' was '*pure didactic and you talk for an hour and people fall asleep,*' pointed out that at least lectures involved '*human contact*' (B/Sta33), implying that 'even lectures were better than e-learning.' This need for human contact made using e-learning a '*struggle*' in NE because '*a lot of the things that are taught are to do with interpersonal skills and that just wouldn't ever happen through the computer…you lose all the personal skills by just sitting in front of a computer to learn*' (B/Sta18).

These concerns were echoed in Hannon (2008) through a participant who voiced her unease about e-learning communication being based on text and the risk this entailed in terms of depersonalising communication and opening things up to misinterpretation. Mirroring Factor B's concerns, the participant questioned whether a profession based on a 'humanistic model' that required face-to-face contact could be learned through e-learning and how students could be prepared for clinical practice through e-learning 'if part of how they develop those skills is modelling on our behaviour' (Hannon, 2008, p.395). The use of e-learning and its asynchronous, faceless medium did not align with their beliefs about teaching as based on embodied disciplinary practice (Hannon, 2008). As seen in Factor B, the 'translation of the discourse of 'humanistic' care onto online group work was neither tenable nor workable' (Hannon, 2008, p.397).

Factor C, having had more exposure to technology, recognised that most nursing content could be translated into an e-learning environment, although they did not know how to do it*: "I assume that you can't just translate your lecture and stick it into text and place it online"* (C/Sta5). However, while it might have been possible, the question for Factor C was, '*whether or not you'd want it to be is a different matter*' (C/Sta5). Sceptical of the evidence supporting the adoption of e-learning in NE, there was concern of the "*danger that it becomes the tail that wags the dog…*" (C/Sta5). A similar viewpoint was identified in one of Bowe's (2010) Factors following his Q-study exploring academics' (non-nurses) views towards ICT. This Factor was also characterised by scepticism toward the pedagogical benefits of technology, but an interesting difference was that the group consisted of 'experienced' and 'confident' users of IT (Bowe, 2010). This unexpected response was seen as the result of a growing sense of dissatisfaction with technology over the academics' careers, a phenomenon that had been explained by Guskey (2002) as

resulting from a lack of long-term evaluation of technology in classroom settings leading academics to consider the impact on student learning to be limited.

Factor D recognised their limited knowledge of how to use e-learning beyond a repository, '*how do I present an idea and get it across? Whereas I'm much better verbally, that's my skill. It's much better in verbal teaching rather than e-learning*' (D/Sta9). This was also noted in Blin and Munro (2008) who found that a lack of familiarity had contributed to the low uptake of the broad range of functionalities that the platform in their study offered. In their survey, 60% of the responses identified a lack of awareness, knowledge and familiarity as one of the main reasons for not using e-learning more innovatively. In this current study most of the limited awareness was directly related to a lack of relevance since for Factor D classroom interactions were about "*building up a relationship and a rapport*' that '*facilitated learning*' (D/Sta9). These comments point to the value (*capital*) of nurse educators as 'people' with 'nursing experiences' that cannot be replicated in an online environment, thus reflecting nursing's historical tradition of passing down information orally from one generation of nurses to the next.

Another significant impediment to e-learning adoption was noted by Factor C, '*I don't think we're so bad at teaching…perhaps I'm a bit old fashioned, but for the moment if it ain't broke then we don't need a radical overhaul*' (C/Sta5). Similarly, Blin and Munro (2008) found staff making comments such as "my current teaching practice does not need them (e-learning technology)"; and "I am satisfied with the functions I currently use which enhance module delivery and dissemination of information." The view by Factor C that NE is not in need of a drastic revision in teaching reflects Guri-Rosenblit's (2005) techno-sceptical paper that asked 'if technology is the answer - what are the questions?'

The results from this study show that individuals who do not adopt e-learning are not all doing so because it does not allow them to practice their preferred didactic approach. As Hall (2009) accurately pointed out, traditional approaches to teaching (lecturing and small seminar discussions) do not preclude engagement and can be student-centred and creative, catering to the value of face-to-face contact. Nor does the use of technology automatically lead to innovative, student-centred and creative strategies (Souleles, 2005). Factors B, C and D were not adopting e-learning because it was not perceived as providing any added

value to their current teaching practice. When it was adopted, it was done as an extension to their classroom teaching rather than as a way of transforming their teaching (as envisioned in the literature and Factor A).

Thus the existing misalignment between rhetoric and practice (as identified in Souleles, 2005) points to the assumption that educators want the existing system to be 'overthrown,' and that e-learning will be embraced as a trigger for this revolution. Yet, as made clear in this study, if educators do not perceive any need for change, their choice not to adopt (or only minimally adopt) e-learning is understandable. Indeed, there has been a tendency to overstate the imperative for radical change (Bradwell, 2009). While technology has the potential for new possibilities in the classroom, matching these possibilities with the vision of teaching and learning of educators and students has been (and will continue to be) the real challenge (Bradwell, 2009).

In summary, the last three subsections have discussed the four Factors' *expressions of shared habitus* through the lens of nursing's shifting image, nursing pedagogy and the place of e-learning in the curriculum. The tensions existing between the various visions of 'the nurse' and the current educational discourse supporting SDL and the realities of teaching practice were examined, followed by a close look at how these issues had influenced responses to e-learning. The next section explores the influence that institutional and individual factors have had on the four groups' responses toward e-learning in light of these issues.

7.3. Relationship between institutional and individual factors

As discussed, individual behaviour can be examined either as a response to existing social structures from the 'top down' or as social structures that are created by individuals in a 'bottom up' direction (Hollis, 1994). Although Hollis (1994) noted that it was often difficult to conclude whether these existed in conflict or whether they complemented one another, this study has pointed to their complementarity. Indeed, whilst institutional factors were considered important for all four Factors in this study, the findings showed that although essential, they were also insufficient. Alluding to this relationship between individual behaviours and the structures within which they occur, McPherson and Nunes (2008)

observed that all e-learning adoption existed within an organisational context, resonating Bourdieu's view of *habitus* as operating within a wider *field*. This organisational context is what has frequently been emphasised as critical in the e-learning adoption literature to date. This section will explore the relationship between individual and institutional issues as they were shown to influence the four Factors' responses to e-learning, comparing and contrasting these findings with the literature.

In an unusual 'pseudo' meta-analysis, Gannon-Cook *et al*. (2009) examined retrospectively the findings from four studies conducted between 1998 to 2003 that had explored factors influencing e-learning adoption across four universities in the US. Since the four studies had used similar surveys (although the data had been analysed using different statistical methods), the authors deemed it acceptable to compare the four studies, examining their variances. From this data, they identified nine indicators of motivation to engage in e-learning. Whilst the design of this study points to a number of methodological issues, such as its retrospective comparison of studies using different surveys and statistical methods and a lack of qualitative data for added depth, some of the findings were of interest given its longitudinal perspective. Prior to 2002, the authors noted a close alignment between staff motivation and e-learning participation. In these earlier studies, whilst recognising the value of other extrinsic drivers such as financial rewards, release-time and institutional support, staff were primarily motivated by the idea of helping their students. However, in the fourth (and most recent) study conducted in 2003, intrinsic motivation was noted as insufficient to engage staff to participate in e-learning, demonstrating that extrinsic motivators were playing an increasing role in e-learning participation (Gannon-Cook *et al*., 2009). While Guskey (2002) had explained growing dissatisfaction with e-learning to be the result of a lack of evaluation of the effects of technology on student learning, Gannon-Cook *et al*. (2009) saw these 'second generation' e-learning academics as more concerned with a lack of support and time and an increasing expectation for extrinsic rewards for their engagement. Newton (2003), using a researcher-developed survey and open-ended questions on one sample in the UK, had also noted that academics verbalised a decreasing interest in e-learning caused by increasing frustrations from a lack of support and recognition at the institutional level.

Three of the four Factors in this study also emphasised their expectations of institutional support and incentives, even though they did not all agree on the form these external drivers might take and admitted not being particularly influenced by them. This is noteworthy given the significant investment and priority placed on e-learning across Hillgate and the DON (as discussed in Chapter 4). Indeed the statement #46 *There are adequate incentives to use e-learning in the division of nursing* placed in the negative columns by Factors A, B and C points to the difficulty in both defining and implementing 'adequate incentives' aimed at encouraging academics. The results in this study show that incentives are inevitably interpreted (and responded to) differently by academics.

For Factor A, personal incentives were the benefits they perceived for their students, but also additional '*small pots of money'* to buy-out time for educational development and the growing recognition of e-learning "*...more broadly across HE where it's becoming more focused around integrating technology within your teaching, so not money, but kind of raising the profile and saying this isn't going away and it's important part of what you do*" (A/Sta2). For Factor C, who felt unmotivated by e-learning, incentives took the form of mandates: "*For the ones who are not that bothered or have different priorities...they could just make it mandatory, all staff in the next two years will have done x, y ,z workshops. And then you have to do it, you have no choice. And so there's lots of ways they could do it. But it depends on how important it is to the university or the school*" (C/Sta5). Not surprisingly, Factor B who had not spent any time exploring the use of e-learning had not noticed any incentives: "*I don't think there are really any incentives. I mean you don't necessarily get anything more out of doing an e-learning session than you would if you were actually teaching the session,*" (the 'more' suggesting either money or recognition, and the 'actually teaching' suggesting that e-learning does not demand any lecturer input). Factor D placed statement #46 in the middle column because incentives, like time, were something intrinsically driven, noting it was "*about this internal stuff again, that you're self-driver...*" and that incentives should be the feedback from students (D/Ops27).

In the literature, Factor C's reliance on external drivers best reflects Newton (2003) and Gannon-Cook *et al.*'s (2009) 'second generation' academics, who in the earlier years had experimented with e-learning but feeling unsupported and lacking in confidence (both in

their own skills and the technology) had consequently abandoned these initiatives. Following this experience, Factor C justified their lack of time as relating to the changes occurring within the DON since budgets had noticeably '*tightened up*,' resulting in more students, less staff and more administrative duties (C/Sta24). In Gannon-Cook *et al*. (2009) similar organisational issues had been identified as disincentives for on-going commitment to e-learning. Like Newton (2003), Gannon-Cook *et al*. (2009) had noted this to be the case even for those who had initially been internally driven without any reinforcement from external drivers. Arguably Gannon-Cook *et al*.'s (2009) assertion is tenuous given their analysis of data from four different universities rather than one university over five years. Pointing to the limitations of using only quantitative analysis (not to mention the other limitations), the authors recommended in-depth qualitative studies to identify the underlying factors that had motivated or inhibited academics in their e-learning adoption, and how these factors had changed over time.

Taking on this challenge, Keengwe *et al*. (2009) explored the factors influencing ICT adoption through narratives, highlighting that the 'story is not in the numbers' but in providing better understanding of experiences. One of the few studies to explore this topic employing a purely qualitative approach, the authors used a snowball sampling technique to recruit 25 participants for interviews in a large public university in the US. The participants were from a variety of disciplines and included staff in academic, administrative, technological and leadership positions. The participants responded to questions about their experiences with the technology-adoption process; the factors that were critical in hindering or encouraging this process; and any recommendations they had for administrators (presumably those in a position to make significant decisions). Without any discussion about a theoretical or methodological framework, the authors identified 'themes' that had influenced e-learning adoption and pointed to an overall lack of organisational support, leadership, training and resources. Whilst the level of the participants' e-learning experiences was never made clear nor the extent to which they were involved in e-learning, one of the main conclusions from this study was that 'training and development' were 'essential to the success and failure of technology adoption in higher education' (p.27). Conflicting with Factor D's views, Keengwe *et al*. (2009) placed little responsibility on the participants, identifying instead a reliance on organisational support.

While these participants might have been a manifestation of Gannon-Cook *et al.*'s (2009) 'second-generation' e-learning academics, their conclusions might have also resulted from a superficial analysis of the data, accepting the participants' narratives at face-value.

Blin and Munro (2008) acknowledged that many studies had fallen short in uncovering the actual views of academics. Although this was an accurate assessment, the authors also fell short in their response by concluding (as did Keengwe *et al.*, 2009) that more training was the answer. Yet as noted in Chapter 4, Hillgate had dedicated significant investments in promoting e-learning through support mechanisms such as leadership, resources and training, but this had not automatically translated into widespread and effective use of e-learning.

As seen in this study, e-learning adoption has not only been a response to organisational factors. This was also found in Zhen *et al.* (2008) through a survey exploring the intrinsic factors influencing academics' decisions to teach online. Four hundred participants were randomly selected across one university whether they were lecturers, administrators or researchers, so long as they had taught at least one course in the university in question (Zhen *et al.,* 2008). The survey was based on five potential factors influencing e-learning adoption (teaching philosophy; previous teaching experiences; time related challenges; peer-pressure; self-efficacy; and classroom-based innovation). Zhen *et al.* (2008) identified self-efficacy and teaching philosophy as having the most influence on academics' decisions to use e-learning. Zhen *et al.*'s (2008) finding that teaching philosophy influenced e-learning adoption conflicts with the results in this study which showed that although the Factors espoused similar pedagogical beliefs (or philosophies), their responses to e-learning adoption differed.

An unexpected finding in Zhen *et al.*'s (2008) study was that 'time' had not influenced e-learning use. Unfortunately, the design of the study did distinguish between 'time given' versus 'time made,' as there was no discussion of extrinsic factors. Despite the significant differences in design and results between the two studies, Zhen *et al.*'s (2008) recommendations were similar to Keengwe *et al.* (2009), suggesting more training to fit around academics' schedules and address their various learning styles. Mahdizadeh *et al.*'s (2008) findings support Zhen *et al.* (2008), with issues of 'time' not seen as having affected

academics' intention to use e-learning in their study. The authors suggested that time constraints were instead related to motivation, and they concluded that if academics were motivated to use e-learning that they would make time (Mahdizadeh *et al.*, 2008). Similarly, in Bowe's (2010) Q study, the first Factor coined the 'Innovative, Everyday IT users,' identified that even though time was an issue in adopting technology it was 'worth it' and they found the time they needed to learn how to teach with technology.

White (2007) examined the barriers to e-learning adoption in a qualitative study across six universities in the UK. Moving beyond the 'training deficit' response, White (2007) concluded that the bigger question to ask was how institutions could enable change and alter academics' perceptions of a lack of time. Similarly, Russell (2009) unpacked issues of 'time' and revealed that barriers to e-learning adoption were more about *priorities* than time. In Russell (2009), academics acknowledged that they could find time for things that were important to them (and their careers) and those they perceived would be rewarded. Newton (2003) also recognised the emphasis that had been placed on 'time' and other institutional factors (lack of incentives, strategic vision and support) in the literature, yet in his study found that it was related instead to 'a willingness to participate in the activity (e-learning) and this willingness appears to be almost entirely due to intrinsic values which academic staff place on teaching and learning' (p. 423).

These three studies resonate with the results from this research that identified that once all the support structures were in place, much of the decision to adopt e-learning still lay with individual academics. As noted by Factor A, "*if it's something you agree with then it's something you make time for"* (A/Sta6). Even for those Factors who were not engaging with e-learning, a lack of time was recognised as an excuse: "*'I do not have enough time' is the same as 'I do not make enough time' because I'm using my time to do other things…we're all given, on paper, one day of professional development. You choose what you do in that day and people will prioritise what it is they want to develop'* (D/Ops27). While Factor D felt justified in their decision not to make time to engage with e-learning because of their research contract, these researchers could have included e-learning in their research portfolio, as had other participants loading on Factor A who also had research responsibilities. Hence, while Factor D defended their lack of engagement as relating to

their job contract, underlying this was a simple lack of interest. Factor B was more straightforward about their disinterest, also acknowledging their autonomy in making decisions about how they spent their time. *"I'm autonomous and maybe that's because I'm in a senior position. So it's neither here nor there for me. It's irrelevant"* (B/Sta33).

Reflecting the academics in White (2007) and Russell (2009), both Factors B and D acknowledged that 'lack of time' and 'lack of training' were not an institutional issue, but a personal one: "*I suppose emails come around* (about available training) *and I just press the delete button. So from my own resistance and it's not to new technology but to do with my subject area and I've got a massive workload, so training on new technology is just way down on my priorities to be perfectly honest…"* (B/Sta33). Factor C also acknowledged that training was available: "*Yeah, it's all there, if I want to really learn about podcasting, I know where to go. I just haven't been."* (C/Sta24).

These views show that providing more training, even training 'tailored' to these academics (as suggested by Blin and Munro, Keengwe *et al*. and Zhen *et al*.) would unlikely lead to increased e-learning adoption. What is important to emphasise is that although both Factors C and D indicated a lack of time and training as significantly interfering with their e-learning adoption, the post-sort interviews and deeper analysis uncovered (like Russell, 2009) that these 'barriers' were actually related to a lack of motivation rather than a lack of time or available training. This suggests that surveys and other surface examinations of e-learning adoption have overlooked the significant influence of intrinsic factors on behaviour by relying on face-value responses by participants.

Unlike Factors B and D that both justified and accepted their limited e-learning use as a personal choice, Factor C placed the responsibility on external incentives. This reflected Keengwe *et al.*'s (2009) findings with participants placing the responsibility on their institution: "*It* (the training) *needs to be accompanied by a whole range of other enablers that would continue to prompt you to use it and help you*" (C/Sta5). Factor C, therefore, expected their institution to push e-learning forward rather than accepting any accountability: "*Well they're the same thing, as far as I'm concerned (*#4 I don't have time and #38 The university gives me time). *We don't get allocated time by the university to do*

anything, you just have a huge list…and you have to prioritise within that what's important to you. And at the moment, e-learning is not at the top of my priority list" (C/Sta5).

These results show that, as suggested by McPherson and Nunez (2008), sustainable and innovative e-learning requires a constant dialogue between 'top-down' e-learning implementation and 'bottom-up' integration of e-learning in teaching. It also requires a deeper understanding of the context that has shaped the views of academics so that the 'top-down' strategy can be better designed and deployed, informed by individual academics. Such deep understanding demands a particular strategy for investigating underlying views about a phenomenon.

Like the approach taken in this research, Timmons (2003) emphasised the centrality of socio-cultural factors on the way the nurses in his study had responded to technology. Although Timmons (2003) examined the views of nurses and project managers toward the implementation of an electronic health record (EHR) system across three hospitals in the UK, the responses by the nurses closely mirrored those of the four Factors towards e-learning. Just as there was not one single factor influencing e-learning adoption, Timmons (2003) noted that there had not been one single phenomenon representing resistance to the EHR. Rather the nurses in his study responded with 'lots of different resistances' (Timmons, 2003, p.472). Similarly, Factors B, C and D exhibited 'different resistances at different times and different situations,' rarely resisting the technology outright or actively sabotaging any new developments, but rather they simply minimised their use of the system (Timmons, 2003, p.472).

Furthermore reflecting Factor C, another response by the nurses in Timmons' study was that of 'resistive compliance.' This was demonstrated by their resignation of e-learning as 'here to stay' (like Global Warming) but not feeling particularly enthused about it. This sense of 'resignation' led to a grudging willingness to 'give things a go' (East and Robinson, 1994, in Timmons, 2003, p.472), and explains Factor C's earlier attempts at introducing e-learning in their teaching. However, feeling unsupported and frustrated they quickly abandoned and labelled e-learning a frustrating time-waster. This failed attempt led to a subsequent 'blaming of the system' and the organisation, claiming that Hillgate was implementing e-learning for economic aims rather than pedagogic reasons and stating that

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they had not been given the appropriate time or training. Although the implementation of the new EHR did not lead to overt resistance to the technology, the nurses (like the educators in this study) worked around it (Timmons, 2003).

Thus, examining responses to e-learning has revealed that its adoption is not influenced so much by the technology itself, or even by the institutional structures in place, although this is the claim often made (Timmons, 2003). Rather the lack of adoption is cause by a mismatch between personal views and the perceived potential of technology. The deep and contextual examination of factors influencing e-learning adoption in this study has identified why traditional strategies such as more time, training workshops and investments in hardware have not been sufficient. The results from this study point to the importance of carefully addressing both institutional and individual factors when developing an e-learning strategy, and provide invaluable insights to inform the latter.

7.4. Summary

Fetaji (2007) has argued that e-learning's failure to 'revolutionize learning and teaching as promised' had left academics dubious of its potential.Yet this study has challenged this argument by showing that the reverse has been the case. It was scepticism (or disinterest) towards e-learning in the first place, and a lack of a perceived necessity for change, that led e-learning not to be used more extensively by Factors B, C and D. Indeed, as this study has shown, many academics have been reluctant to change their teaching approaches without a deep understanding of why and how (Souleles, 2005), and with no obvious reason for the former there has been little incentive to explore the latter. As argued by Rogers (2004), when the status quo meets the needs of individuals, and change includes frustrations and increased costs in terms of time, it should not come as a surprise when individuals do not adopt new technologies.

Unlike the majority of studies that have identified a lack of time, training and other extrinsic factors as barriers to e-learning adoption, this study has uncovered the influence of underlying issues on academics' responses towards e-learning. The four Factors identified through the Q study and analysed using Bourdieu's theoretical lens have shown that the relationship between extrinsic enablers implemented at the institutional level and individuals' intrinsic drive to act (e.g. adopt e-learning) is complex. As mentioned in

Chapter 1 (section 1.5), motivation is a construct which plays a significant role in most types of behaviour, including e-learning adoption. While motivation alone was not the emphasis of this study, what emerged were those issues influencing individuals' motivation to engage with e-learning. Motivation to act (as in making time to access training to learn how to use e-learning) is often driven by the extent to which the behaviour is expected to result in a desired outcome. For those using e-learning in Factor A, time had been deliberately made (even out of official working hours) to promote, experiment, find mentors or access formal training. Yet for the three other factors (and some of the participants loading on Factor A), this motivation to act was absent. As made clear by Factors B and D, even if extra time was provided to access training (e.g. an extra Personal Development day), this would not necessarily lead to a change in their behaviour since these individuals did not see the value in using the allotted time to engage with e-learning. This study has therefore contributed to our understanding of e-learning adoption by showing that although when responding to surveys (or even completing Q-sorts) academics will often claim that a lack of time and training prevent them from engaging with technology, a closer examination can identify more accurate reasons for these responses.

Chapter 8. Conclusion

8.1. Introduction

Using a completely new approach, this study has provided unique insights into the socio-cultural factors influencing e-learning adoption in a nurse education context. Q-methodology, underpinned by Bourdieu's theoretical framework, identified four different responses to e-learning, thus offering more depth and breadth to our understanding of e-learning adoption decisions. Given Q-methodology's unique ability to identify existing social discourses, this study has identified four Factors which represent *expressions of shared habitus* thus broadening our repertoire and deepening our knowledge of responses and behaviours toward technology in teaching practice. Bourdieu's theoretical framework provided the context in which to analyse the four Factors, thus providing greater insight into the socio-cultural influences of these views and the relationship between extrinsic and intrinsic drivers and contributing to the literature on e-learning adoption by re-contextualising what had thus far been a de-contextualised approach to technology adoption. These findings offer empirical evidence to inform the design of more focused staff development programmes and policy documents.

This chapter will begin by revisiting the four objectives that guided the study to evaluate their attainment. This will be followed by a critique of Q and TOP in meeting these objectives. In section 8.3, the findings from the study will be linked to the broader context using Bourdieu's contextual perspective to identify their wider implications, and some recommendations for implementing these results in a practical context are proposed in section 8.4. The chapter concludes with some suggestions for further research and a closing word.

8.2. Revisiting the research aim and objectives

The research aim was to explore the factors influencing e-learning adoption in a nurse education context. The four specific objectives to achieve this broad aim were:

1) To identify whether pedagogical beliefs, academic culture, nurse culture and social networks were influencing responses to e-learning in a nurse education context

By including statements relating to pedagogy, academic culture, nursing culture and social networks in the Q-set, participants were able to show the influence of these issues on their e-learning adoption decisions in relation to some of the more commonly identified factors (time, training, infrastructure). A unique finding was that although the four Factors identified these 'soft' issues as influential, this did not lead to corresponding responses towards e-learning. For example, many of the statements regarding the use of adult-learning teaching strategies were considered important to all four Factors, but these similarities did not lead to equal levels or types of e-learning adoption. More specifically, while Factors A and B had similar teaching beliefs, they both responded quite differently to e-learning. This demonstrated that the choice not to engage with e-learning was not related to an educator's particular didactic or facilitative style as concluded by Zhen *et al.* (2009). Instead, this study showed that influencing e-learning adoption were academics' views towards the best methods of communicating their subject matter and their awareness of the affordances of technology. Similarly, while social networks, nursing and academic culture were recognised as important to all four Factors, the way these factors influenced the four groups differed. Having identified the value placed on these 'soft' factors, this study has prompted additional questions relating to the way in which these issues might be better understood and addressed in the context of e-learning adoption.

2) To examine the relationship between individual and institutional factors on responses to e-learning in nurse education and form recommendations for education practice and policy

The use of Q allowed participants to prioritise the issues most influencing their responses toward e-learning. Bourdieu's framework facilitated their examination holistically, allowing the complex cognitive elements shaping participants' views to be identified and analysed. This unique combination of Q-methodology and Bourdieu's TOP showed that for individuals perceiving e-learning as an enhancement to teaching, intrinsic motivation negated many potential institutional barriers. On the other hand, for those individuals not recognising its value, there was little motivation to engage with e-learning. This lack of motivation consequently led institutional barriers to seem more salient, making issues of time, training and support appear more significant. This awareness of how underlying intrinsic views influence the effect of institutional barriers and incentives can inform senior

management and e-learning teams on the most effective and tailored approaches for facilitating e-learning adoption.

3) To explore the use of Q-methodology as a method for eliciting expressions of habitus in the context of a research study using Bourdieu's Theory of Practice

This study is the first to the researcher's knowledge to have employed Q as a means of operationalizing Bourdieu's concept of *habitus.* The Q-sorts succeeded in providing deep insight into the layered and complex patterns of subjective views surrounding the issues influencing e-learning adoption. Hence, Q was found to be a creative method for examining what is argued to be one of Bourdieu's more ambiguous and contentious concepts, having been applied at macro, meso and micro levels (Maton, 2008). Using Bourdieu's framework to examine the *expressions of habitus* within the context of the *field* provided a unique perspective on e-learning adoption patterns. Although Vaughan (2008) has suggested that *habitus* shifts and changes to fit the immediate local setting, the findings in this study point to the sustaining influence of historical events and experiences on individuals' responses towards e-learning in their teaching.

It is essential to point out that the sorting patterns identified in this study do not preclude the existence of other narrative positions 'out there' (Watts, 2001), nor can we assume that the positions that were revealed are static and a-historical. These *expressions of habitus* are also not to be confused with an average description of each Factor's *habitus*. Rather the analysis of the Factors as *expressions* aimed to examine how a *habitus* might be expressed as a response to the complex and shifting socio-cultural pool of events.

4) To use Bourdieu's theoretical framework as a lens to interpret the Factors identified using Q-methodology

Bourdieu's theoretical lens provided a useful framework for analysing the four Factors identified using Q-methodology. Analysing the *expressions of habitus* in the context of the wider *field* allowed the findings to be analysed within a broader context and provided a means of apprehending small-scale interactions as operating within a large-scale setting. It also served to identify the relationship between institutional and individual factors on e-

learning adoption, pointing to the influence of intrinsic factors on the responses to extrinsic barriers and incentives.

8.3. In retrospect

Having completed the study, the aim and objectives of this research are considered to have been adequately met using Q-methodology and Bourdieu's theoretical framework. Although there were some challenges in using an avant-garde methodology (Dennis, 1986) and a complex theoretical framework (Jenkins, 2002), the research design was the most appropriate given the phenomenon being investigated. To begin, the use of Bourdieu's underpinning theoretical framework enabled the development of the context and was instrumental in the analysis of the data collected using Q. This fine balance between theory and method was guided by Bourdieu's three research principles. The first principle is pragmatism, which encourages the researcher to employ whichever methods best suit the question at hand. Bourdieu's second principle is to grant "equal epistemic attention to all operations," from the design of questionnaires and the definition of populations, samples and variables, to the carrying out of interviews, observations and transcriptions (Waquant, 2006). Bourdieu argued that every act of research, including the most mundane, required the researcher to fully engage with the theoretical framework, accepting the 'organic relation' and the 'fusion' between theory and method (Waquant, 2006). Finally, the third principle is the continuous evaluation of the method itself. Since the methodological issues that arose prior to and during data collection in the Q study were discussed in Chapter 5, this section will reflect on these challenges and evaluate the use of the theoretical framework in the context of this research project.

8.3.1. Theory of Practice

Like most theories, Bourdieu's was developed throughout his career and therefore evidence of discrepancies and inconsistencies can be found in the literature as his ideas continued to evolve. LiPuma (1993) has pointed to the arbitrary nature of Bourdieu's framework. As this critique could apply to any research study that has not provided a clear 'map' of its development, Chapter 4 aimed to provide the reader a detailed and transparent trail, offering justifications and rationales for the development of the *field* in this study.

In developing the *field* and analysing the findings, the concepts of *habitus* and *capital* proved to be challenging. Whilst a survey might have been included to collect additional data about the participants, how they used technology and their teaching practices, the nature of Q-methodology would have made any generalisations using this extra data tenuous. This was considered a limitation in the combination of Q and TOP. Q studies frequently include brief socio-demographics to describe identified Factors, but given the small purposively-selected sample it is not possible to make claims that these characteristics are associated with the views that emerge. Moreover, *habitus* has been interpreted both using the 'individual' (a nurse) and the 'group' (the nursing profession) as the unit of analysis, thus leading to questions surrounding whether the Q Factors were expressions of individual 'subjectivities,' or whether they were a reflection of the wider discourse. It was determined that the Q Factors would be interpreted as expressions of the socio-cultural context in which they were developed and thus were seen as representations of discourse rather than individual subjectivities. This was because the latter would have required a more detailed exploration of *habitus* and *capital* to make such generalisations, and thus would have demanded an alternative methodology. Indeed, the data in this study that was collected from a short survey intending to explore the participants' use of e-learning and teaching strategies was not included in the analysis. The unequal group sizes and the inability to link each Factor with the data from the survey made this data of limited use. Whilst a detailed analysis of *habitus* and *capital* was not possible in this study, the results have provided an opportunity to explore these two concepts in more depth using a methodology that allows wider generalisations.

In retrospect, the strength of Bourdieu's TOP outweighed its weaknesses. Indeed as a framework for outlining the socio-cultural context and examining the tension between extrinsic and intrinsic drivers, it was ideally suited. Challenging and thought-provoking, the TOP fit the needs of the research design.

8.3.2. Q-methodology

It might be argued that other methods could have been employed to explore the factors influencing e-learning adoption. Interviews, for example, could have served to elucidate participants' views towards e-learning and their experiences with technology. Yet this

approach would not have enabled the systematic comparison between groups, nor would it have given the participants the ability to prioritise the most influential issues. Furthermore, interviewees would have needed coherent narratives to tell their 'story' (Gudmundsdottir, 1996), an assumption not taken for granted in this study given the nature of *habitus*. Another approach might have been the use of a survey that could have provided numerical representations of the identified Factors. However, the statistics employed when analysing the data would have ignored the minority views and would have prevented Factors B, C and D from being heard. Indeed, one of the advantages of Q-methodology is the equal weighting given to all the Factors regardless of their statistical value. Having now identified these four views, a survey could be developed to explore the distribution in the wider population of nurse educators across England.

The methodological limitations relating to Q were discussed in Chapter 5 and have been reported and discussed within the Q literature. As noted, Q studies tend to rely on small sample sizes increasing the chances of missing relevant viewpoints if heterogeneity is not ensured. The challenge surrounds the difficulty in determining ahead of time which participants will hold different perspectives. To address this issue in the current study and mitigate against the single locality of data collection, a breadth of perspectives was sought by including a wide variety of participants who were non-nurses within the DON, as well as key 'position takers' at the university level. Although the predominance of participants loading on Factor A was initially considered a limitation of the sampling strategy as described in Chapter 5, section 5.4.2, the diversity found within the Factor points instead to the need for further exploration into this variety. This is an invitation for further research into the differences existing amongst pro e-learners who are at various stages of integrating technology.

An issue infrequently discussed in the Q literature but which requires attention is the need for the researcher to have a solid understanding of the 'behind the scenes' factor analytic process used to create the 'Factors.' This is to ensure that the interpretations are not erroneously misconstrued by distortions that can occur with small samples. To illustrate, one can envision two participants loading with relatively equal correlations on one Factor because they have sorted a large proportion of the statements similarly on the grid. These

similarities do not mean that the participants will have agreed on all the statements, however. Indeed these participants might have ranked one particular statement on opposite ends of the grid (e.g. one participant placing the statement in the -5 column, the other placing it in the +5 column). Mathematically, this would lead the statement in question to fall in the middle column of the grid (the rule of weighted averages effectively cancelling the extremes out) even though the statement clearly was not 'neutral' for these two participants. In such cases, post-sort interviews and careful examination of the original Q-sorts are useful for obtaining an accurate understanding of the participants' views. It is then up to the researcher during the interpretation to reconcile these issues and develop an accurate narrative.

Despite these limitations, like TOP, Q's "strengths far outweigh its weaknesses" (Senn, 1996, p.215). With its emphasis on moving beyond simple dichotomies, clarifying the complexity of viewpoints, elucidating minority views and identifying similarities and differences it was a powerful tool for exploring academics' views toward e-learning in nurse education. Moreover, an unanticipated outcome of this study was the identification of a number of current issues significantly impacting nurse education today. Q provided an opportunity for academics both directly and indirectly involved in nurse education to reflect critically on the role of technology in NE. Indeed, although the focus of this study was 'e-learning,' a number of other issues arose during the Q-sorts and post-sort interviews. While it is not possible to determine whether it is the topic of e-learning or the research process itself which triggered this reflection, this opportunity to reflect is an integral component of change. This is significant because some of the most critical barriers to change in educational processes are personal ones (Taylor, 2003). The work of Schön (1983) on reflective practice has demonstrated its potential for facilitating problem-solving. Since changes in teaching practices must be considered over time with "reflection being the crucial driving force for continued evolution" (Torrisi and Davis, 2000), this study contributed, and can continue to contribute, to such reflection.

8.3.3. Ethical considerations

As described by Malone (2003) there are ethical considerations when conducting research in one's 'own backyard.' Whilst D'Cruz (2000) and Newkirk (1996) identified the

asymmetrical power relations that can result if researchers are perceived as dominant and effectively 'studying down,' I was, like Malone (2003) 'studying up' given my status as a 'PhD student' researching participants who were lecturers, associate professors, directors and managers. Having considered and reflected upon this dynamic, it was not seen as having been a significant issue in the context of this study. An issue that was seen as potentially influencing the study, although not due to my status but rather a symptom of the human condition, was the possibility that participants were displaying 'impression management' (Goffman, 1969). The large proportion of participants demonstrating a keen awareness of the current discourse calling for SDL and student-centred teaching might have been the desire to appear enlightened, as suggested in Jingree and Finlay (2008), by reflecting the views of the current educational paradigm.

It is also worth pointing out that throughout the research process my own views towards e-learning in nurse education began to shift. The post-sort interviews that offered an opportunity for participants to share their experiences and attitudes toward technology in nursing gradually began influencing my own. Over time, my initial firm pro-technology view of e-learning as an absolute essential element within the curriculum was altered. Whilst I still think e-learning has immense potential to positively contribute to nursing students' learning experiences, having conducted this study I now appreciate that its integration in teaching is not for 'everyone' nor is it appropriate for 'everything.' It is a tool that can be used to improve certain aspects of nurse education, although what those aspects are have not yet been definitively determined. As it was anticipated that my own personal views could influence how the Factors were analysed and interpreted, a research journal was held throughout the study to monitor such shifts and track decisions that were made throughout the process.

8.4. Implications

In keeping with Bourdieu's theoretical framework, this next section will demonstrate the extent to which the four Factors identified in this study as *expressions of shared habitus* and examined within the context of the *field* as discussed in Chapter 4, offer unique insights to inform the wider contexts of nurse education and higher education.

8.4.1. Nurse Education

There is great significance in better understanding and recognising nurse educators' views about the changes occurring within the nursing profession and the pedagogical approaches they consider most effective in developing future nurses. As gatekeepers into nursing, nurse educators are responsible for developing, delivering and monitoring educational programmes and assessing competence and fitness for practice. This is even more relevant today given the Nursing and Midwifery Council's (NMC) recent approval of a graduate-only entry into the profession for 2015. This will require nurse educators to develop a new curriculum able to prepare nursing students for their evolving role. This move was presented as a way of keeping in line with the changing nature and structure of healthcare delivery and future career structures across the UK (DOH, 2006), reflecting the broader changes occurring in the wider *field* across Europe. These relate to the Bologna Process, the TUNING project and the wider internationalisation agenda, all which propose to better align HE qualifications and allow for greater professional mobility throughout the European Union (Spitzer and Perrenoud, 2006).

In support of the all-degree nursing profession, the Department of Health (DOH) has pointed to changing nursing *capital ,* stating that 'nursing today requires an intricate interplay between fundamental care and high-level technical competence, biomedical knowledge and decision-making skills and the ability to develop therapeutic relationships based on compassion and holistic and intelligent care' (Beasley, 2009). The *Modernising nursing careers: Setting the direction* report (DOH, 2006) advocates a review of the content and level of educational preparation for nursing and a review of the nurse educator role (DOH, 2006). The NMC also has stressed that the new nursing curriculum will have to be 'evidence-based and reflect the very latest knowledge, practice, research and technical requirements' (NMC, 2010, p.8). Schools of nursing must be prepared to draw on the full range of modern learning tools and modes of delivery in both academic and practice settings (NMC, 2010).

These expectations confirm the enormous responsibility placed on nurse educators. One of their important roles will be to determine the most effective design for pre-registration nurse education to prepare future nurses to understand and influence the development and

use of new technologies (Prime Minister's Commission, 2010, p.82). In light of the four Factors representing the *expressions of shared habitus*, it is evident that a more considered and thoughtful approach will be necessary to ensure that nurse educators are both willing and able to fulfil this obligation. More specifically, nurse academics' views of nursing as discussed in Chapters 4 and 7 will need to be carefully considered to ensure coherence between policy and practice, and to avoid the 'new curriculum' merely resulting in the delivery of the old curriculum using a new name.

In a report commissioned by the NMC, Longley *et al.* (2007) projected that the future healthcare services in 2015 would seek a more 'generic worker' that could offer a cost-effective alternative to address general health care needs. It was anticipated that this demand would conflict with a simultaneous trend towards clinical nurse specialists and advanced practice nurses. Consequently, Longley *et al.* (2007) predicted the appearance of a new role in the healthcare setting, the 'Advanced Health Care Assistant.' These assistants would provide the 'basic care' once the domain and authority of the nurse. Reflecting back on the four Factors' views, the changing *field* and accepted forms of capital, it is clear that if nurse education will be moving towards a new 'breed' of nurses, then it will be essential for the 'images' of the nurse discussed in section 7.2.1 to be duly considered. This would allow an effective strategy to be developed that could acknowledge and address the potential conflicts existing between the different images of 'the nurse.'

In the changing healthcare *field* ever more focused on efficiency and 'metrics' (measuring nursing outcomes) the professionalization of nurses will equate, as predicted by Longley *et al.* (2007), to staff ratios with fewer 'professional nurses' responsible for managing care, while delegating what used to be considered their 'proper work' to cheaper labour (Advanced Health Care Assistants). These shifting roles reflect the fluid boundaries of knowledge and practice between different disciplines. As examined through Bourdieu's lens, these have been historically and socially constructed by the complex interplay of power relations between different groups and can be seen as changing *fields* and shifting *capital*. Recognising the *expressions of habitus* as identified through the Q-study can inform the development of a strategic e-learning plan that takes into account the views and beliefs of academics. This would enable department heads in DONs to more effectively put

the NMC's 'vision' of the future nurse into practice, recognising the changing forms of *capital* and supporting those with *habitus* shaped in the old *field*.

8.4.2. Higher Education

Although the four Factors identified in this study focused on a nurse education context, the findings stand to inform a wider audience across HE and the e-learning literature more broadly. First, the choice to use Bourdieu's sociological framework to examine the relationship between the intrinsic and extrinsic factors allows theoretical generalisations to be made that could offer insights to better understand academics in other disciplines. Indeed, although the specific findings themselves are not generalizable given the methodology and the disciplinary focus, the broad insights the study provides and the research design are both transferable to other disciplines. These transferable theoretical generalisations challenge a number of the assumptions that have underpinned the literature surrounding e-learning adoption to date. It is acknowledged that e-learning adoption is a complex phenomenon and this study does not claim to have identified a 'quick fix.' Yet the socio-cultural approach provided important insights and a depth of understanding of the *variety* of views that exist about e-learning, going beyond those that have been commonly discussed in the literature.

As this study has shown, those who do not use e-learning are not necessarily 'Luddites', 'laggards,' 'technophobes' or exhibiting 'resistance to change,' (Newton, 2003; Straub, 2009; Sridharan *et al*., 2010), just as those who are 'pro' e-learning are not all 'early adopters' or computer-geeks on the cutting edge of technology use (Salmon, 2006; Birch and Burnett, 2009). The wide variety of interest and engagement in e-learning found in Factor A, as well as the unique views influencing the three other Factors, are original findings and contribute new perspectives.

With one of the missions of HE focused on developing graduates with skills required to function in the knowledge economy (KE), how educators engage with and apply e-learning will continue to be of vital importance to its process and outcomes (Souleles, 2005). As discussed in this thesis, the prevailing rhetoric has promoted e-learning as a tool for developing certain skills, such as SDL, adaptability and flexibility (see Hughes, 2009;

Bradwell, 2009 etc.). This has included a concomitant disavowal of traditional, didactic teaching methods. Yet as shown in this study, the adoption of a constructivist educational paradigm that focuses on SDL has proven to be challenging in nurse education for a number of reasons, including the ultimate responsibility for safe patient outcomes and the fundamental value that both educators and students place on didactic face-to-face instruction. A closer examination of other disciplines might identify similar pedagogic beliefs or professional cultures preventing the 'rhetoric' from being integrated into teaching practice and serve to explain why, despite the significant investments made in ICT infrastructure and support systems, there continues to be a limited uptake of e-learning by a majority of academics in HE.

Finally, one of the recommendations from the OLTF (2011) was the need for institutions to take a strategic approach when realigning their structures and processes to embed e-learning. As found in this study, this requires leadership at the institutional level, yet it also demands that academic staff recognise both the challenges and the opportunities that e-learning can provide. While the OLTF (2011) placed significant weight on the institution and its responsibility to provide support and training, the findings from this study show the importance of individual factors and their influence on the responses to these structural incentives. This can inform the development of both the support mechanisms and the design of staff training, reflecting the value in examining *habitus* in relation to the wider *field* of practice.

The use of Bourdieu's theoretical framework in this disciplinary specific research study demonstrates its relevance in terms of better understanding the social world more generally. Indeed, as pointed out in the literature review, previous studies have ignored the close association that exists between the individual and the context. Examining the *expressions of shared habitus* through Q methodology as reflections of the *field* from which they emanate is an invitation to consider the value of this exploration from a broader sociological perspective. In other words, although e-learning was the focus of this study, the approach employed for examining this phenomenon provides a model for gaining better insight into individuals' responses where more conventional methods of enquire have been unable to capture the complexity of these interactions. This approach could be applied in other

research studies seeking to explore and shed light on other complex sociological phenomenon.

The next section offers recommendations that are specific to the context of this study and its context.

8.5. Recommendations

This section provides recommendations based on the findings from this study to inform future e-learning strategy and policy development as well as assist e-learning and staff development teams and individual academics. The recommendations are particularly directed at Hillgate University and the DON having been the subjects of this case study. However, these recommendations are equally relevant for other Russell group institutions and schools of nursing. Following the format of the case study in Chapter 4, recommendations are made using similar levels though the context is narrowed to within a university setting. The macro level recommendations are aimed at senior management and strategic and operational staff at the university level. Referring to Hillgate's current 'Learning, Teaching and Assessment Strategy 2009-2012,' suggestions are offered to better acknowledge the four Factors when applicable. Similarly, the meso level is aimed at the head of school and the e-learning team in the DON and refers to the 'E-learning and media strategy 2008-2013' to provide a critical analysis of how it caters to the needs and views of the four Factors. Finally, the micro level recommendations are aimed at nurse educators as they have been identified as having an important role in e-learning adoption. Other stakeholders are deliberately left out having not been included in the sample (e.g. students).

8.5.1. Macro level: University

In Hillgate's current strategy the university states its commitment to providing students the opportunity to experience blended learning environments that encourage and promote self-study, using both e-learning and face-to-face contact. To do so, the strategy assures "experienced and skilled academic staff" and appropriate IT and technical support to facilitate the range of available innovative learning technologies. The findings from this current study allow us to identify two assumptions that could prevent the strategy from fulfilling this commitment. The first is the underlying assumption that both academics and

students value self-directed study and the second is that the provision of IT will lead to skilled academic use.

To address the first assumption, Hillgate must clearly explain in promotional brochures and 'Open Days' the benefit of self-study and self-directed activities to its potential students. The advantages of developing these skills and their transferability in the job market must be made explicit so students are aware of the advantages of developing these skills but also aware of the university's expectations before they begin. As discussed in Chapter 7, there is a tendency for students to prefer a didactic style since this is the pedagogical approach they are most accustomed. Similarly, academics must be explicitly told the advantages of student-centred teaching and provided practical demonstrations of how these abstract learning theories can be translated into teaching.

The second assumption relates to the availability of IT support systems. As was discussed in Chapter 4, while there has been adequate provision of IT infrastructure and technical support at Hillgate, still lacking are experienced and skilled academics. Although ample training opportunities have been made available to staff, there is still a lack of interest and awareness on the part of academics to invest in the time necessary to attend the training (as noted in Factors B, C and D). For academic staff to become experienced and skilled in e-learning, they first need to develop an interest and gain an awareness of the available technologies. This points to the need for a large-scale promotional campaign at the institutional level aimed at raising awareness and creating a 'buzz' around its value. This campaign could also contribute to addressing the first assumption made in Hillgate's strategy by presenting e-learning as a means of developing marketable skills for future graduates. Promoting e-learning widely would contribute to its increased *capital* value by identifying technology as an 'expected' part of teaching and learning. A first sign of this was in Hillgate's choice to rename the most recent strategy 'Learning, Teaching and Assessment,' rather than singling out 'E-learning' as a separate and optional 'add-on' to teaching.

A heavy emphasis in Hillgate's strategy is on 'internationalisation' and the use of e-learning to facilitate the exchange across its multiple campuses. For some academic staff, this may seem irrelevant and contribute to a continued lack of engagement. The use of

technology to increase access and widen participation does not promote its use as a way for improving teaching and learning. As noted in Factors B and D, physical contact in teaching is what is most valued by these academics. It is essential therefore to address such concerns about technology 'replacing' face-to-face contact by promoting it as an opportunity to 'extend' this contact. This 'extra contact' is made possible through asynchronous discussion forums, synchronous chat rooms and social collaboration sites, allowing discussions begun in the classroom to be prolonged over the course of the week until the next face-to-face meeting. Other approaches would be necessary to cater to academics such as Factor C, who were sceptical of e-learning's pedagogical value. Hillgate could fund a systematic review of the literature to clearly identify the effects of certain technologies on particular learning outcomes.

Although the current strategy discusses the needs of 'digital native' students, there is not enough focus on the needs of academics. When promoting e-learning there must be a focus on the user's perspective, emphasising its pedagogical application and its 'relative advantage.' Some participants loading on Factor A and all of those loading on Factors B, C and D noted a lack of knowledge when it came to their ability to 'translate' what they did in the classroom into an 'electronic' format. This explains why most 'e-learning' has resulted in 'online document dumping,' since academics simply replicate what they do in classrooms, only they do so online. This is because e-learning is not 'transparent' and its properties are not obvious. Thus, how various pedagogical activities conducted in class 'look' online must be clearly explained and demonstrated through seminars and hands-on workshops that focus on 'pedagogy' rather than 'technology.'

The current strategy recognises the need to 'share good practice' across the institution and Hillgate provides numerous avenues for academics to share innovations through e-learning seminars and conferences. Yet as noted in the case study and the post-sort interviews, these are attended mostly by academics already involved in e-learning. To reach academics not inclined to make time to go to 'e-learning' events (such as Factors B, C and D), Hillgate University should 'go to them.' Newsletters, emails, posters, leaflets and brochures should publicise case studies that present staff across Hillgate who are using e-learning innovatively. This would contribute to the acknowledgement of innovative educators (and

influence the recognition of this form of *capital*), encourage the sharing of best practices and develop a useful reference resource for other academics wanting to experiment. Instead of relying on academics to access the *Teaching at Hillgate* website, a 'push' tactic would contribute to raising the awareness of the value placed on e-learning rather than passively expecting academics to seek the resources on their own. While creating a website may suffice for those academics loading on Factor A, it would not address the views of Factors B, C and D who are not intrinsically interested in e-learning.

Another important emphasis must be on the diversity of tools available to meet different learning outcomes. As was identified in this study, e-learning is frequently associated with the institutional VLE (e.g. WebCT). This institutional platform was described by the participants as 'rigid,' 'clunky' and unintuitive. Bad experiences with the VLE can have long-term effects on the way technology is subsequently accepted and adopted. As seen with Factor C, it can be difficult to re-engage users who have been 'disillusioned by a disappointing first experience' (Haymes, 2008). Although little is known about the long-term effects of attempting to use technology and failing (Straub, 2009), Factor C's views confirm that there is a negative cycle caused by adverse e-learning experiences that can affect self-confidence and trust in the use of technology. While Hillgate has recently chosen to transfer to a new VLE (Moodle), they need to continue supporting and encouraging the use of parallel technologies (e.g. Web 2.0) that are generally more user-friendly and intuitive and allow for more innovative teaching practice.

One of Factor C's concerns was a sense that academics were left on their own when it came to learning how to integrate technology into their teaching. Factor C did not feel sufficiently 'supported.' Considering the significant financial investments made in IT across Hillgate and the availability of training workshops (as seen in Chapter 4), it is clear that the 'support' and 'investments' desired by these academics is not merely financial. Hillgate's recent strategy aims to encourage academic staff to develop their scholarship in teaching by recognising excellent teaching and supporting applications for national awards. Moreover, teaching has recently been included as a criterion in promotions and activity review processes, hence contributing to its increased *capital.* For this to be effective, however, Hillgate must actively demonstrate this in practice and publicise the extent to which

teaching is being recognised in practical terms. As individuals begin to notice that teaching is as valued as research in Russell group institutions, this will contribute to the time some academics will be willing to make to experiment with different teaching tools. Thus, incentives do not only have to be financial, but can include the raising of recognition of teaching activities to increase its *capital* value, shifting the priorities of academics.

8.5.2. Meso level: Department

While the recommendations aimed at Hillgate are equally relevant for the DON, this meso level section provides disciplinary suggestions for facilitating the integration of e-learning within nurse education more specifically. It will examine the DON's E-learning Strategy 2008-2013 to determine the areas that reflect the four Factors' views, exploring how it might be improved to better recognise them. To begin it is important to point out the value of having e-learning teams within departments rather than relying solely on a centralised department. As noted in this study, there are particular disciplinary characteristics that make it essential to understand the pedagogical needs and unique departmental culture when developing e-learning.

To complement the university-wide strategy for raising e-learning's profile, the DON must also create a buzz surrounding the use of certain technologies for meeting particular learning outcomes in nurse education. The DON's e-learning strategy recognises the need to raise awareness by identifying and formalising the role of the academic e-learning mentors, as well as recognising other 'e-pioneers' who are leading innovative technology projects. While this can and should be recognised by the e-learning group, it also needs to be recognised by the HOS who must be seen to explicitly acknowledge and support e-learning in nurse education. Such formal endorsement from senior management serves to increase the *capital* value associated with teaching, and address Factor C's perceived lack of commitment from the DON which has partly influenced their choice not to make time to invest in it.

Formal acknowledgement from the HOS can include both internal and external signs of support. Externally the DON's website should clearly show the importance of teaching and learning by adding profiles of educators who have won teaching awards and examples of

innovative teaching methods used in modules or courses. Internally, the HOS should make formal statements at staff meetings, send emails and contribute to the e-learning newsletter, recognising academics who have demonstrated excellent teaching and/or educational research. This should be in addition to the recognition of academics successful at winning grants or publishing clinical nurse research, thus demonstrating the value of both teaching and research within the DON.

Other actions demonstrating the department's commitment would be the provision of in-house grants to develop teaching and the development of awards and prizes aimed at increasing the recognition of teaching through formal feedback on performance. This would address the views of the three Factors who thought there were inadequate 'incentives' for e-learning. Although claiming not to have been influenced by such external drivers, Factors B and D would inevitably recognise the recognition of teaching within their department and the changing *capital* associated with this activity. As noted at the university level, formal recognition of e-learning through direct links to staff activity review processes contributes to its *capital* worth. This would demand that senior staff include e-learning as one of the goals in staff activity reviews thus giving permission to spend time developing teaching and e-learning.

The DON's e-learning strategy points to the need to develop and promote the use of a number of Web 2.0 technologies such as blogs, e-portfolios and other collaborative software to enhance students' learning experiences and prepare them for new ways of learning in a digital age. Yet as identified in this study, before this can occur academics need to understand how technology might improve on teaching strategies currently in place. As discussed in Chapters 1 and 7, the discourse promoting e-learning has been accompanied by an assumption that the current state of affairs requires a radical overhaul. Yet promoting e-learning as 'revolutionary change' to those who do not think a change is necessary inevitably distances these academics. Instead, nurse educators should be given the opportunity to think of new ways of working for themselves through the provision of information about how certain technologies might facilitate pedagogical practices they already value. When placed in the context of their own subject matter nurse educators can

begin to see the links between what they do and how a particular technology might fit into their teaching practice.

The findings from this study can also be used to design workshops for nurse educators with the aim of meeting their needs and levels of readiness. It was shown that while Factor A was enthusiastic about e-learning they demonstrated a wide range of engagement. While some Factor A participants were not using e-learning at all, others were actively experimenting with it, or had a responsibility to develop and promote e-learning at a departmental and institutional level. When examined alongside the three other Factors, the range of engagement echoes those found in the 'Stages of Change' model (Prochaska and DiClemention, 1983). The six stages are pre-contemplation (not acknowledging a need for change), contemplation (acknowledging a need for change but not sure how to make the change), preparation (getting ready to change), action (change), maintenance of the changed behaviour and relapse (returning to previous behaviours). Approaching the model in a simplified manner and imagining that the 'behavioural change' is e-learning adoption, Factor A might be found anywhere between contemplation to maintenance; Factors B and D are at pre-contemplation; and Factor C could be argued to have relapsed.

When designing workshops, the e-learning group would be able to acknowledge the wide breadth of views identified in this study and integrate the stages of change model to determine which stage each participant identifies with. The four Factors could be introduced using images, bullet-point descriptors or brief vignettes representing each Factor. Workshop participants would then self-select the 'Factor type' and 'stage of change' they identified with and break up into groups tailored specifically to their needs and concerns. Since it is likely that individuals will relate to all four Factors at varying degrees and that this may change over time, there would be the opportunity to move to other groups throughout the duration of the workshop, which would be repeated a number of times every year.

Since not all individuals learn in the same way, a variety of options should be made available to educators to supplement the workshops. These could include one-to-one sessions, DIY modules and a formal mentorship programme. Developing a mentorship programme or an 'e-learning workgroup' would address concerns about limited

technological skills and encourage the development of a community of practice. By formally endorsing these e-learning workgroups, academics would have 'permission' to experiment with technologies. Mentors could provide on-going support for educators who develop e-learning projects following the workshops. This element is often lacking in traditional one-time only workshops, preventing what is learned out of the classroom from being integrated into teaching practice. A mentor would provide the continuity of support necessary for enabling change to take place following the workshops.

8.5.3. Micro level: Academic

The recommendations have thus far focused on institutional level strategies, yet as found in this study and noted by Salmon (2006), despite well thought out research and dissemination there remains a divide between educational research and the normal practice of academics. This is because many educators rely on discipline-specific experiences that are 'often tacitly acquired and transmitted' (Salmon, 2006, p.343). As seen in Chapter 7, each Factor had a different image of 'the nurse' influencing their pedagogical approaches. Yet, this pedagogical '*habitus*,' as described by Belland (2009), is not always recognised by educators. Thus, the first recommendation aimed at individual academics is to remain reflexive in teaching practice by keeping a teaching journal to reflect on their views about what teaching ought to look like and how it currently looks in their classrooms.

This activity is especially relevant given the changes occurring in the role of the 'lecturer.' Academics must consider what their 'value-added' contribution is now that students have access to all the information they need at their fingertips. In developing new 'graduate' nurses, for example, nurse academics must ensure they are developing skills such as an appreciation for the global context of health; critical reflection and questioning of care; creativity, self-reliance and resiliency; and the ability to exercise both intellectual capacity and moral standing in the advocacy of patient-care (ICN, 2010). These new skills demand more than the imparting of facts and require new ways of assessing learning outcomes. This consequently redefines what counts as 'good' teaching, with the educator's role shifting from 'lecturer' to 'coach,' 'guide' and 'facilitator.'

For senior academics, these pedagogical changes are justifiably disconcerting because their identity and status have thus far been defined by disseminating their expertise and knowledge. Technology can be seen as a threat if its introduction is accompanied by new 'educational paradigms' removing educators as the source of all information. Moreover, as noted in this study, there are significant issues related to nurse educators' responsibility that make this even more unnerving if there is a concern that not 'transmitting' certain information to students potentially risks compromising patient safety. These fears can, and should be allayed, however, with the acknowledgement that students do not necessarily learn just because they have been taught. Although most nurse educators are aware of this in principle there is a reluctance to apply it in practice. The second recommendation is therefore to carefully reflect on 'student learning' and the best methods for assessing this learning. Indeed as nursing continues to evolve, it will be essential for nurse educators to examine the image they have of 'the nurse,' as well as their own learning and professional experiences to identify how these have influenced and shaped the way they teach. Careful consideration must be given to the skills needing to be developed during pre-registration nursing programmes, and a systematic approach must be taken to link specific teaching strategies with methods of assessments and learning outcomes. This will require frequent and open communications between nurse educators, heads of schools, hospital administrators, health officials and nurses in practice.

8.6. Further research

There are a number of possible avenues for extending and widening the research agenda following the results of this study. To start, the same Q-set can be used in a different DON to evaluate the reliability of the Factors. The study can also be broadened to include nursing students to identify areas of consensus and dissonance with educators, clarify misunderstandings and assumptions and inform practice. Moreover, the current redesign of the nursing curriculum in the UK is an ideal opportunity to identify the most appropriate academic profile, the type and level of competencies and the educational structure best able to support the preparation of future nurse graduates. An essential follow up to this study is the identification of the right balance between behaviourism (didactic) and constructivism (SDL) and the place of e-learning in this mix. Such a study could employ Q-methodology

to explore stakeholders' views about the elements of the nursing curriculum best suited for each approach, and interventional studies could trial different teaching strategies, exploring the use of various e-learning technologies in meeting learning objectives.

Another avenue would be to use the four Factors' views to develop a survey that would examine the distribution of these views in the wider population of nurse educators across the UK. A more accurate representation of the actual numbers of educators reflecting the four Factors could facilitate their views being recognised more broadly. The survey could also include additional questions to elicit more detailed information about *habitus* and *capital* to further examine how *habitus* influences position-taking in e-learning adoption. The complexity in examining *habitus* is related to the fact that people belong to multiple groups simultaneously (family, work, sports, political, religious etc.), and are thus influenced by all these as well as their individual life trajectories. Including large data sets that provide information on socio-economic backgrounds could provide interesting insights.

Moreover, as discussed earlier, the discovery of the heterogeneity of Factor A provides an exciting avenue to further explore its variety. A closer examination through interviews and focus groups could yield valuable information for better understanding and engaging these individuals. Furthermore, since this study demonstrated that 'soft' issues such as social networks and academic culture were influential on e-learning adoption decisions, an exploration into the most effective approaches for exploiting these factors could further inform staff development personnel.

While studies that explore views and attitudes toward e-learning are relatively straight-forward, examining the transfer of these beliefs into actual teaching practice is more complex (Belland, 2009). If one accepts that *habitus* has influenced technology integration in teaching (rather than professed beliefs), this would require alternative methodologies to examine the effect these dispositions have on actual teaching practice. Bourdieu's theoretical framework would be ideally operationalized using a longitudinal and collaborative research design. Given the need to remain pragmatic in the design of this study the boundaries were limited. A larger research team could build on the findings from this study using a range of methodologies to examine the *habitus* of the four Factors, and a longitudinal examination of the changing *field* of nurse education (e.g. a combination of

longitudinal participant observation, ethnographic studies, surveys and interviews). A long term approach to examining how *habitus, capital* and the changing *field* influences different responses to e-learning could inform not only the nurse education community, but also higher education, social psychology and e-learning.

8.7. Closing word

By employing a unique socio-cultural approach this study has challenged the view that a lack of e-learning adoption has been the result of a resistance to change, merely requiring more training. The findings have instead confirmed that a lack of e-learning adoption is far more complex and that simply providing more training, or more time to access this training, is unlikely to be effective. When approaching e-learning adoption, it cannot be viewed as an isolated, one dimensional change process (Elgort, 2005; Schneckenberg, 2009). Nor can it be conceptualised as a simple two dimensional – individual versus institutional – change process. Rather as demonstrated through Bourdieu's theoretical framework and Q-methodology to examine *expressions of shared habitus,* e-learning adoption was seen as occurring within a much more complex underlying structural and cultural contexts. The findings identified in this study offer an opportunity to reconsider a number of assumptions and duly acknowledge the four Factors' views when developing future staff development workshops and e-learning strategies.

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Appendix A: Ethical clearance

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20 February 2009

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Dear Ms Petit dit Dariel

Ethics Reference No: D/2/2009 - *Please quote this number on all correspondence*
Study Title: Exploring the influences of individual, social and organisational factors on e-learning maturity in higher education.
Lead Investigator: Dr Heather Wharrad, Reader and Associate Professor
Co Investigators: Odessa J Petit dit Dariel, PhD Student, School of Nursing, midwifery and physiotherapy, Dr Richard Windle, Senior Lecturer e-Learning, School of Nursing, midwifery and physiotherapy.

Thank you for your letter dated 18th February 2009 responding to the issues raised by the Committee and enclosing revised version of:

- Volunteer Information sheet version 5, dated 18/02/2009

These have been reviewed and are satisfactory and the study is approved.

Approval is given on the understanding that the Conditions of Approval set out below are followed.

Conditions of Approval

You must follow the protocol agreed and any changes to the protocol will require prior Ethic's Committee approval.

This study is approved for the period of active recruitment requested. The Committee also provides a further 5 year approval for any necessary work to be performed on the study which may arise in the process of publication and peer review.

You promptly inform the Chairman of the Ethic's Committee of

(i)   Deviations from or changes to the protocol which are made to eliminate immediate hazards to the research subjects.

(ii)   Any changes that increase the risk to subjects and/or affect significantly the conduct of the research.

Appendix B: Recruitment documents

1. Invitation letter

Dear -,

I am a postgraduate student at the University of Nottingham in the School of Nursing, Midwifery and Physiotherapy. As part of my PhD in nursing studies, I am interested in exploring views and experiences with e-learning in nursing education.

I am recruiting participants to take part in my research project expected to begin in September 2009. I have included an information sheet and a consent form for you to review. If you agree to participate, I have also included a short questionnaire about the present uses of e-learning in the modules you have taught on in the last year. If you should prefer to complete this online, I can email you the link to the online version of the questionnaire.

I sincerely hope you will agree to participate as your contributions could provide some useful insight into the best approach to developing good quality, best-practices approaches to e-learning in nursing education.

Please feel free to contact me if you have any additional questions, or if you would like to set up an appointment for the next stage of the research project.

Thank you for your time and consideration.

Kind regards,

Odessa Petit dit Dariel, RN, MSN

2. Healthy Volunteer's Consent Form

Title of Project
Elusive e-learning? Exploring factors influencing e-learning use in nursing education

Name of Investigator
Odessa Petit dit Dariel, RN, MSN,
Postgraduate student, University of Nottingham
School of Nursing, Midwifery and Physiotherapy

Please read this form and sign it once the above named, or their designated representative, has explained fully the aims and procedures of the study to you

a)   I voluntarily agree to take part in this study and have the interview audio-recorded.

b)   I confirm that I have been given a full explanation by the above named and that I have read and understand the information sheet given to me which is attached.

c)   I have been given the opportunity to ask questions and discuss the study with the above investigator on all aspects of the study and have understood the advice and information given as a result.

d)   I authorise the investigators to disclose the results of my participation in the study but not my name.

e)   I understand that information about me recorded during the study will be kept in a secure database. If data is transferred to others it will be made anonymous. Data will be kept for 7 years after the results of this study have been published.

f)   I understand that I can ask for further instructions or explanations at any time.

g)   I understand that I am free to withdraw from the study at any time, without having to give a reason for withdrawing.

Name:
………………………..………………………………………………………………………

Address:
………………………..………………………………………………………………………..

Telephone number: ………………………………………………………………………….

Signature: …………………………………..……………………………………. Date: _____

I confirm that I have fully explained the purpose of the study and what is involved and given the above named a copy of this form together with the information sheet.

Investigator's Signature: ………   ………………………………Date …………………………….

Study Volunteer Number:…………………………………..…………………………………..

3. Healthy Volunteer's Information Sheet

Title of Project: Elusive e-learning? Exploring factors influencing staff use of e-learning in nurse education

Name of Investigator: Odessa Petit dit Dariel, RN, MSN, Postgraduate student, University of Nottingham

You have been invited to take part in a research study. Before you accept to participate it is important to understand why the research is being done and what it will involve. Please take time to carefully read the following information. Do not hesitate to ask me if there is anything that is not clear or if you would like more information. Please take time to decide whether you wish to take part or not. If you decide to take part you may keep this leaflet, otherwise, you can return it to me. Thank you for your time.

Background: E-learning is increasingly a high priority issue at both the national and international level, but this enthusiasm is not filtering down as readily as expected into classrooms in higher education, or into nurse education specifically. There are a number of factors believed to be influencing how readily e-learning is being integrated into classrooms. This research project aims to expand on what is known by exploring how beliefs about the learning process, social networks and academic culture potentially influence if, how and why e-learning becomes part of teaching practice. With a better understanding of how these complex factors interact and influence adoption and integration of e-learning into nursing education, appropriate strategies can be developed to address them and the quality of e-learning can improve. This study will use Q-methodology and an interview as a way of exploring your views and beliefs about e-learning and its use in nursing education, in order to better understand how to improve its overall quality.

What does the study involve? Short questionnaire, Q-sorting, interview: This will take a total of about 1.5 hours of your time. If you consent to take part in this study, you will first be asked to complete a short questionnaire prior to our meeting. At our first meeting you will be asked to complete a Q-sort, followed by an interview relating to how you have sorted the cards (for more details please see Appendix).

Why have you been chosen? You have been chosen to participate in my research project because you are a part of the Division of Nursing at (Hillgate University).

Do you have to take part? It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and asked to sign a consent form. Even if you decide to take part you are still free to withdraw at any time and without giving a reason.

What do I have to do? If you agree to take part in this study, you will be committing to one meeting and a few email/telephone exchanges. First, you will have the option of completing the consent form and questionnaire either online or as a hard copy. Then, once you have confirmed your participation, I will contact you to schedule a meeting to perform the Q-sort and the interview. I will always do my best to work around your schedule as I realise your time is valuable.

What are the possible disadvantages of taking part? Loss of time may be the only possible disadvantage of taking part in this research.

What if something goes wrong? To whom can I complain? In case you have a complaint on your treatment or anything to do with the study, you can contact the Ethics Committee Secretary, Mrs Louise Sabir, Division of Therapeutics and Molecular Medicine, D Floor, South Block, Queen's Medical Centre, Nottingham, NG7 2UH. Telephone 0115 8231063. E-mail louise.sabir@nottingham.ac.uk.

Will my taking part in this study be kept confidential? In accordance with the current Data protection Act, all information collected while carrying out the study will be stored on a database which is password protected and strictly confidential. The digital and textual data resulting from the interviews will be kept in a secure and confidential location. Your name will not appear on any database or any information which is subsequently published. Instead, a number will be used as an identifier on all data associated with you. The master copy of the names associated with each number will be kept in a secure and confidential location. Any information about you which leaves the research unit will have your name and address removed so that you cannot be recognised from it.

What will happen to the results of the research study? I anticipate disseminating findings from this research project by publishing results, as well as using the data to support further staff development strategies and influence policy within the university which will allow e-learning quality and evaluation to improve.

Who has reviewed the study? This study has been reviewed and approved by the University of Nottingham Medical School Ethics Committee.

Contact for Further Information: If you would like to contact me at any time, either before, during or after the research study, I can be reached at:

Odessa Petit dit Dariel,
School of Nursing, Midwifery and Physiotherapy
The University of Nottingham
B floor, South Block Link
Medical School
QMC, NG7 2UH
Mobile: 07980-025941
email: ntxod@nottingham.ac.uk

Thank you for your time and for taking part in this study.

APPENDIX:

- If you agree to participate, you will be asked to sign the consent form and complete a short questionnaire (either hard or online copy)

- I will then contact you to decide on a time and place to meet at your convenience beginning in September 2009

- I will provide you with some laminated index cards and a grid

- You will begin by reading the statements printed on the laminated cards

- You will then sort the cards on the grid in relation to how you agree or disagree with each card

- After the sorting process, you will be asked some questions relating to how you have sorted your cards

- You will then be asked to explore how you have used certain e-learning applications in your practice, or if/how you plan to use them in the future

- Interview will be audio-taped

- Data generated from the 'Q-sorts' will be input into a PQMethod software package which will perform a factor analysis which will allow me to determine groups of participants who have similar views toward e-learning.

Appendix C: Q-set

1	Innovative teaching is recognised at the division of nursing
2	I prefer a traditional lecture format
3	It is my university's responsibility to provide training on how to use e-learning
4	I do not have enough time to experiment with e-learning
5	It is the lecturer's primary responsibility to cover all the module content
6	Students should take responsibility for their own learning
7	The quality of all my modules would improve with the use of e-learning
8	It is the lecturer's responsibility to learn how to integrate e-learning into their modules
9	The use of e-learning in my modules has wasted valuable time
10	The most important barrier preventing use of e-learning is a lack of training
11	The decision to use e-learning should rest with the lecturer
12	When I am trying something new, I need an opportunity to test out my ideas without worrying about making mistakes
13	E-learning provides increased opportunities for social interaction
14	E-learning is just a fad
15	There is no evidence that e-learning improves learning outcomes
16	Communication is better in person than online
17	There should be little difference between face-to-face and e-learning teaching strategies
18	E-learning is contributing to the commercialization of education
19	I'm simply not interested in e-learning
20	The best way for students to learn is by finding things out for themselves
21	A student-centred design cannot work in my class, it is too time consuming
22	Lecturers' should talk and students should listen
23	It is unrealistic to expect students to take control of their own learning
24	Learning how to use knowledge is more important than accumulating it
25	Effective teaching should be about giving learners more control
26	Students won't bother coming to class if materials are placed on WebCT
27	WebCT is useful for posting lecture notes in order to free up class contact time for more hands-on activities

28	The essence of nursing is lost in an e-learning environment
29	E-learning is a problem, not a solution
30	Making lecture podcasts available on the web decreases the value of the lecturer
31	E-learning' is driven by economics, not by learning
32	Face-to-face contact between students and lecturers is the most crucial element in the learning process
33	Mentoring and peer support are essential to the learning process
34	It is time to re-think how learning happens
35	E-learning threatens the existence of traditional educational institutions
36	In e-learning the role of the lecturer is not less important, it's just different
37	Reflection should be designed into all learning activities
38	My university gives me sufficient time to learn how to use e-learning
39	My university provides me with reliable access to technology
40	Nurses in the 21st century are required to know how to use technology
41	Technology is frustrating and confusing and detracts from learning
42	I feel as though I have ownership over my modules
43	Watching peers use e-learning successfully has inspired me to experiment with it
44	I learn best when working in groups with my peers
45	Requiring students to use e-learning creates a disadvantage for those who struggle financially
46	There are adequate incentives to use e-learning at the division of nursing
47	There is an active knowledge sharing community in my school
48	Students should be required to have basic IT skills prior to enrolling in the nursing programme
49	Students can only learn nursing through hands-on experiences
50	Module assignments should place greater emphasis on social learning between students
51	My subject area cannot be translated into an e-learning environment
52	I use e-learning because it's expected
53	Innovative teaching techniques are frequently used in my courses

Appendix D: Q-set factorial table

Themes and issues	Theory, Q-statements and sources
A. Institutional	**Diffusion of Innovation**
Issue: Time	My university gives me sufficient time to learn how to use e-learning (#38) (Adapted from Zemsky and Massy, 2004)
Issue: Rewards and recognition	Innovative teaching is recognised at the school of nursing (#1) (Adapted From Zemsky and Massy, 2004)
Issue: Incentives	There are adequate incentives to use e-learning at the school of nursing (#46) (Adapted from Bowe, 2008)
Issue: Training	It is my university's responsibility to provide training on how to use e-learning (#3) (Adapted from Zemsky and Massy, 2004)
Issue: Training	The most important barrier preventing use of e-learning is a lack of training (#10) (Adapted from Newton, 2003)
Issue: Infrastructure	My university provides me with reliable access to technology (#39) (Adapted from Zemsky and Massy, 2004)
Issue: Organisational culture	When I am trying something new, I need an opportunity to test out my ideas without worrying about making mistakes (#12) (Adapted from Ertmer, 2005)
Issue: Organisational culture	There is an active knowledge sharing community at the school of nursing (#47) (Adapted from Rogers' Diffusion of Innovation theory (DOI))
B. Individual	**Concerns Based Assessment Model and Technology Acceptance Model**
Issue: Time	I do not have enough time to experiment with e-learning (#4) (Adapted from Zhen *et al.*, 2008)
Issue: Continuing professional development	It is the lecturer's responsibility to learn how to integrate e-learning into their courses (#8) (Adapted from Fanghanel, 2007)
Issue: Ownership	I feel as though I have ownership over my modules (#42) (Adapted from Zemsky and Massy, 2004)
Issue: Autonomy	The decision to use e-learning should rest with the lecturer (#11) (Adapted from Ertmer, 2005)
Issue: Expectation	I use e-learning because it is expected (#52) (Adapted from Newton, 2003)
Issue: Time wasting	The use of e-learning in my modules has wasted valuable time (#9) (Adapted from Mahdizadeh *et al.*, 2008; Ebersole and Vorndam, 2003)
Issue: Value of e-learning	The quality of all my modules would improve with the use of e-learning (#7) (Adapated from Oliver , 2005 and Mahdizadeh *et al.*, 2008)
Issue: Motivation	I'm simply not interested in e-learning (#19) (Adapted from Mahdizadeh *et al.*, 2008)
C. Social	**Communities of Practice**
Issue: Peer support	Mentoring and peer support are essential to the learning process (#33) (Adapted from JISC e-learning programme, 2009 and TESEP principles)
Issue: Inspiration	Watching my peers use e-learning successfully has inspired me to experiment with it (#43) (Adapted from Rogers' DOI)
Issue: Group work	I learn best when working in groups with my peers (#44) (Adapted from Bowe, 2008 and TESEP principles)

Themes and issues	Theory, Q-statements and sources
Issue: Social interaction	E-learning provides increased opportunities for social interaction (#13) (Adapted from Steel and Hudson, 2001)
Issue: Communication	Communication is better in person than online (#16) (Adapted from Zhen *et al*., 2008)
D. Pedagogical	**Transforming and Enhancing the Student Experience through Pedagogy (TESEP)**
Issue: Learner control	Effective teaching should be about giving learners more control (#25) (Adapted from TESEP principles)
Issue: Learner responsibility	Students should take responsibility for their own learning (#6) (Adapted from Falchikov, 1993)
Issue: Active learning	The best way for students to learn is by finding things out for themselves (#20) (Adapted from TESEP principles)
Issue: Learner control	It is unrealistic to expect students to take control of their own learning (#23) (Adapted from Lecouteur and Delfabbro, 2001)
Issue: Construction of knowledge	Learning how to use knowledge is more important than accumulating it (#24) (Adapted from Lecouteur and Delfabbro, 2001)
Issue: Social learning	Module assignments should place greater emphasis on social learning between students (#50) (also under 'Pedagogy') (Adapted from TESEP principles)
Issue: Reflection	Reflection should be designed into all learning activities (#37) (Adapted from Deignan, 2005; Kiteley and Ormrod, 2009)
Issue: Rethinking traditional pedagogies	It is time to re-think how learning happens (#34) (Adapted from Deignan, 2005)
E. Perceived use and role of technology	**Technology Acceptance Model (TAM) and Technology, Pedagogy and Content Knowledge model (TPCK)**
Issue: Attendance	Students won't bother coming to class if materials are placed on WebCT (#26) (Adapted from Bin and Munro, 2008)
Issue: Teaching enhancer versus job threat	Making lecture podcasts available on the web decreases the value of the lecturer (#30) (Adapted from Steel and Hudson, 2001)
Issue: Web as repository versus self-directed learning	Web CT is useful for posting lectures in order to free up class contact time for hands-on activities (#27) (Adapted from Bin and Munro, 2008)
Issue: Traditional versus blended	I prefer a lecture format (#2) (Adapted from Kiteley and Ormrod, 2009)
Issue: E-learning pedagogy	There should be little difference between face-to-face and e-learning teaching strategies (#17) (Adapted from Zhen *et al*., 2008)
Issue: Facilitation versus redundancy	In e-learning, the role of the lecturer is not less important, it's just different (#36) (Adapted from Deignan, 2005)
Issue: Human contact is essential	Face-to-face contact between students and teachers is the most crucial element in the learning process (#32) (From Steel and Hudson, 2001)
Issue: Innovation	Innovative teaching techniques are frequently used in my courses (#54) (Adapted from Lecouteur and Delfabbro (2001)
F. E-learning in HE	
Issue: Educational fad	E-learning is just a fad (#14) (Adapted from Zemsky and Massy, 2004)
Issue: Unnecessary change	E-learning is a problem, not a solution (#29) (Adapted from Guri-Rosenbit, 2005)

Themes and issues	Theory, Q-statements and sources
Issue: Economic driver	E-learning' is driven by economics, not by learning (#31) (Adapted from Steel and Hudson, 2001)
Issue: Commercial driver	E-learning is contributing to the commercialization of education (#18) (Adapted from Newton, 2003)
Issue: No evidence	There is no evidence that e-learning improves learning outcomes (#15) (Adapted from Newton, 2003)
Issue: Challenging HEIs	E-learning threatens the existence of traditional educational institutions (#35) (Adapted from Deignan, 2005)
Issue: Lack of training	Technology is frustrating and confusing and detracts from learning (#41) (Adapted from Ebersol and Vondam, 2003)
Issue: Widening participation	Requiring students to use e-learning creates a disadvantage for those who struggle financially (#45) (Farrell, 2006)
G. E-learning in nursing	
Issue: Healthcare changes	Nurses in the 21st century are required to know how to use technology (#40) (Adapted from current nursing literature)
Issue: Nursing education changes	Students should be required to have basic computer skills prior to enrolling in the nursing program (#48) (Personal correspondence with lecturer)
Issue: Practice-based profession	Students can only learn nursing through hands-on experiences (#49) (Adapted from Mayes, 2007 and TESEP pedagogical principles)
Issue: Duty to teach	Lecturers' should talk and students should listen #22 (Adapted from Lecouteur and Delfabbro, 2001)
Issue: Content coverage	A student-centred class design cannot work in my subject area, it is too time-consuming (#21) (From personal communication with lecturer)
Issue: Nursing as person-centred	The essence of nursing is lost in an e-learning environment (#28) (Adapted from Conole *et al*., 2008)
Issue: Nursing as human-centred	My subject area cannot be translated into an e-learning environment (#51) (Adapted from Conole *et al*., 2008)
Issue: Lecturer expectations	The lecturer's primary responsibility is the delivery of information to students (#5) (Adapted from Falchikov, 1993)

Appendix E: Q-set structured theoretical framework

I. Institutional issues

A. Diffusion of Innovation (DOI) theory

Rogers' (2004) theory of the diffusion of innovation (DOI) is useful when exploring a range of social behaviours related to innovation adoption within an organisation. Although initially developed from research in agriculture and farming, the theory has found a following in a number of varied disciplines. According to Rogers (2004), achieving diffusion of innovations requires participants to create and share information with each other through activities and practices that will ultimately achieve certain sustained effects in their social system.

'Innovation,' according to Rogers, is an idea, practice or object perceived as new by the individual and 'diffusion' is the process by which an innovation makes its way through a social system. Although his model is primarily used at an organisational level, Rogers' notes specifically that personal and attitudinal barriers play an important part in the prediction of current use and future intentions to adopt innovations.

II. Individual issues

A. The Technology Acceptance Model (TAM)

The technology acceptance model (TAM) is perhaps the most widely applied theoretical model in Information Systems research (Chau and Hu, 2001). Davis developed the Technology Acceptance Model (TAM) in 1989, based on Rogers' Diffusion of Innovation theory but with a specific emphasis on technology. Davis (1989) proposes that some factors influencing users' decisions to use a new technology include its 'perceived usefulness' (PU); the degree to which it might enhance job performance; its ease of use; and how much effort will be required to adopt it. TAM also uses elements of the Theory of Reasoned Action (TRA) developed by Fishbein and Ajzen (1975).

B. Concerns Based Assessment Model (CBAM)

When investigating the individual perspective of change, the Concerns Based Assessment Model (CBAM) provides a way of examining the various concerns users may have related to the adoption of an innovation. Although there are several instruments making up this model, the 'Stages of Concern' Questionnaire (SoCQ) is the most widely used (Hord *et al.*, 1987). The SoCQ aims to define potential users as composite representations of thoughts, feelings, preoccupations and considerations relating to a particular issue (Hord *et al.*, 1987). Underlying this model is the assumption that individuals' concerns play an important role in the adoption process of higher education innovations and must be addressed during the implementation of an innovation (Lee and Lawson, 2001).

The SoCQ provides a way of examining user concerns and identifies four broad stages of concern involving: the unrelated (concerns not related to the current innovation); the self (concerns about how the innovation personally affects the individual); the task (concerns about how the innovation is managed); and the impact (concerns about how the innovation impacts others) (Hord *et al.*, 1987). Key to the CBAM framework is the notion that facilitating change means understanding the existing attitudes and perceptions of those involved in the change process, with the central underlying assumption of CBAM asserting that the single most important factor in any change process is the people involved (Hall *et al.*, 1987).

III. Social issues

A. Community of Practice (COP)

Communities of practice (COP) are groups of self-organising systems that come together for informal learning about a common aim, objective or interest (Wenger, 1998). Wenger (1998) stresses the importance of social relationships and co-participation in his seminal work on Communities of Practice. According to Hanks (1991) learning takes place in the context of social engagements rather than merely cognitive processes and conceptual structures.

IV. Perceived use and role of technology

A. Technological, Pedagogical and Content Knowledge (TPACK)

The Technological, Pedagogical and Content Knowledge Framework (TPACK) was developed based on Lee Shulman's (1986), 'Pedagogical Content Knowledge' model. Shulman argued that for good teaching knowledge of subject matter and general pedagogical strategies was helpful, but not sufficient (Mishra and Koehler, 2006). The basis of the framework lies on the premise that teaching is a highly complex activity that occurs in ill-structured, dynamic environments and requires knowledge not only of the subject matter, but also knowledge of student thinking and learning, appropriate and timely pedagogical skills and learning theory and increasingly the ability to integrate and make use of technology. Historically, however, staff development has focused either solely on content knowledge or on pedagogical knowledge. Yet, like content and pedagogical knowledge, knowledge of technology is often considered separately from content and pedagogy (Mishra and Koehler, 2006). TPCK aims to emphasise the importance of viewing these three types of knowledge as inseparable and central to good teaching.

V. Pedagogy

A. Transforming and Enhancing the Student Experience (TESEP)

TESEP is a project that was launched in 2005 to explore how the transformation of learning, teaching and assessment in higher education could be driven by e-pedagogy (Comrie, 2007). The program recognised that the emphasis placed on technology as the driver for change had virtually ignored the importance of pedagogy (Comrie, 2007). The designers of this program argue that technology ought to be an 'enabler' (rather than a driver) if there was to be any significant transformation in teaching and learning practices (Comrie, 2007). TESEP principles emphasise learners in control; active learning; peer and collaborative support; and personalised teaching (Comrie, 2007).