‘On being locked out’. The Lived Experience of Mature, Female Student Nurses and their use of Information, Communication, Technology (ICT) in one undergraduate Pre-Registration Nursing Programme.

A thesis submitted to the University of Manchester for the degree of Doctor in Education (EdD) in the Faculty of Humanities

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<tbody>
<tr>
<td>AEI</td>
<td>Approved Educational Institution</td>
</tr>
<tr>
<td>CLAiT</td>
<td>Computer Literacy and Information Technology</td>
</tr>
<tr>
<td>CoPs</td>
<td>Communities of Practice</td>
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<tr>
<td>DH</td>
<td>Department of Health</td>
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<tr>
<td>ECDL</td>
<td>European Computer Driving Licence</td>
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<tr>
<td>EdD</td>
<td>Doctor in Education</td>
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<td>HEI</td>
<td>Higher Education Institutions</td>
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<tr>
<td>ICT</td>
<td>Information and Communication Technology</td>
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<td>NHS</td>
<td>National Health Service</td>
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<td>NI</td>
<td>Nurse Informatics</td>
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<td>NMC</td>
<td>Nursing and Midwifery Council</td>
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<tr>
<td>PEF</td>
<td>Practice Educator Facilitator</td>
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<tr>
<td>QAA</td>
<td>Quality Assurance Agency</td>
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<tr>
<td>UK</td>
<td>United Kingdom</td>
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<tr>
<td>VLE</td>
<td>Virtual Learning Environment</td>
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Abstract

The University of Manchester

Lyndsey McPhail

Doctor in Education

‘On being locked out’. The Lived Experience of Mature, Female Student Nurses and their use of Information, Communication, Technology (ICT) in one undergraduate Pre-Registration Nursing Programme.

2015

The explosion of Information, Communication and Technology (ICT) use over the last 10 years within healthcare, and particularly within nursing practice, is changing the ways in which patient care is delivered. However a concern highlighted by various policy review and research evidence is that barriers to ICT usage are experienced by some groups of student nurses, particularly those who are mature and female, in a way that constrains potential impact on their professional development. This research adds to and develops the research evidence in the field by examining in what ways, and the extent to which, a group of mature, female, nursing students utilise ICT within the boundaries of one pre-registration nursing programme based on partnership working between a School of Health situated within a large university and its related NHS Trusts. By way of a qualitative, case study approach this study examines the biographical, university and clinical placement use of ICT for this group of student nurses. Consideration is given to the interconnectedness of these experiences as these students begin to develop their professional identities and learning as nurses. The experiences of this group of students are determined through interviews and observation of clinical practice. Three research questions define the parameters of the research. These are: 1) How are mature, female nursing students accessing and using ICT within nursing education? 2) What are the barriers that may prevent mature, female students from accessing and using ICT within nursing education? 3) What actions do mature, female nursing students consider may be taken to improve their knowledge and subsequent use of ICT in both their academic studies and clinical placement work? Findings from the research suggest that experiences of ICT relate to biographical history and the extent to which student nurses are supported and encouraged to engage with ICT in their university programme and on clinical placement. In particular the data suggests that for many student nurses the feeling and experiences of being generationally, emotionally and hierarchically ‘locked out’ of using ICT raises real challenges for the extent to which government and regulatory policy is being effectively enacted for particular groups of student nurses. This study, therefore, contributes to knowledge in and around pedagogical practice for pre-registration nurse education programmes. In particular it raises the importance of locating policy development in this area around the explicit privileging and enabling of ICT usage in all practice situations. In other words the development of a collective efficacy in nurse pre-registration programmes that is suggestive of notions of being ICT ‘logged in’ rather than being ‘locked out’ for mature, female student nurses.
Declaration

I hereby declare that no portion of the work referred to in the thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning.

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Dedication

I dedicate this thesis to all of those mature, female student nurses who have been willing to share their stories with me.

Acknowledgements

To my supervisor, Professor Carlo Raffo in the School of Environment, Education and Development at the University of Manchester, thank you for your invaluable support and guidance. Your inspiration and commitment made me believe that I could complete what I have come to conclude is probably the most challenging journey that I have ever embarked on in my life.

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To my friends and colleagues, thank you for your encouragement, but particularly my ‘sister’ Alison Young for her continued faith in me, Jean Duckworth (my ‘study buddy’) and Debi Spencer for her motivational texts during long hours of study and her patience with regard to my own ICT use!

………………And finally to my husband Roy, who has been there and both loved and supported me as only he knows how. Thank you.
Chapter 1: Introduction

1.1 Background and Rationale

The availability and expectation of the use of Information and Communication Technology (ICT) within the National Health Service (NHS) has opened up a whole new area of discussion within nursing and other health-related disciplines. The Department of Health (DH) (2002, 2008, 2011) has recognised that the appropriate use of ICT in the NHS is essential to the continuation of, and improvement in, the delivery of effective, good quality care. With regards to the nursing profession the availability of computer technology has opened up a whole new field of progress (Lowry and Johnson, 1999). Central to this is the notion that electronic data and knowledge are both key contributors to the overall improvement of patient care. In addition there is a strong emerging theme articulated in a number of important policy documents that the utilisation of ICT brings about a rich, focused, data informed evidence base which is paramount to the continuation of professional nursing practice (Darzi, 2008). With regards to nurse education, Johnson and Eisenberg (1996) highlight how student nurses need to be able to utilise technology in a flexible, creative and purposeful way. They advocate that all students should be able to recognise what needs to be accomplished, ascertain if a computer can assist them in achieving their goal and then be able to use the computer as part of the process. This notion is then clarified further when they state that learning and teaching programmes should be designed to focus on computer skills for information problem solving, an important factor and central tenet within all healthcare education. However there is evidence to suggest that potential of ICT within the nursing education is yet to be fully realised, (Bond 2009; Mavrou 2011; Francis 2013). A central element to this challenge is suggested by Kevern and Webb (2004) who argue that an enhanced widening participation agenda for nurse education and training, with an increased
recruitment of mature, female student nurses with diverse educational and occupational experiences, bring with it a certain set of challenges with regard to ICT confidence and usage (Wilkinson, Roberts and While, 2013). However, although these challenges have highlighted the impact of the widening access agenda on ICT usage and mature, females specifically, it is yet to be examined in any detail in the literature. It is both my own experience as a principal lecturer within a School of Health in a large, modern university in the North West of England and difficult personal experiences of ICT usage as a mature, female student, together with a distinct lack of research in the field that have provided both the interest and impetus for the undertaking of this study.

1.2 Aim of the Study

The aim of this study is to explore the lived experience of mature, female student nurses and their use of Information and Communication Technology (ICT) in one pre-registration undergraduate nursing curriculum.

Based on an emergent gap in the research literature three research questions were formulated that focused on the biographical, situational and attitudinal factors that appeared to impact on the ability of mature, female student nurses to both access and embed ICT usage within their professional lives:

- How are mature, female nursing students accessing and using ICT within nursing education?

1 A ‘mature student’ within healthcare education is defined as one who is aged 26 years or over before admission to the first academic year of their chosen course of study (Department of Health, 2010).
• What are the barriers that may prevent mature, female nursing students from accessing and using ICT in nurse education?

• What actions do mature, female nursing students consider may be taken to improve their knowledge and subsequent use of ICT in both their academic studies and their clinical placement work?

1.3 Structure of the Thesis

Chapter two presents and focuses on a review of both relevant and contemporary literatures and includes an examination of the biographical, situational and attitudinal factors that appear to impact on the ability of mature, female student nurses to both access and embed ICT usage, not just within healthcare organisations, but also within nursing education and their everyday lives.

Chapter three addresses both the methodological underpinnings of the study and the data collection methods. A rationale is provided as to why I chose to undertake this study through the use of a qualitative methodology and a single case study approach. Here I discuss the adoption of an interpretive approach and further locate this in a discussion concerning the ontology and epistemology adopted in the study as a way of making sense of the way that mature, female student nurses perceive their lived experiences concerning the reality of ICT usage. The utilisation of thematic analysis as a means of [re]-presenting the student’s stories is additionally discussed. The importance of ethical governance and the process of ethical approval for the study itself are both highlighted and explained.

The key research findings from this study are described in chapter four and are organised around the three research questions. The fifth chapter concentrates on the
discussion of the findings themselves, drawing on the relevant literatures as
evidenced in chapter two of this thesis, in order to provide a supporting analytical
framework whereby appropriate explanations of the research findings themselves can
be articulated.

Finally, within chapter six the main contributions of the study to the field of nurse
education and ICT will be summarised. In addition my personal reflections and
learning gained from the undertaking of this study are identified and
recommendations for further research addressed.
Chapter 2: Literature Review

2.1 Introduction

This chapter will present a synthesis of published literatures as a way of locating my study and providing a rationale for the research.

Research literatures were obtained predominately from journals, books, abstracts and the World Wide Web. Key words (e.g. mature, student nurse, nurse education, nurse informatics, computer literacy, computers, computing, information and communication technology) relating to my study aim and research questions were entered into a range of electronic databases. These included the British Index of Nursing, Embase, Medline, PubMed, EBSCO, BIOMED, OVID, CINAHL and Science Direct. Policy and guideline sites were also accessed (e.g. the Department of Health and the Nursing and Midwifery Council (NMC). Dates entered for the search were 1980 – 2015, as prior to this time there appeared to be little literature appertaining to the use of Information Communication Technology in nursing education. Non-English language studies were excluded from the review.

In undertaking this literature review in relation to the three research questions, it immediately became evident that there was a paucity of literatures that related specifically to my study. Therefore, in this chapter I document those few and yet important studies that I considered fundamental to my own research area. Key findings that focused on ICT usage and engagement by both student nurses and nurse educators are key to this review.
For the purposes of the study, my review of the literatures suggested two main generic themes. These were (a) computer and information literacy in the health services and (b) nurse education and nurse informatics.

2.2 Computer and Information Literacy in the Health Service and Nurse Education

Computer literacy simply defined concerns an individual's ability to interact with a computer (Poynton, 2005). Whereas information literacy focuses on the ability of an individual “to recognise the need for information, determine the extent of information needed, access information efficiently, critically evaluate information and its sources, classify, store, manipulate and redraft information collected or generated and incorporate selected information into their knowledge base” (Bundy, 2004 cited by Button, Harrington & Belan, 2014:1311).

Bond (2009) identified that the nature of computing policies within the National Health Service (NHS) have certainly advanced over the last ten years since the initial publication of Information for Health (NHS Executive, 1998). Now deemed to be a seminal policy, this work marked a significant shift in the way that ICT was viewed within the NHS itself. “For the first time the focus moved away from the computer and onto the patient, promoting IT as a tool that could be used to improve both patient care and patient experience” (Bond, 2009:731). This underpinning approach has been further evidenced in other policy documentation but perhaps more recently in the NHS report High Quality Care for All (Darzi, 2008) where the use of computers were highlighted as having a major support role within differing healthcare settings (Bond, 2009).
However, the study undertaken by Bond (2009) found very little improvement in the information literacy skills of nurses when compared with research that she herself had undertaken in 2004. Bond (2009) found that student nurses were still unable to handle large amounts of data retrieved through online data base searches and she further advised that pre-registration nursing curricula within the United Kingdom did not prepare students to work with ICT in the way that expected of the graduate registered nurses. This was supported by Magg’s study (2006) which concluded that formal ICT education for student nurses within pre-registration nursing curricula was limited. Magg further argued that consideration should be given to the formulation of an entry level technology skills test which should be used to determine a student’s ICT competence on their admission to the pre-registration nursing course. Additionally, ICT should be threaded throughout the whole of the curriculum to ensure that all students are equipped with the necessary competence to work within an "era of rapidly changing technological advancements" (Magg, 2006:118).

Creedy et al (2007) argued that there is a consistent lack of computer literacy amongst undergraduate student nurses especially in their ability to search the Internet. Furthermore it was identified that not all students are computer literate at the commencement of their pre-registration nursing studies. Ribbons & Vance (2001) found that 67% of student nurses enrolled onto the Bachelor of Nursing programme had never used email prior to the commencement of their course. Creedy et al (2007) consider that this may be a reflection of the students’ biographical profile on admission to the university. For those entrants who came straight from school it was apparent that there had been some exposure to computer technology however, this was deemed not to be the case for those older students, many of whom had worked in healthcare settings but had neither had computer access or been exposed to computer based instruction. As a consequence of this it was suggested that these students needed time and support in order to gain the necessary confidence to
master and use ICT in a meaningful way (Kozlowski, 2002). Additionally, Washer (2001) identified that there was still some reticence amongst female student nurses towards computer and Internet use, an issue that still continues to be a cause of concern.

Hanson (2011) considered issues concerning technological skill and age related to Web use, highlighting that there are numerous potential possibilities as to why ‘older’ adults have difficulty in mastering new technologies. She further recognised that current research has identified that today’s older adults have not grown up with mobile phones, computers and “other currently popular devices” (Hanson, 2011:444). However, when considering ICT use for those aged between 45-63 years of age it was apparent that those individuals were more likely to use the Web for online shopping and banking coupled with a strong growth in activities concerning engagement with social media.

A quantitative study undertaken by Scott (2008) found that undergraduate student nurses possessed inadequate information literacy skills even though their actual computer skills may have been more advanced. This is a factor that the study considered to be an issue when related to the delivery of patient care. In addition the research suggested that low levels of information literacy amongst both student and qualified nurses may eventually lead to inadequacies in the ways that patients’ nursing care needs are assessed, planned, implemented and subsequently evaluated. In addition While and Dewsbury (2011) argued that although the introduction and adoption of ICT into clinical practice would likely bring substantial benefit to nursing assessment and patient care pathways, greater demands would also be placed upon nurses’ ICT skills.
Wahoush and Banfield (2014) further argue that the transition from student nurse to fully qualified practitioner can hold many challenges, particularly within the realms of ICT usage and its application to evidence based care. They suggest that it can take up six months for a newly qualified staff nurse to realise the important changes to both professional responsibility and accountability. However, although the competency of ‘information literacy’ exists within the Nursing and Midwifery Council (2010) regulatory standards the realisation of information literacy is yet to be determined within the context of clinical nursing care.

Nayda and Rankin (2009) sought to investigate the understanding of the term ‘information literacy’ from a group of pre-registration nursing students and nurse educators. The study suggested that there was a low level of understanding as to what exactly the term meant to both groups. The authors of the study (2009) therefore concluded that nurse educators particularly should not presume any particular level of information literacy in student nurses at the commencement of their course.

2.3 Nurse Education and Nurse Informatics (NI)

Nurse informatics may be defined as the set of ICT skills required by the registered nurse in carrying out their nursing duties. The term encapsulates the necessity to integrate nursing science, computer science and information science in order to manage and communicate data, information and knowledge in nursing practice (Button et al, 2014).

Given that the impact of ICT is now both “inevitable and irreversible” (Edirippulige, Smith, Beattie, Davies, Wotton, 2007: 79), there is every reason to believe that healthcare across the board is not considered immune from these influences (Bembridge, Levett-Jones and Yeun-Sim Jeong, 2011). For this important reason it is
now acknowledged by nurse educationalists that there exists an imperative for all student and qualified nurses working in healthcare settings to develop and improve their ICT skills in order to maximize the potential of technological developments. This includes enabling practitioners to access patient diagnostic information and also the necessary evidence/research bases in order that they provide the best possible holistic patient care (Wharrad, Cook and Poussa, 2005). Moreover, quantitative studies undertaken by Martyr (1998) and Dewhurst, Macleod and Norris (2000) have identified that ICT developments have taken place within a context where many students lack confidence in computer use and consequently were intimidated using ICT as a learning media.

The work of Durndell et al (1995) and McMahon, Gardner, Gray and Mulhern (1999) also established a gender and age bias, with particular reference given to women of more mature years being seen as less secure in using information and communication technology. The work of McMahon et al (1999) was significant in that their qualitative, longitudinal study examined the factors and barriers experienced by students to ICT use and, as the authors of this study suggested, the results indicated that situational factors (e.g. access, training and time) influence the extent to which all students use computers. However the study did not explore how an intersection of such variables might inhibit usage.

A qualitative research study conducted by Moule (2003) ascertained that female students on an undergraduate nursing programme experienced some initial anxiety when first using a computer, a feeling that continued whenever they were faced with a new or unfamiliar technology experience. Moule (ibid) further suggested that the findings from her small-scale study reflect other studies in the field. Martyr (1998) found that students within nurse education often lacked confidence when utilising information
and communication technology and Durndell et al (1995) confirmed that this lack of confidence was further marked amongst the more mature, female students. Additionally, a mixed methods study undertaken by Russell and Alpay (2000) supported a connection between situational factors and ICT use. For example one of the main problems faced by nurses regarding their ICT training was that it was either inadequate or in some cases non-existent. These findings led the authors to conclude that attitudes towards computer use not only affected how nurses accessed and utilised ICT but also affected how they responded to formal ICT training. It was further highlighted that when nurses attended ICT training programmes, they were often provided with educators who paid scant attention to their educational and learning needs. It was argued therefore that the teaching-learning process is not without anxiety and discomfort for students, which at times reinforced negative attitudes toward computer use. This has always been considered an issue within nurse education with concerns being raised that the use of ICT may create differences between those who are technologically proficient and those who are not (Reime, Harris, Aksnes, and Mikkelsen, 2008).

Moule et al (2010) considered that in order to increase the level of nursing informatics within pre-registration curricula it would require not only nurse educator training but also both financial and perhaps more importantly, technical support. With regard to both these issues, a study undertaken in Greece highlighted that there had been a gradual but slow implementation of nurse informatics into the pre-registration curriculum (Deltsidou et al, 2010). Here it was identified that the initial nursing informatics instruction introduced during the preliminary stages of the pre-registration nursing curricula was not considered adequate in relation to students’ competence in technology. Additionally, Bond (2009) suggests that student nurses acquire ICT knowledge through osmosis. Furthermore, despite all the anecdotal evidence that those students leaving school/college are more than well equipped to utilise ICT
within pre-registration nursing education, it is argued that unfortunately only a few are ready to use computers to both support and underpin their practice at the commencement of the course.

Bond (2009) continues that there are some pre-registration nursing programmes that lack both ICT and nurse informatics input. This, it is suggested, ultimately affects the expertise that student nurses are required to demonstrate and hence with regards to the support that they may require in relation to the development of informatics skills and knowledge in practice. Ultimately when these students qualify as registered practitioners they become the mentors for a future generation of nurses. It therefore follows that if these practitioners do not have the necessary skills to support students’ in the development of their nursing informatics and subsequent ongoing knowledge in clinical practice, it could be argued that a “vicious circle is created” (Bond, 2009:734). If these students go on and develop a professional identity where nurse informatics is not valued, it is contended that future students will continue to experience a lack of support with regards to ICT use in clinical practice placements (Bond, 2009).

In summary the reviewed literatures suggest that the role of nurse education and ICT usage has long been a topic of discussion and debate. Although there are a number of studies that examine ICT and nurse education generally, there is a paucity of literatures appertaining to mature, female student nurses. Perhaps what is more problematic is the very descriptive nature of these studies, lacking any substantial discussion as to how and why issues of ICT usage in nurse education programmes are experienced, understood and enacted. In addition there appears to be little theoretical discussion as to what factors structure and determine the agency of mature, female nursing students in the context of their programmes. Furthermore the ‘voice of the mature female student’ appears to be unheard and their lived
experiences with regard to ICT usage unexplored in any detail. It is within this identified 'gap' in the literature that my study is placed.
Chapter 3: Research design and data collection methods

3.1 Introduction

The previous chapters of this thesis outlined the background to my study and focused upon why I believe that this work is important and timely. It charted the policy context within which my research study was undertaken and considered research literatures pertinent to my research questions. In this chapter I document my research design in relation to the key issues associated with the lived experience of mature, female student nurses and their use of ICT in one pre-registration nursing programme.

A differentiation will be maintained between methodology, as the philosophical underpinning of the research strategy, and method, as the practical issues of sampling, data collection and analysis and issues of reliability and trustworthiness of the data itself (Polit and Hungler, 1991). An account will also be included that will focus on the ethical considerations of this study with particular importance apportioned to the notion of researcher insiderness, the hearing of the student voice and subsequent [re]presentation of the same.

The first part of this chapter reflects upon the ontological and epistemological assumptions underpinning this study with emphasis given to their relevance in the research design and subsequent data collection methods.

3.2 Ontological and Epistemological Assumptions

When choosing to conduct any research study it is important to reflect on the impact of one’s own ontology and epistemology and the impact this may exert on the research aims and design of the study itself. According to Crotty (1998), there are
three important aspects to consider, ontology, epistemology and methodology. Of these, ontology can be defined as “the study of being” as it is concerned with ‘what is’, with the nature of existence and with the structure of reality” (Crotty, 1998: 10). Blaikie (1993:6) explains that ontology involves itself with “assumptions about the nature of social reality; it is the science or study of being”. Essentially, an ontological position reveals what one might view as the nature of the social world and the nature of the social phenomena under investigation (Cohen, Manion and Morrison, 2011).

Epistemology, on the other hand, deals with the nature of knowledge, its possibility, scope and general bias. It is “the theory or science of the method or grounds of knowledge. It refers to the claims or an assumption made about the ways in which it is possible to gain knowledge of this reality, whatever it is understood to be; claims about how what exists may be known.” (Blaikie, 1993:7). Crotty believes that ontology sits beside epistemology and informs the theoretical perspective adopted in a study. Hence each theoretical perspective encompasses a certain way of understanding ‘what is’ (ontology) and a particular way of understanding ‘what it means to know’ (epistemology) (Crotty, 1998: 10).

In developing the ontological and epistemological position framework for my work I focused on social constructivism. Situated within an interpretivist paradigm it allowed for the “presentation of multiple, holistic, competing, and often conflictual realities of multiple stakeholders and research participants (including the inquirers)” (Lincoln, 1990:73). By utilising a social constructivist approach my research design recognises that individuals will construct their worldview based on their own interactions with it (Crotty, 1998). In relation to my own study this perspective allowed me to recognise that the student nurses’ narratives were their own legitimate ways of constructing their ICT reality.
In nursing and nursing education, there is growing debate as to what constitutes ‘good science’ or ‘good scholarship’ and questions are being asked as to the overall worth of the knowledge generated (Forbes et al, 1999). Forbes et al (1999) continue by suggesting there are many interpretivists who believe that the human world is manifestly different from the natural world and thus requires a different paradigm with which to explore the phenomenon of interest. It is considered that the aim of an interpretivist approach is to use discourse to uncover naturally occurring concerns and meanings, with the goal of understanding the ‘lived experience’ rather than the prediction or control of events. My decision to utilise an interpretivist approach was based on a desire to allow the richness of the lived experience of those who chose to be in my study to be framed in worthwhile and meaningful dimensions (Gortner, 1993).

Having considered my thinking on ontology and epistemology associated with this study I now turn to my chosen methodology; a case study design.

3.3 The Case Study Design

Case study may be defined as “the way in which the researcher explores in depth a programme, an event, an activity, a process, or one or more individuals” (Willig, 2013). The case(s) are bounded by time and activity and researchers collect detailed information using a variety of data collection procedures over a sustained period of time’ (Creswell, 2003). Yin (2009) argues that by using case study research one is able to explore topics that perhaps are not easily investigated using other research techniques.

Often described as a research method (Crotty, 1998) or in some instances a methodology (Grix, 2010) or in the case of Wisker (1996) both, the case study
approach aims to generate a rich and detailed description enabling an in-depth understanding of the case (Stake, 1995). The rich, thick descriptions generated by focusing on ‘an instance in action’ in case study research are seen as one of the key advantages of this approach enabling an in-depth presentation of participants perspectives (Somekh and Lewin, 2011). However, Willig (2013:100) argues that “the case study is not in itself a research method…..it constitutes an approach to the study of singular entities. A case can be an organisation, a city, a group of people, a community, a patient, a school, an intervention, even a nation state or an empire.” My case study and hence unit of analysis was ICT usage in a pre-registration, undergraduate nursing programme in the School of Health and university where I am an employee. The sub-units of analysis were a sample of mature, female student nurses that formed a focus of the research.

A case study design was selected as it was appropriate for the design of the research aim, questions and underpinning philosophical position. It allowed me to “observe effects in real contexts, recognising that context is a powerful determinant of both causes and effects and that an in-depth understanding is required to do the ‘case’ justice” (Cohen, Manion and Morrison 2011; 289). Yin (2009:4) asserts that case study research can be utilised in many settings in order to contribute to “our knowledge of individual, social, political and related phenomena”. He further argues that the use of case study has been commonly utilised within both education and the field of nursing practice, hence the reasoning behind its utilisation in my study. I believe that the case study design has enabled me to understand the complexities of ICT usage in one unique pre-registration nursing curriculum ensuring that the ‘how’ and ‘why’ aspects of the research questions were addressed.

Case studies may be distinguished by the methodologies that they employ. It is argued that there is a resonance between case studies themselves and interpretive
methodologies, a factor significant within my own approach to this work as previously stated (Hitchcock and Hughes, 1995 and Stake, 1995). A case study design would allow me to explore and report on the ‘real life’, the complex and the evolving perceptions of mature, female pre-registration student nurses and their use of ICT in the School of Health where I am employed. For a researcher it is argued that the closeness of the case study to a real life situation “is important for the development of a nuanced view of reality.” (Flyvbjerg 2004:442).

Stake (1995) however maintains that in order to study the unique ‘case’, a researcher is required to gather data that will address a number of aspects within the work. In my study this required me to be cognisant of the influence of the following:

- The nature of the case
- The historical background
- The physical setting
- Other contexts, including economic, political, legal and aesthetic
- Other cases through which this case is recognised
- Those informants through who the case can be known

(Stake 1994: 238)

With regard to the ‘unique’ aspects of my case study, the nature of the case concerns one undergraduate, pre-registration nursing programme which is physically situated in a School of Health in a large modern university in the North West of England. This 3 year undergraduate programme prepares student nurses for entry onto the Register. It comprises 50% theory and 50% clinical practice. This is my main unit of analysis. Historically the content of this programme is regulated and continues to be by a set of competency standards as determined by the professional regulatory body, the NMC
From a political perspective ICT use within the National Health Service has been defined by a number of historical and current Department of Health policy documents that have aimed to improve evidence based patient care and thus enhance the general successes of patient outcomes through an enhanced and focused use of ICT (DH, 2010).

Although unique in most senses this case study and the context in which it is set will probably be recognised by other HEIs who deliver pre-registration nursing programmes, as the lived experiences of the mature, female student nurses who acted as participants in this work may well be reflective of other mature, female student cohorts in similar Institutions of Higher Education.

3.4 Who am I in this research process?

I am very mindful that the concept of reflexivity is an important aspect within any research activity and for this reason therefore forms an essential component of this study, particularly with regard to my own values and preconceptions (Parahoo, 2006). Moreover, reflexivity is also concerned with a demonstrable awareness on the part of me as to my contribution to the creation of meanings throughout, which ultimately calls for exploration into the ways in which my own personal involvement in this study has influenced and informed the research itself (Nightingale and Cromby, 2002). Given these two issues I will briefly take the opportunity of exploring my values, preconceptions and my personal involvement in the study.

I am a qualified first level registered nurse, a midwife, an academic lawyer and a university lecturer, who has a particular interest in the way that mature, female students of nursing utilise information technology within their pre-registration studies. I wanted to be able to tease out the ‘real issues’ that concern these students in their
everyday situations, I wanted to be able to, access their constructions of reality. However with regard to the concept of ‘reflexive trustworthiness’, I had to ensure that the data gathered and the analysis of the findings was undertaken systematically.

3.5 Generalisation, Trustworthiness and Validity of the data

There are some epistemic concerns however about the use of case studies. Yin (2009:15) contends that they provide little foundation for generalisation. “How can you generalise from a single case”? The same argument could be levied against the concept of the ‘single experiment’. However Yin goes on to assert that the case study like the experiment is generalisable to a theoretical proposition not to populations or the universe although it may indeed contribute to an ever growing pool of data. Therefore my goal when utilising this particular method was to undertake a “generalising analysis” (Yin 2009; 15). I believed that the findings generated from my study could therefore assist other researchers to understand similar ‘cases’ particularly where the use of ICT was being investigated in nurse education and more significantly within pre-registration undergraduate nursing programmes. (Cohen et al, 2011).

With regard to qualitative research, Lather (1993) refers to this as the crisis of representation and explores the idea of conceiving trustworthiness from a variety of viewpoints in order to grasp the differing interests, strengths and experiences of the researchers. She stresses the ‘conditions of the legitimation of knowledge’ and therefore consequently acknowledges the reflexive nature of research. A qualitative approach demands that researchers take a holistic view of the phenomenon being investigated, including the effect that their own personal story has on the research process. However, with regard to the practice of nursing, Schön (1983:95) discusses the benefits of reflective practice for researchers, describing the reflective cycle of
creatively drawing on past experiences and precedents, as they: “learn anew in each situation, bringing their past learning to bear on the new situation.” As a nurse educator, a researcher and a student I will be taking an emic or insider perspective (Drake and Heath 2011), this has axiological implications, thus demanding that I be aware of my own values and biases, and their impact on the research itself (Costley et al 2012, Guba and Lincoln 1984).

I further contemplated claims to the trustworthiness of my study based on a research technique termed, triangulation. Triangulation may be defined as the use of two or more methods of data collection. Although it is considered by many to be a research technique that should be subscribed to in principle, only the minority actually carry this out in practice (Cohen, Manion and Morrison, 2000). In its original sense, triangulation is a technique of physical measurement and is a powerful way of demonstrating concurrent validity, particularly for qualitative research. It is about combining multiple theories, methods, observers and materials to produce a more accurate, comprehensive representation of the study. The most common application of this technique within qualitative research is the use of multiple methods (Silverman 2006). For example, I combined interviews with observation, the assumption being, that if the key findings obtained by these research methods correspond and draw the same or similar conclusions, then the trustworthiness of those findings or conclusions will have been greatly enhanced.

There are definite advantages associated with a multi-method approach as exclusive reliance on one method may actually bias or distort my picture of the particular part of reality being investigated. There must be an acute awareness and a confidence that the generated data is not simply the object of one specific method of collection. Where triangulation is used in interpretative research in order to investigate different individuals’ viewpoints, the same method will naturally produce different sets of data.
and therefore different human constructions thus creating a multitude of understandings (Lin, 1976). It therefore follows that within a social constructivist paradigm the utilisation of two or more research methods in the searching or gathering of data to determine the construction of reality is entirely appropriate (Johnson, 1997).

3.6 Participant Sampling Strategy

The way I selected my participant sample was purposive in nature as I needed to recruit participants who were both interested in the research topic and also willing to share their lived experiences of ICT use with me. Stake (1995) and Merriam (2009) assert that this sampling approach should always be used for case study research.

For this particular case study a total of sixteen student nurses (all self-selecting) across all three years of one undergraduate pre-registration nursing programme, formed the sample. Twelve of these were interviewed across four separate focus groups and four were interviewed individually. All female, student nurses of twenty-six years of age or over from this undergraduate pre-registration nursing programme were eligible to take part.
The following table provides biographical information concerning those student nurses who acted as participants in this study:

<table>
<thead>
<tr>
<th>Participants</th>
<th>Biographical Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus Group 1</td>
<td>Linda and Martha were both mature, female students who were studying to be adult nurses. Linda was 45 years of age and prior to commencing a career as a nurse had worked with autistic children in mainstream schools. Martha was 42 years of age and also studying to become an adult nurse. She had mainly worked in offices before starting her degree course. At the time of interviewing Linda was working in the Accident and Emergency Department and Martha was undertaking placement on a Medical Assessment Unit. Both found ICT instruction difficult.</td>
</tr>
<tr>
<td>Focus Group 2</td>
<td>Participants in this group consisted of 3 mature, female student nurses; Norma, Olivia and Penny. Norma was 46 years of age and although she owned a computer “hadn’t got a clue how to use one”. Olivia was 34 years of age and had worked as a Medical Secretary but despite this still found ICT usage “bewildering”. Penny was 28 years of age and suffered from severe dyslexia. Penny utilised the help of a support worker for her assignment writing and used a Dictaphone. Penny had a real phobia when it came to ICT usage in her degree studies.</td>
</tr>
<tr>
<td>Focus Group 3</td>
<td>This focus group was comprised of 5 students; Georgina (26 years of age), Harriet (28 years), Isabelle (27 years), Jane (31 years) and Kelly (33 years). At the time of interviewing these students were placed in an array of differing clinical specialties. The three younger members of the group felt reasonably comfortable with ICT usage; however, both Jane and Kelly had struggled particularly with database searches and word processing.</td>
</tr>
<tr>
<td>Focus Group 4</td>
<td>Susan and Rosemary were both more mature. Susan was 48 years of age and Rosemary 50 years old. Both had wanted to be nurses since being young and had worked hard at college to achieve their aspirations. Rosemary was a grandmother and felt very inadequate when her 7-year-old grandson showed her how to use her new laptop. Susan had sought help re ICT usage from the university library but admits that she had forgotten everything by the time that she reached home.</td>
</tr>
<tr>
<td>Debbie</td>
<td>Debbie was a 27-year-old student nurse who before commencing a nursing career had been a classical dancer. She considered that after dancing for so long that there was nowhere else to go in that particular line of work so in her words “she retired”. She did consider becoming a teacher but after caring for her father during a terminal illness she decided on a career in Adult Nursing. She had subsequently been admitted to the pre-registration degree programme and was in her third year of the course.</td>
</tr>
<tr>
<td>Stephanie</td>
<td>Stephanie was 26 years of age and a twin. Her sister was already a registered nurse having qualified the year before I interviewed Stephanie. Stephanie had always wanted to be a nurse but had spent several years working in care homes from about the age of 18. Stephanie was confident with ICT usage and in the second year of the programme.</td>
</tr>
<tr>
<td>Brenda</td>
<td>Brenda was the most mature, female student nurse in the sample. She was 52 years of age and in her second year of the nursing degree. Before commencing the course she had worked as an Administration Officer for the Courts Service. Although Brenda found some aspects of ICT usage difficult she had persevered seeking help from her younger peers and through the class involvement on ‘Facebook’.</td>
</tr>
<tr>
<td>Julia</td>
<td>Julia was a third year degree student about to qualify. She too had wanted to be a nurse since being a small child and once she had started her own family she successfully completed a Higher Education Access programme. Julia was 28 years of age.</td>
</tr>
</tbody>
</table>
To recruit a cross section of mature, female student nurses I asked cohort leaders from within the pre-registration nursing programme to informally speak to their student groups and distribute an information sheet which explained the purpose of my work (Appendix 1) and also consent forms (Appendix 2). The students were invited to contact me if they wished to be involved and it was from here that I was able to purposively choose a sample of students which reflected a diverse range of not just ages but differing biographical characteristics concerning for example ethnicity and marital status. Following this process I felt confident that I had selected a cross sectional sample that would enable me to investigate my research aim and all three of my research questions in some depth.

In undertaking the case study design, there was a sense in which I wanted to gain as full as an account of the issues experienced by my participants as possible. Although the student nurses’ own perceptions were privileged, I also wanted to get a sense of the way in which others involved in the pre-registration nursing programme perceived the issues re ICT usage as experienced by the students themselves in order to add further depth to the data and in line with the principles concerning triangulation. To this end I wanted to talk to not just those who worked on the programme in the School of Health but also to those mentors who worked with the students out in clinical arenas. Furthermore in order to gain insight into not only policy in terms of text but also policy in terms of practice as related to ICT usage, I wanted to talk to a person who was responsible for ICT implementation within NHS Trusts. This would also help triangulate notions of ICT usage in clinical settings and thus provide additional evidence above and beyond that afforded by the policy texts themselves.

Therefore in addition to the student sample, a focus group comprising of three Senior Lecturers from the same Institution of Higher Education (self-selecting) also formed a part of the study, as did a further focus group of three qualified nurses, all nurse
mentors (again self-selecting) who were based in clinical practice across some of the School of Health’s partner National Health Service Trusts. This provided additional types of data that enhanced the triangulation and holistic understanding of the experiences of mature, female student nurses and their use of ICT. With regard to the mentor participation it allowed me to consider elements of the context and structure within clinical placement which further enabled me to ascertain elements of students’ meaning making and how these coalesced with my own observations in clinical practice. Again, this aided triangulation, and I feel it is important to note here that the mentors had not been involved with the clinical assessment of any of the students mentioned above. It was their independent views on their experience of working with mature, female student nurses and their use of ICT both within the School of Health and subsequent clinical practice that were sought.

One Senior Strategic Health Service Manager was also purposively selected and individually interviewed. He was selected due to his role in the development and implementation of ICT initiatives across a designated geographical region and his interest in the barriers that prevented student nursing from accessing and using ICT whilst on clinical placement. He provided a strategic account with particular relevance to research questions two and three of my study, but again also linked into providing contexts against which one might understand the perceptions of student nurses.

The following table provides the biographical information concerning those participants who contributed to the mentor and lecturer focus group interviews and Peter, who provided invaluable insight with regard to ICT usage from an NHS strategic and policy development standpoint;
Participants | Biographical Information
--- | ---
Mentor Focus Group | Angela, Beatrice and Cathie were all student nurse mentors. Angela worked within an acute medical environment, Beatrice in an Intensive Care Unit and Cathie was a qualified Mental Health nurse. All regularly mentored student nurses within their own clinical environments and particularly attempted to support the more mature female students with their ICT usage whilst on clinical placement. All three were able to reflect on their own ICT journeys and the subsequent anxieties that this had caused. Angela was 49 years old and the oldest of the three. She admitted that she too had struggled with ICT usage and had continued to do so even after qualifying as a registered nurse.

Lecturer Focus Group | Daisy, Evelyn and Francis were all senior lecturers in the School of Health and involved with the teaching of undergraduate pre-registration student nurses. Daisy was able to empathise with the mature, female students and their apparent struggles with ICT usage as she had at one time placed herself in that category as well. She had felt intimidated at times. All three had attempted to engage the mature, female students with both the university Virtual Learning platform and social media sites.

Peter | Peter was 45 years old and worked at a strategic level within a defined geographical area for the NHS. He was closely involved with the implementation of ICT initiatives and policy development and provided an interesting and informative insight into student nurses and their use of ICT particularly within the clinical arena.

3.7 The Interview and Focus Group Process

For the purposes of data collection I considered that the most appropriate research method for gathering data to answer the three research questions would be that of the semi-structured interview. This approach was used with both initial focus group interviews and those undertaken individually with other sample members.

The use of a semi-structured focus group interview as a research method allowed me to initially gain important data relatively quickly. I wanted to acquire different perspectives concerning my research topic area and this seemed the most appropriate method to achieve this goal. The focus group method was instrumental to my research question and aims. It allowed me to explore the participants “perceptions, attitudes, feelings and ideas” as attributed to mature, female student
nurses and their lived experiences of ICT use (Wilson, 1997:211). In addition focus
groups often provide a more comfortable and safe environment for participants to
voice their opinions, they do not feel as intimidated as they might be if interviewed
individually (MacDougall and Fudge, 2001). It was from these interviews that I was
able to gather both rich and meaningful data that provided early insight into the
phenomena under investigation. However, I remained cognisant that this type of
research method does not always allow for a participant’s individual and unique
perspective. I was mindful during this process that one of the main disadvantages of
focus group interviews is that often one or more dominant personalities can, at times,
monopolise the discussion and continue to express their views to the detriment of
others in the group (Parahoo 2006). Focus groups are not replicable and it is noted
that both the trustworthiness and credibility of the findings are difficult to ascertain on
their own, but linked with other data collection methods, the focus group technique
can be helpful in generating a rich array of data. In particular it enabled me to reflect
on and react to the ‘voices’ of those involved prior to the commencement of the
individual interviews although there were only a few of these. The issues raised
during this period of the study laid the foundation for the pursuance of ideas and
issues to a much greater depth for subsequent individual participants.

The use of the semi-structured interview technique enabled me to follow a series of
pre-determined questions informed from my reading of the research literatures
concerning student nurses and ICT usage in the pre-registration curriculum (Appendix
6). The key components of these questions focused on issues concerning the way
students utilised ICT in both their studies and clinical placements and also how the
School of Health might implement pedagogical strategies to improve their overall
experience and subsequent ICT learning. However, at the same time I remained
mindful of the fact that I needed to be able to incorporate further questions dependent
on the participants’ responses. I attempted to move from a general approach in
consideration of my research questions to a position where I was ultimately able to focus in and further pursue those additional issues and ideas as articulated by the participants themselves. I tried to maintain an open ended questioning style which I hoped would encourage the articulation of each individual’s perspectives. More importantly, I considered that it would facilitate the production of data which could be compared across the participant responses as a whole thus aiding my thematic analysis of the data (Savin-Baden and Howell Major, 2013).

3.8 The use of Direct (non-participant) Observation

The research questions that provided a clear focus for this activity were;

- How are mature, female nursing students accessing and using ICT within nursing education?
- What are the barriers that may prevent mature, female nursing students from accessing and using ICT in nurse education?

Since the focus of my research required an in-depth understanding of how and why mature, female student nurses used ICT, I not only wanted to privilege some of the thinking of these students but also utilise other forms of data in particular how clinical placements impacted on the possibilities of ICT usage. This required the use of direct (non-participant) observation. As part of my academic and educational audit role as a Clinical Link Lecturer I was able to observe student nurses and their use of ICT in the clinical setting. I was able to use the notes taken from both educational audits and my own observations to provide additional data to that obtained from the focus groups and individual interviews, which thus further enriched and helped to triangulate the collected data. The use of observation in case study research has a long and traditional pedigree and enables researchers like myself to “gain a comprehensive
picture of the site and a ‘sense of the setting’ which cannot be obtained solely by speaking with people’ (Simons, 2013:55).

As part of this endeavour I needed to make sure that I maintained a clear balance between participation and observation. As Willig (2013:32) identified I needed to “be involved enough to understand what was going on, yet remain detached enough to be able to reflect on the phenomenon under investigation.” To document my observations I kept a research journal and made copious entries based on my immediate thoughts and reflections. An example of these extracts can be examined in Appendix 5 of this thesis.

3.9 Data Analysis

This section will outline my approach to the analysis of the data. The process of data analysis is one of the most critical aspects of the research process and yet it is argued that researchers often fail to give the analysis the necessary attention in order to ensure trustworthiness (Savin-Baden and Howell Major 2013).

For the purpose of my research all interviews were digitally recorded and then transcribed verbatim. Between the 11 separate interviews which were undertaken during the course of this EdD, 78740 words of transcribed data were produced. All the transcriptions were accompanied by individual sets of my personal notes which I made during and following completion of the interviews themselves. These notes assisted me in maintaining my research focus but also provided salient points which I was able to readdress and ‘come back to’ with the participants during the interview process itself.
Savin-Baden and Howell Major (2013) assert that data analysis within the realms of qualitative research is an on-going process and involves the breaking down of data into meaningful parts for the purpose of ‘making sense out of that data’. The data then needs to be put back together again in a way that makes sense. This enables the researcher to consider answers to the research question itself. Data analysis is an iterative process and tends to be cyclical. I adopted a thematic analytic approach when reviewing the data. Boyatzis (1998:1) suggests that “thematic analysis is a way of ‘seeing’. Recognising an important moment (seeing) precedes encoding it (seeing it as something), which in turn precedes interpretation. Thematic analysis moves you through these three phases of inquiry”. In being guided by such an approach I read and reread the transcripts several times in an overall attempt to clearly identify emergent themes, which formed the dominant characteristic or features of my study (Teddlie and Tashakkori 2009).

Doing thematic analysis has enabled me to:

- familiarise myself with the data,
- search for themes
- review themes
- define and name themes
- produce this thesis

(Braun and Clarke 2006: 97)

Building on Boyatzis I adopted Braun and Clarke’s step-by-step approach to my data analysis. This means that I have been able to “consider the connections and interconnections between codes, concepts and themes” (Savin-Baden and Howell Major, 2013: 440). By familiarising myself with the data by the reading and repeated
reading of the transcripts in an ‘active way’ (Braun and Clarke 2006:87) I was then able to begin to search for initial meanings and patterns within the data before I commenced a more formal approach to the coding exercise, although time consuming this process proved to be invaluable.

In the first instance I went through each transcript and made hand written notes as part of the initial analysis (as evidenced by an early transcript in Appendix 7), I then used both highlighter pens and ‘post it’ notes to identify as many potential emerging themes/patterns as was possible (Braun and Clarke, 2006). By working systematically through the data I was able to begin to determine repeated patterns, an early example of which is demonstrated in the table below. This process allowed me to begin to further analyse and organise the data in to what can be referred to as meaningful groups (Tuckett, 2005).

<table>
<thead>
<tr>
<th>Data Extract</th>
<th>Coded For</th>
</tr>
</thead>
<tbody>
<tr>
<td>“I am working in the cancer unit” (Isabelle, Focus Group 3: 13)</td>
<td>Clinical Setting/location</td>
</tr>
<tr>
<td>“I always knew how to use computers’ (Harriet, Focus Group 3:40). “Yes, I can’t remember not using computers. They’ve always been around” (Laughter) (Harriet, Focus Group 3:59)</td>
<td>Previous knowledge Skills Achievements ‘Part of life’</td>
</tr>
<tr>
<td>“I mean we did have a computer at home but apart from playing games that was it for my knowledge of computers”. Games and that was it. I just used to play games……I could turn it on and off. If it didn’t work it got left”. (Jane, Focus Group 3: 63)</td>
<td>Home usage/games etc. Access Prior learning Previous knowledge Consequence of lack of skill/ knowledge</td>
</tr>
<tr>
<td>“I was terrified, absolutely terrified. If I hadn’t done the Open University course I think I would have been in pieces. But I was scared…..” (Jane, Focus 3:182)</td>
<td>Fear Emotion Challenge</td>
</tr>
<tr>
<td>“I’ve hardly used it very much actually on placements simply because I don’t tend to have a password (Jane, Focus Group 3:333).</td>
<td>No password Limited access Consequence of lack of skill/knowledge</td>
</tr>
</tbody>
</table>

(Adapted from Braun and Clarke 2006:88)
Following this initial approach, I then continued to work methodically through all of the transcribed data, coding manually as I progressed. It was from this exercise that I was able to re-focus my analysis at a broader thematic level considering how my initial coding could eventually be represented as overarching themes, an example of this working is included as Appendix 8 of this thesis.

Braun and Clarke (2006) argue that thematic analysis is not a complicated process and the advantages of adopting this method in order to theme data are manifest. However, they confirm that it is not without its disadvantages and highlight that “thematic analysis has limited interpretative power beyond mere description if it is not used within an existing theoretical framework that anchors the analytic claims that are made.” (Braun and Clarke, 2006:97). Nevertheless, they continue that when used appropriately, thematic analysis is a flexible approach that can be used across a range of epistemologies and research questions.

3.10 Ethical considerations

I consider that one of the most important ethical aspects of my work focused upon the relationship that I had with the research participants. I am a lecturer within the case study organisation and felt it imperative that special attention should be paid to this aspect of my work if I was going to understand the lived experience of the research participants. By the very nature of this relationship, it was inevitable that a power discrepancy existed in relation to at least the student participants and it was therefore extremely important that I looked to the fundamental ethical principles of beneficence and non-maleficence at the start of the research process. The notion of researcher ‘insiderness’ was very important to me. Kimmel (1998) argues that this obvious power differential may leave research participants at a disadvantage from the outset. They may feel unable to refuse research participation or experience less leverage to
protect themselves against aspects of the study that they may feel contrary to their interests. It was imperative that I did them no harm.

I ensured that I obtained the participants informed consent and provided them with the opportunity to leave the study at any time, this was verbally reinforced at the beginning of each focus group and individual interview session. Since this work took place in an educational institution, it was important that the participants did not feel that their academic grades would have been affected by their departure from the study. In line with the notion of informed consent it was also an important part of the ethical process that I maintained the participants’ anonymity and confidentiality. All the focus group and semi-structured interviews were digitally recorded and once transcribed the recordings were erased.

Since I was engaging in case study research within my own organisation it was important that the design and plan of the study itself was approved by the Faculty of Health Ethics Committee of the university where I am employed. This encompassed the notion of Research Governance, a legal framework providing further protection for those participants within the realms of health and social care. In order to support this application, copies of the participant information sheets and consent form accompanied the formal submission (Appendices 1 & 2). Following an initial review I was required to submit a schedule outlining my initial preset questions. Once a response to this was made full ethical approval for my study was given (Appendix 3).

In addition to this following my progression panel review at the University of Manchester where I was allowed to progress from the taught element of the EdD programme to the research component it was requested that I contact the NHS Ethics Committee in order to ascertain whether my study required NHS approval. As a result of this inquiry I was allowed to proceed based on the perspective that my case study
involved nursing students and peers but did not involve or impact on the continuing best interests of patient/clients (Appendix 4).

### 3.11 Conclusion

The purpose of this chapter was to provide a clear insight into the methodology, research methods, data analysis and ethical considerations within this case study. In addition clarification and ‘framing’ of my research in terms of both its ontological and epistemological underpinnings were provided. Attention was also further afforded to my chosen approach to data analysis, with particular reference to issues concerning the concept of trustworthiness and credibility of the findings, since an important aspect of any research study is the way such trustworthiness and credibility is viewed by the academic field.
Chapter 4: Key Findings

In the introduction to this thesis I presented the policy context in which this research study took place and the research questions that focus the study. Research literatures and the development of a research design documented in the previous chapters provided some of the explanatory and methodological approaches that have framed the study. In this chapter I will now present the key findings of my work.

4.1 Presentation of Findings

To guide readers through this chapter the findings will be structured around three specific research questions that framed my research.

The three questions were:

1. How are mature, female nursing students accessing and using ICT within nursing education?

2. What are the barriers that may prevent mature, female students from accessing and using ICT within nursing education?

3. What actions do mature, female nursing students consider may be taken to improve their knowledge and subsequent use of ICT in both their academic studies and clinical placement work?

Findings from the various data collection events were synthesised to provide, wherever possible, a holistic understanding of the experiences of mature, female student nurses regarding ICT usage in their undergraduate programme of study. In line with my data analysis approach documented in the research design chapter, detailed coding of the data was undertaken and a variety of issues and overlapping concerns identified. Emergent themes developed as iterative analyses was made of
the various data. (Examples of the initial coding of the data and how subsequent themes were generated can be found in Appendices 7 and 8 of this thesis).

4.1.1 Research Question 1: ‘How are mature, female nursing students accessing and using ICT within nursing education?’

In relation to this first research question three main themes emerged. These themes emanated from the analysis and coding of the focus group and interview data.

The themes for Research Question 1 were identified as follows;

- Personal Background and Previous experience
- Opportunities to develop ICT usage
- ICT use within the clinical arena

4.1.1.1 Personal Background and Previous Experience

It became clear during the initial data collection process that students entered the pre-registration nursing programme with varying personal backgrounds, varying degrees of previous ICT experience and differing levels of confidence with regard to the same. There were those who felt very confident in the use of ICT and others whose experience was very limited predominately underpinned by their insufficient knowledge and use of ICT at school or at college. In the data there are examples of student nurses who considered their ICT abilities and knowledge to be self-taught.

“My background before I came into nursing was in supporting autistic children in mainstream schools. At the very basic level they get introduced to IT, they are encouraged a lot to use computers and that taught me a lot as well because when I was at school it just wasn’t available. We certainly didn’t have Internet access at home until I was about eighteen or something and even then it was rare if you had it. In the last ten or fifteen years it has become more available. So I’m self-taught but I’ve learned a few tricks obviously supporting kids in schools. They know more than me!”

(Focus Group 1: Linda (45 years of age): 10-13, 19-23)
Other student nurses had no history of utilising any form of ICT prior to the programme, even though many had access to a computer in the home.

“We had one at home but no I didn’t really use computers that much to be honest until I started at the uni and then obviously I had moved out then and had to get my own computer and started that way. So it’s just been picking it up as I’ve gone along really.”

(Focus Group 3; Isabelle (27 years of age): 202-204)

Some students suggested that their experience of ICT was more general with ICT being utilised in numerous and different ways. The use of PowerPoint, email, social networking sites, electronic games, ‘on-line’ shopping and banking were cited as examples. The notion of computers being utilised for ‘pleasure’ rather than for anything more formal was also clear in the data;

“Well just logging on and emailing and just general things like that, emailing friends. I hadn’t used word before so I had no idea how to use a computer that way”

(Focus Group 2; Norma (46 years of age): 26-27.

“Christmas on line, buy all my Christmas presents”.

(Focus Group 3; Harriet (28 years of age): 293)

“Games and that was it. I just used to play games. I could turn it on and off. If it didn’t work it got left”.

(Focus Group 3; Jane (31 years of age): 173-175)

Some students discussed their increasing use of personal ICT equipment as a direct result of studying at the University;

“I’ve only started using my laptop since I started here. Because I never needed to use it before I just used it really for Internet shopping when it came up to Christmas (laughter) but I’ve never used it, I’ve never had to use one…”

(Focus Group 4; Susan (48 years of age): 41-44)

Individual interview data provided complementary evidence. Julia, who was in her third and final year of the programme stated that prior to the commencement of her
course she was not computer literate but had managed over the previous three years to develop her IT skills with regards to on-line shopping and banking;

“I’ve just started doing it, I’ve just figured it out, it’s more of an uncertainty you know putting your details. I do on-line banking”

Julia (28 years of age); 485-486)

She continued that shopping and banking on-line was like ‘playing a game’;

“I started doing it last year because I opened an ISA account and I find that really easy to use. That’s fine, very straightforward, makes life a lot easier for paying bills and bits like that. On-line shopping I’ve just started doing, it’s ok but if the wrong size comes, like my shoes, I send them back but my little girl lost the receipt to send them back so I couldn’t send them back. I ordered some more on my credit card and they sent me some gloves instead of shoes, it said on the receipt shoes, so I sent it back to get a refund and I have sent the other shoes back as well now. It’s alright but you can’t physically try them on, it’s playing a game.”

(Julia; 492-499)

Even the prior undertaking of ICT courses, although allowing for the development of basic ICT skills, left some still feeling very confused and lacking in in how to apply them more generally,

“I’ve done the one that was previous to the European Driving Licence.........CLAIT yes, I’ve done CLAIT and I’ve done all of those and I’m fine on that side of it but what I’m not good at is I just don’t understand them and I find it very difficult.”

(Focus group 2; Olivia (34 years of age): 249, 255)

Nonetheless, for others the undertaking of ICT courses proved more than beneficial and had gone some way to remove barriers to ICT usage;

‘Before I came into nursing it was pretty much office work. When I was at school I did ‘O’ level computer studies which was just coming in so there was no Internet and it was just programming the computers. I did enjoy it at the time and I did get my ‘O’ level in it but I didn’t really want to take it much further than that. But when I had children as they went to school we thought we should get an up-to-date computer, so I actually went to college and did the RSA CLAIT, which is like a programme for using in offices, word processing and things like that, so I updated a bit there. Then I’ve just picked the IT skills up. All along I’ve been using computers at work to do my work, office based, so I have no phobia about them or anything because I’ve had the keyboard skills there all the time.”

(Focus Group 1; Martha (42 years of age): 81-90)
With a clear focus on the academic usage of ICT in the School of Health, it was apparent from the data that individual student abilities paralleled those associated with personal use. Students’ spoke of being given and working their way through electronic workbooks that included practice elements for word processing;

“They sort of had you doing word processing stuff.”
(Focus Group 2; Penny (28 years of age): 830)

Olivia described one exercise within the workbook, which clearly focused on developing the skill of being able to word process albeit at a very basic level;

“You had to put down ten reasons why you wanted to be a nurse...”
(Focus Group 2; Olivia (34 years of age): 833)

However, Martha was able to provide a more in-depth description as to the different ways in which ICT was utilised especially with regard to the writing and setting out of assignments. She similarly considered the basic nature of what they were being asked to complete;

“Yes, a lot of it was how they like the assignments set out, which icons under the taskbar to use to get into the paragraph, to get your line spacing and to justify it, and to get the Ariel point in your text, and the size being eleven, and how to copy and paste from the Internet onto a clean Word document, and how to save a draft in your email and how to email. Basic things really, really basic stuff....”
(Focus Group 1; Martha (42 years of age): 202-206)

Other examples of ICT usage included accessing the University Virtual Learning Environment (VLE), WebCT and more latterly Blackboard. Evidence from the data suggests that most students refer to the VLE as elearn;

“It was like a step by step instruction of how to log onto eLearning...”
(Stephanie (26 years of age): 161)
“We learned about using on-line databases. That was quite useful because although I had used them nobody had taught me how to use them properly. Because I went to university before I was quite familiar with things like word processing and statistics things and e-learn as well because I did a similar thing at my university. But even though we had used these on-line databases nobody ever really told us how to use them properly to get the best results from them.”

(Focus Group 3; Georgina: 69-74)

The use of ‘PowerPoint’ for presentation work was also recognised as a way in which the students were using ICT. Kelly, for example, had never used this software programme prior to attending the University but felt that following some instruction she was ‘getting the hang of it’;

“PowerPoint wasn’t something I’d really used before I came here because I just used to do my overheads on like those old transparency things and just write them. But I think I’m getting the hang of it now.”

(Focus Group 3; Kelly (33years of age): 314-316)

The importance of being able to email within the University was also discussed as students are encouraged to only use their University mail address for all electronic correspondence. Susan described her challenging emailing learning journey;

“Well this is why Brian (her son) showed me how to do it because I emailed you and I’ve emailed a couple of other tutors. But that’s something else you see, I want to write it like a letter, you know address, dear so and so, and write it as you would. Brian said, no you don’t do that mum you just do this. But I’ll get there, I will get there, it’s too important.”

(Focus Group 4; Susan (48years of age): 582-586)

On the continued theme of electronic communication and its importance to their work, one of the students interviewed had been fortunate enough to participate in an Erasmus project which had enabled her to visit a School of Health based in a University in Greece. As part of this programme the students were encouraged by their lecturers to utilise a social media networking site involving the setting up of a ‘Facebook Group’. Although initially there had been some difficulties with regard to the technology overall this had proved to be a worthwhile exercise with all members
of the group still using this site as means of communicating on their return to the United Kingdom. Linda explained;

“I did the Erasmus project in April and we were encouraged to set up a Facebook group and a group through the Erasmus site the IP open-end site. We had difficulties with that because we were given passwords but we just couldn’t get on it, we couldn’t upload the work onto it. That was a similar sort of system. We could create like a home page, upload work onto it, access other people’s work and meet the people beforehand. But it just turned out better that we ended up using Facebook instead whilst we were there. Also we’ve set up a book on our return of all the people there and we still talk to each other. We send reports and information to each other through this group.”

(Focus Group 1; Linda (45yrs of age): 527-535)

In summary, the data on ICT usage by mature, female student nurses suggested a range of experiences with no one dominant feature, although clearly ICT use for a variety of these students, both from a personal and university perspective, appears to focus upon personal experience (or lack of it), background and the overall ability to utilise the technology.

4.1.1.2 Opportunities to develop ICT usage

It was evident from the data that there were varied opportunities within the School of Health for students to develop their ICT skills. However, the way in which these proved helpful or not appeared to be based once again on previous background and personal experience. This perception is reflected in the following comments from the students during one focus group session. There was a clear distinction between those who considered they had learnt very little based on their previous experience of ICT use,

“We had a module in the first year. I didn’t find it very useful though because I didn’t think that it taught me anything I didn’t already know about computers”

(Focus Group 3; Jane (31 years of age): 47-53)
“I always knew how to use computers but I wouldn’t say that I have been taught anything in my first year on IT or how to use them. I’m only at the end of my first year and up to now we have not had anything....

(Focus Group 3; Harriet (28 years of age): 40-42)

Equally others considered that they had found some of the ICT instruction useful but this was often dependent on individual personal experiences of ICT usage prior to commencing their programme of study;

“I found some of it useful....... We did learn something, we learned more about elearn on there.”

(Focus Group 3; Jane (31 years of age): 66)

“There were parts of it that were useful. The data bases and stuff based around elearn as well.”

(Focus Group 3; Isabelle (27 years of age): 87-93)

“......we had a couple of lessons on guidance and using e-learning and using Word really and how to do it and we had a lesson on using Discovery so that we could find the journals and using the library, using on-line library resources, and how to book books in the library to go and pick up. So that was all new to me......”

(Brenda (52 years of age): 25-28)

However, Julia, who was in the final weeks of the three year programme prior to qualification as a registered adult nurse, reflected on the fact that for her particular cohort ICT instruction was provided predominately within the first year of the programme. In addition there appeared to be no opportunities for repeat or further enhancement of ICT skills during the remainder of the course. She did consider however that the content of the module was interesting and helpful;

“Well I think, it’s going back a long time, but in our first year we did IT skills for research, a module, that was really it. There was no more input for three years, we just did one module in our first year, how to research databases and how to send emails, how to do your word processing, how to set it all out on the computer, which was really interesting and it did help.”

(Julia (28 years of age); 114-118)
This was a feature repeated by students who participated in the focus group sessions. It was evident that ICT instruction formed a mandatory element of the initial stages of the nursing programme but was then not reinforced during the subsequent three years;

“…….in the first few months during our theory weeks …..we were given lectures that were mandatory. They were part of the key lecture series for basic skills on the computers…”

(Focus Group 1; Linda (45yrs of age): 108)

“We might have had a lecture on eLearning like how to set up your e-portfolio or just accessing the library, the on-line library, but other than that no.”

(Focus Group 3; Georgina; 111-112)

In summary the nature of the opportunities within the School of Health for individual mature, female students to develop their ICT skills within the three year period of the degree programme varied. There were those students who, based on their previous experiences with ICT usage, found that in reality they learned very little, the sessions provided were a reinforcement of what they already knew. For others, particularly those with no or limited ICT experience, there were parts of the instruction that were useful, especially around the utilisation of the Virtual Learning Environment (referred to within the data as elearn) and the searching of electronic data bases for the purposes of assignment writing and the sending of emails.

4.1.1.3 ICT use within the Clinical Arena

It was evident from the students’ stories and experiences cited that use of ICT within their clinical practice was also extremely variable and for many, limited. It appeared to make very little difference as to the clinical specialty or the period of time spent in each particular clinical placement as to how much time and guidance was provided with utilising ICT in clinical practice.
Linda who was undertaking a clinical placement in an Accident and Emergency Department reflected on students' limited usage and raised issues concerning supervision;

“It’s limited because we are not allowed direct access unsupervised. We are not allowed passwords but we are allowed to go on and do the assessment sheet, the triage sheet. Everything has to be supervised really.”

(Focus Group 1: Linda (45yrs of age): 47-49)

Martha who was at the time working on a Medical Assessment Unit considered that the type of placement made very little difference either. She felt that the issue of limited use was, in her own words,

“….widespread. It is right across the board for student nurses…… we can’t go on the actual clinical information.”

(Focus Group 1; Martha (42years of age): 52, 58-59)

However, one of Martha’s colleagues confirmed a position articulated by many of those students interviewed;

“…but we are allowed in the Intranet so we can use the Intranet whenever we like, not password protected, to look at the policies and procedures and look at the news from different areas. We are just not allowed to access patient files or any confidential things.”

(Focus Group 1; Linda (45yrs of age): 63-66)

For some students it appeared that being able to use the NHS Trust’s intranet site and the internet for access to research and clinical information was allowed during ‘quiet’ periods on the clinical areas;

“I’ve used them for research, like if it was a bit quiet just to log on and look up some things, or look up things relating to the placement area. For my own learning really to look at their policy and procedures on, I can’t think of any specific off the top of my head. On my other placement I was they’d just say – look up that so I know that you’ve read it. They didn’t really ask me any questions on it.”

(Brenda: 121-122, 335-337)
However, it was also evident that students were not actively encouraged by either their mentors or other members of the team to use the computers on the wards or departments;

“Not when you are a student. It is really strange........you get results and you get your patients’ names, beds, where they are......it makes me feel abit useless to be honest. You can get a sample of urine and it could be sat there for four hours because you have to rely on someone else. Yes you can handwrite it and I’ve had to do that...In my first year at..........they showed me how to do it all but yet here I am in my third year and I’ve not been shown how to it.”

Julia (28 years of age); 586, 599-600, 624-647

However, Stephanie suggested that as students work with their mentors for at least three days per week then there would be some opportunity to be ‘shown’ how to use ICT, recognising that much of this might be based on shadowing someone with experience;

“You would have to watch them but you would never really get what they are doing unless they slow down and tell you and talk through what they are doing.”

(Stephanie (26 years of age): 298-301)

Julia also raised the topic of ‘handwriting’ the patient records instead of being able to update them electronically and it appeared that this continued to be the case particularly with regard to patient handovers at the beginning and end of shifts. On these occasions patient data was printed off as hard copy and distributed to the team for a verbal update;

“It was printed off, it was electronically done and updated on a handover sheet that was printed off and then you’d go through it.”

(Debbie (27 years of age): 326-327)

Another of the participants, Penny, described her perception of the ‘printed sheet’ handover and was not entirely impressed with its overall usefulness;
In summary the data on ICT usage within the clinical arena suggest that students had limited access with much of that focused on NHS Trust Intranet searching. Patient data access appeared for the most part to be available only to those employed within the Trust with students being provided with a paper sheet for patient handover purposes.

4.1.1.4 Summary

The themes identified in the data suggest that personal background, previous experience, ICT support and usage within university based elements of the programme, and use within the clinical arena are important factors when thinking about mature, female student nurses and their ICT usage within nursing education. Although as a group these students have been identified in the literature, Durndell et al (1995), as being less engaged in the use of ICT during their pre-registration nursing programme, there is evidence to suggest that the biographies of the individuals themselves exemplify both similar and different ICT trajectories. However, although there are these differences there are still quite important common features that suggest that opportunities for ICT use is less than straightforward in the life of these mature, female student nurses.

In the previous section of this chapter I have presented the findings and emergent themes from my analysis of the data for research question 1. It is now my intention to present the emergent themes from the findings evidenced from research question 2.
4.1.2 Research Question 2: ‘What are the barriers which may prevent mature, female students from accessing and using ICT within nursing education’?

For the purposes of this question I have used the concept of being ‘locked out’ as a way to describe the research findings as this term appeared synonymous with the way students seemed to describe their various and different experiences of being excluded from and/or not engaging with ICT within nursing education. Lock out was reflected in three ways:

- Generationally ‘locked out’
- Emotionally ‘locked out’
- Situationally and hierarchically ‘locked out’

4.1.2.1 Generationally ‘locked out’

The data suggested that mature, female nursing students experienced some issues around confidence and feelings of insecurity around ICT usage. Many of them related these feelings to a perceived generation gap. They talked of studying in class with the ‘younger ones’, of not being able to retain information about ICT and not having much access to ICT as they grew up and while at school. In addition some of the lecturer sample in the study also identified potential retention issues and expressed concern that those generationally locked out of ICT and with an inherent fear of utilising ICT were more likely to withdraw from the programme.

“I feel like my grandma must have felt when decimal currency first came in I think. Because we were young and you were brought up to use it you didn’t know any
different but poor grandma struggled and we found it difficult to comprehend why she struggled”.

(Focus Group 4; Susan (48 years of age): 48-50)

Susan’s views were representative of three or four students in the sample, and further emphasised her frustrations about the apparent generation gap by reflecting on her own role as a grandmother and ICT usage. She stated that;

“Yes, I mean my youngest grandson is seven, now last year to get in here I had to do my maths and English and I took my maths on holiday with me and my computer, my laptop, and John said, don’t worry grandma, I’ll show you how to use it. And he was six! And I thought – oh dear! And he can whizz round with his little finger on that pad thing”.

(Focus Group 4; Susan (48 years of age): 70-83)

The ‘generation gap’ appeared pivotal in the way the students who formed part of the focus groups viewed themselves as being ‘older’ and therefore less able than their younger counterparts. This was evidenced by students who suggested there was a particular expectation that you should know what to do with ICT when starting their University course.

“The expectation from……..that you come on this course and you are expected to know all that there is to know about it (computers).”

(Focus Group 2; Penny (28 years of age): 410-411)

According to lecturers who took part in the in the lecturer focus group sample, and who were at the time working on the pre-registration nursing programme, a lack of confidence in being ‘generationally locked out’ and the sense of inadequacy that this situation potentially led to more than one student withdrawing from the programme altogether. It appears that they struggled to grasp the essentials of computer use especially in regard to elearn access and the e-portfolio;

“I think on a couple of occasions it’s even led to some dropping off the course. You know of students, I mean not loads and I’ve not got that much experience yet with this new curriculum, but students that don’t submit and when you get to the bottom of it
it’s actually because they’ve not worked out how to use the e-learn, where to get the assignment guidelines from, how to get in their e-portfolio, and that’s led to them dropping out I think.”

(Focus Group Lecturers; Francis 218-223)

In addition the lecturers also considered that the introduction of this technological element to their studies might actually encourage the mature students to engage with ICT appeared to have achieved the opposite effect;

“I think it’s a burden really. Because it’s basically just somewhere to put things and I think a few of them think –well why do I need to put it there, I can just save it on my F drive so it’s not really........ the use of the portfolio is a bit of an obstacle we put in the way really. I’d like to think that by making them do that it makes them go to the computer, it makes them use e-learning, it makes them learn to use things around which they might start to gain a little bit of confidence but I couldn’t say that.”

(Focus Group Lecturers; Francis: 242-244)

Daisy explained that she thought students use the issue of access difficulties as a tactic to not engage with materials in the VLE, such as the e-portfolio, because in reality they were anxious and lacking in confidence with regards to its use;

“A tactic I had this time round was a student used to complain a lot about e-learn that she couldn’t access it and it was cutting out on her and this, that and the other, and she said she just couldn’t do it. She never accessed any of the learning materials that I put up there. When I got it checked out we could see clearly how many times she had accessed it and downloaded. So she had been accessing it even though she said she couldn’t, she had actually in some instances been downloading, even though she said she’d got nothing at all off it. So it’s the tactics. Sometimes they’ll just drop out. Sometimes there will be a lot of complaints to the point of fabricating some of the information they are giving you about what’s happening. But it’s all due to stress and the lack of confidence in using it.”

(Focus Group Lecturers; Daisy: 226-235)

Penny further highlighted the issue of student retention. She believed that the language used during ICT instruction was new, something unfamiliar and she believed that it was overwhelming for some;

“It’s like a new language isn’t it, I think it’s... You know you get women in their thirties and forties, who’ve been doing their caring profession for so many years but they just can’t use a computer, so I think you would have got quite a few that’s dropped out because of that reason and they could have made really good...
nurses ……. Some people are proud as well aren’t they? They are too proud to admit – well I can’t do that. What’s basic to some people is overwhelming for them.”

(Focus Group 2; Penny (28 years of age): 1401-1422)

Concerns were also expressed about the way in which individuals are able to retain information following ICT instruction. Susan, not an avid user of ICT, articulated very clearly the difficulties experienced when shown how to perform a certain IT process that was then not sustained in other contexts such as home.

“Well we went to the library didn’t we and did a little course an hour there ourselves and while she was showing it, yes, yes, I know, but as soon as you get home and go on yours it’s no, I’ve lost it again.”

(Focus Group 4: Susan (48 years of age): 143-145)

This view was further echoed by Rosemary who considered that all newly acquired ICT skills needed to be practiced;

“Because you can do it once and then you forget it, it doesn’t seem to stick, so if you did it for a few weeks the penny might drop.”

(Focus Group 4; Rosemary (50 years of age): 176-177)

For others ICT skills can be ‘picked up’ relatively easily. However there was a recognition that not all students learn in the same way and the ability to learn differs from individual to individual. For example memories of previous experiences at school were voiced more than once;

“……….but I’m the type of person, and I’ve been like this since I was at school, some people pick something up straight away don’t they, I don’t, I need to be told the same thing maybe two or three times. Now once I’ve got it I keep it. But like when I was at school which was many moons ago, if you didn’t get it the first time you sort of got moved back in class so you ended up at the back, because the teachers didn’t have the time to spend with people who couldn’t get it straight away and they concentrated on the ones at the front you see. The ones at the back sort of got left behind a bit.”

(Focus Group 4; Susan (48 years of age): 217-224)

In summary the data suggests that for the mature, female nursing students interviewed there were those individuals who had not ‘grown up’ with ICT and
therefore expressed a certain degree of difficulty with engagement of the same. These particular student nurses felt excluded from ICT usage and this manifested itself in frustration, a clear lack of confidence and a necessity to continually practice when away from the University.

4.1.2.2 Emotionally ‘locked out’

When considering this particular theme, it became evident, when examining in detail the interview transcripts, that the language used by the students about their personal ICT usage was at times very emotive in nature. – a sense of being ‘emotionally locked out’ from ICT use.

Olivia, for example, described how she had been a medical secretary before starting the pre-registration nursing course and stated that she was very good at typing but she hated using the medical computer systems and how this dread transferred into computer use at the University;

“Before I started the nursing course I was a medical secretary. I am very good at typing and obviously as a medical secretary I have had to get used to using medical computer systems and I absolutely hate it! I have done training course and you do the courses but they don’t tell you, they give you the outline and then you find out three years later – oh if you just press that button you’ve got a short cut for it, and this sort of thing. You haven’t a clue sort of thing and I find it totally bewildering. I absolutely – every time I switch on a computer I hate it. I’ve got children and they are obviously a bit older because with my age and my children tell me what to do when I get stuck. Also because having to use it at uni I just dread it. I sit there and I send things off and I don’t believe it’s ever gone and I have had training in how to do it and I still don’t really understand anything.”

(Focus Group 2; Olivia (34 years of age): 46-56)

Susan, on the other hand, had only started using her laptop since commencing the Pre-Registration Nursing programme. She had not undertaken any type of previous ICT instruction prior to entering University and therefore her usage of the same was
very limited. She did however purchase two books and describes in detail the stressful conversations started at home with her son, Brian;

“I bought two books. I bought ‘Laptops for Dummies’ and another one, and I got the wrong book and Brian made me take it back. But I have to say when I’d been here the first couple of days I panicked when I went home. I got really upset and I panicked. I said – I don’t even know how to use my laptop. All I got from Brian was – well I have been telling you mother, I have been telling you for the last few months you should be practicing on it, blah, blah, blah. I said to him – but Brian you know, and he said - no never mind, I’ve shown you stuff, and instead of practicing it every night mum you’ve left it and now you come back to me a fortnight later and say Brian how do I do this. He said, which I thought was a bit hard – you’re wasting my time mum and you’re wasting your own. I got right upset then and I ended up in tears to be honest. I said – yes but that’s alright for you, you can come home. He’s thirty my son and he’s at uni now, he started after all these years, he’s at teacher training, and I said – when you come home Brian you come home and you set to and do your work or you play on your PlayStation or whatever. But when I come in I have all my housework to do, I’ve my washing to do, my ironing to do, my shopping, everything, and by the time I’ve done that and he’s said – well you are going to have to manage your time better. So that’s something else I am going to have to sort out. But whatever it takes I’ll do it because I’ve waited too long to be able to do this course so I am not going to let a piece of bloody, excuse my French, machinery get the better of me! But it is quite daunting I have to say.”

(Focus Group 4; Susan: 721-737)

Susan’s confidence problem appeared to coalesce around issues of understanding the terminology used within lectures and this caused additional confusion, fear and a feeling of inadequacy particularly if this occurred in the presence of her younger peers;

‘………..sometimes in the lectures these young ones are coming out with stuff aren’t they and they say – oh yes you do it like this and you get it off there. And you think – oh I don’t know what you are talking about.”

(Focus Group 4; Susan (48years of age): 135 –140)

Jane also reflected on her feelings about using ICT stating that,

“I was terrified, absolutely terrified. If I hadn’t done the Open University course I think I would have been in pieces. But I was scared. I did a year of my training a long time ago and it was all on paper and I knew about essays but it was such a change.”

(Focus Group 3; Jane (31 years of age): 182-183)
Equally, the youngest students in the mature student sample, described situations where they had been taught ICT skills at the beginning of the programme in groups with the more older students and how this had posed a barrier to their own learning. They became exasperated emotionally as they considered that the programme did not reflect their own particular needs;

“….We had quite a bit of a nightmare really because the more mature students who obviously haven’t used computers in a long time you would overhear them saying – Oh I don’t know how to get this on eLearning or how to get to this. So it obviously wasn’t in detail enough for some people because they still hadn’t got their heads round it anyway from what you hear.”

(Focus Group 3; Georgina (26years of age): 112-117)

“Sometimes in lectures it can be quite tiring when they (the lecturers) open it up to questions. I mean some you just think –Oh can you not just pull them aside at the end rather than have all of us listening to this you know. It can get frustrating in that sense.”

(Focus Group 3; Harriet (28years of age): 157-159)

Some of this data was complemented by the lecturer sample who also had stories to tell about students’ personal experience and confidence in utilising ICT,

“One recently…… just had it (assignment) typed by a typist and I’ve not come across that for a long, long time, a long, long time. Just wasn’t going to engage. Some years ago it was common people would send their work to a typist to get it done, but this person wasn’t going to engage at all in word processing.”

(Focus Group Lecturers; Evelyn: 31-35)

In addition there was a view that the mature, female students fell into three distinct groups with regard to their computer literacy;

“I find it very mixed, you’ll get those that are very computer literate and those that are not so bad but they can cope and those that don’t cope with it. In my experience they tend to fall into three distinct groups. Because they are predominately female that I’ve come across I can only speak mainly for females.”

(Focus Group Lecturers; Daisy: 52-57)
Furthermore for those individuals struggling with ICT usage there was view that they experienced a large degree of anxiety;

“……a lot of them come in and if they are mature, females for Pre-reg they’ve done secretarial work. Some of them are fantastic on computers aren’t they? Like you say some have got really good skills but the ones that haven’t it does cause them a lot of anxiety.”

(Focus Group Lecturers; Francis: 68-71)

“I’ve found that they will take every opportunity to harness you as an individual lecturer to give them individual support if they can get your attention in the computer class that we do. They will hog you for as long as they can because they are so anxious about it.”

(Focus Group Lecturers; Francis: 77-79)

Evelyn, one of the lecturers, believed that this anxiety actually blocks learning and emanates from the students’ fear of ICT use;

“…sometimes it’s the fear isn’t it that blocks the learning, and it’s not just the learning of the content it’s the learning of the computer skills. This fear that they have just stops anything else because they are just so anxious about it all it almost stops them from actually learning how to use it as well.”

(Focus Group Lecturers; Evelyn: 129-132)

This fear factor is further echoed in the words of the student Susan. She was extremely concerned about stories that she had heard where students had allegedly lost all of their work saying that;

“I’m frightened to death of losing something. My husband and my son who use them all the time say - you can’t lose anything, you can’t lose anything. But if you can’t lose anything why do people sometimes go – oh I’ve lost all my work!”

(Focus Group 4; Susan (48years of age): 44-47)

However, another student Jane managed to overcome some of this fear by explaining that;

“I find as I sit there then I start to fiddle and learn a little more that way........I press buttons but I don’t know what’s going to happen I press buttons and I’ll click on links........since I realised there is a back button that I can undo everything........yes, I feel a lot safer now.....I was scared of doing it wrong. I’d press confirm or send or
whatever and then I’d think – did I read it properly, was I supposed to do that? But now I know there is an undo button it’s great.”

(Focus group 3; Jane (31 years of age): 645-669)

In a similar manner, the electronic submission of assignments also caused a large degree of anxiety. The plagiarism tool ‘Turnitin’ is used across the School of Health as an aid to learning, and the majority of courses advocate its use for the submission of assignment work. Although the tool proved to be beneficial for many, it has also caused a degree of concern for the mature students. It appears that the tutorial support provided for its use had at times not been adequate and this fostered a sense of foreboding and uncertainty as identified by Georgina;

“I mean if we had been shown how to do it maybe it wouldn’t have been so stressful.”

(Focus Group 3; Georgina (26years of age): 245)

Furthermore, this uncertainty appeared to be exacerbated for those students who at the time of interviewing did not receive their results online but through the post. If delayed this provoked further anxiety as to whether the work had been electronically submitted in the first place;

“……because you are left wondering whether it had actually been sent because you don’t get the results on line, you get the results posted to you which is worrying when you are going and you think have you sent it. Because then, weren’t they, they were like – oh well if it’s been sent in you’ll get it through the post. Then a load of us didn’t get our results through the post so then you start thinking did it go, did it get sent when I sent it.”

(Focus Group3; Isabelle (27years of age): 255-260)

The concept of ‘being emotionally locked out’ also extended to the students’ use of a broad set of ICT such as mobile / smart phones, iPods, iPads, tablets and an ever increasing array of other digital technologies. Penny stated during her focus group interview that although she used a mobile phone she did not use the technology for any other type of social media activity including Facebook, Twitter or Instagram;
“I have an iPhone, I’ve no apps on it, I’ve no iTunes on it, I’ve no Internet on it, I’ve no Facebook on it.”

(Focus Group 2; Penny (28 years of age): 689-690)

Her friend, Norma, also recounted a similar story concerning her iPod;

“...I had an iPod for a year with no songs on it because I couldn’t fathom it out. I’ve worked it out now but I had to sit down and work it out.”

(Focus Group 2; Norma (46 years of age): 702-703)

In summary the data suggests that emotional feelings can taint the overall ICT experiences for some of these mature, female students. The emotive language reflects the degree of anxiety concerning ICT use that, for many, creates a barrier to their engagement with the same. It is evident that this non-engagement extends past the use of computers or laptops and affects the ways in which they utilise the varying functions and applications of mobile phones and other current mobile and digital technologies.

4.1.2.3 Situationally and hierarchically ‘locked out’

The concept of being both ‘situationally and hierarchically locked out’ stems from the more limited access to ICT that the students encountered, particularly in clinical placements. All students irrespective of age were found to be in the same situation. Jane perhaps best exemplifies some of the frustration experienced by being ‘locked out’ from ICT usage on placement

“...Yes sometimes it can be a little bit frustrating when you can see how busy everybody is and you think – I could help. I could carry on and finish that instead of having to stop somebody and say – please put this in the computer for me. That is frustrating sometimes because you feel you are taking them away from their other jobs to do something you’ve started.”

(Focus Group 3; Jane (31 years of age): 791-795)
This frustration is exacerbated by the fact that in some NHS Trusts the students were not given personal passwords to access the ICT systems and were therefore unable to access patient documentation electronically. This led to situations where students were required to ask other members of the ward team to access the information for them;

“…….because it would be so much easier if you could just print the label off because obviously you’ve got the sample or whatever and then you’re having to, like you say, pull them away just to print a label off when you could quite easily do that if you had the password.”

(Focus Group 3; Isabelle (27 years of age): 805-808)

My own observational data collected whilst on clinical visits adds weight to this finding. Through my regular visits to the clinical arena as part of my own ‘Clinical Link role’ I was able to consider how student nurses were logging on and utilising ICT on the wards. For the most part although the students were carrying out all aspects of daily patient care, including admissions, they were unable to complete this work as they were not allowed direct access to electronic patient documentation. However, although Jane found the lack of a password frustrating, she thought that she understood why;

“I think it would in a sense that you could finish if you started a job, you would go and you would take a urine specimen or something and you could finish, you could see it all through. Whereas you are going so far and then you’ve to stop and that can be frustrating because I do think it’s easier the more information you have. I can understand maybe as well why we can’t have all the information.”

(Focus Group 3; Jane (31 years of age): 1002-1006)

When I explored this with Jane by asking;

“Why do you think you can’t have all the information? What do you think might be the reason?”

(Focus Group 3; Lyndsey; 1009-1010)
She continued that;

“Maybe because we are always moving on somewhere else, I don’t know.”

(Focus Group 3; Jane (31 years of age): 1013)

However, Harriet, a participant in the same focus group thought that the reason might be different and reflected on the issue of their student status;

**Harriet:**

“No, because we are students… that’s what I was told, that I’m a student………”

**Lyndsey:**

“Does it make you feel – well I’m a student or doesn’t it bother you?”

**Harriet:**

“Yes sometimes just ‘the student’. I think sometimes as well if I’m being announced – oh this is the student! And – meet the student, and – oh student can you come here. I’ve got to say it gets on my nerves sometimes.”

(Focus Group 3; Harriet (28 years of age): 1024-1029)

Excerpts from my own research journal show my reflections on my observations of this phenomena during my clinical link visits. I found it hard to understand why students were consistently referred to as “the student” even though I referred to them by name and why it was evident in some NHS Trusts that student nurses were not issued with personal passwords when it appeared that the medical students were. (An example of reflections taken from my personal research journal can be seen in Appendix 4 of this thesis).

Other students had very similar experiences to those highlighted above. Brenda, however, was issued with a personal password but it only allowed her to access the Trust intranet site. It did not provide any access to patient documentation and as with
other students Brenda did not seek clarification or ask why. However, interestingly, she suggested that being able to access patient data was a privilege that you acquired at the point of qualification as a Registered Nurse;

“I never asked, I just accepted it really..........I don’t know, I think it was because I just thought well maybe it’s because I’m a student and I’m not allowed........I thought maybe when I qualify I’ll get all my privileges....I never asked, perhaps I should have done, I might ask on my next placement.”

(Brenda (52 years of age); 138-173)

All students had access to paper based patient records but in this example, Julia reflects on what it means to be a student, especially a mature student who is due to qualify and has no ICT access on the ward;

“It is really strange.......You get results and you get your patients’ names, beds, where they are. As students on our internship we don’t get taught how to do that until we are qualified.... I don’t know but it’s really difficult. If I’ve got an admission which I’m doing, I’m quite capable to do that admission, I can’t do any of the computer stuff because I haven’t got a password to do it. I have to ask somebody else. Or if I get a sample of urine in or blood tests, anything that the doctor’s asked me to do I can’t put that in the records because I haven’t got a password. The auxiliaries have a password. The trained members of staff have a password but I don’t. I understand the confidentiality and everything else.”

(Julia (28 years of age); 586-611)

However, Julia continued that although she understood about the nature of patient confidentiality, she did not understand the fact that she already had access to the patients’ confidential information especially if she is the one who had admitted them to the ward and recorded their personal details and previous medical history;

“Yes but however if you’re in admission I know where they live, I know the family’s name, I know their next of kin, I know their doctors. I could probably find out all kinds of information about if their house is secure, because they just tell you, they trust you to take in that information. I’ve got more access to those patients, I’ve got their medical records on admission they are all there. I’ve got no access to their stuff without a PIN number to get into the computer.”

(Julia (28 years of age); 618-623)
A sample of student nurse mentors were also interviewed in a Focus Group and their responses were synonymous with the students. Angela considered that;

“….all our notes and everything that you need to access is on computer, so for them to read about the patient, learn how to do risk assessments, care planning, it’s all computer based. So obviously when they come in from the university to the workplace they can’t access, they can’t go in on your log-in.”

(Focus Group Mentors; Angela: 16-19)

Angela highlighted that sometimes it was possible to request a student password from the Trust ICT Department but this was very ‘hit and miss’ and on several occasions students had reached the end of their allotted period of time on the particular clinical placement still not having been issued with an access code;

“The hardest bit is getting IT to transfer it over for them to be able to use it themselves and sometimes we’ve got to the end of a placement before somebody was able to access it through IT’s fault, because they just never got round to it or there was a hiccup on their side………but it didn’t help the student any because although they were looking at the stuff as I might log on and they’d look at a care plan but they couldn’t contribute, they couldn’t type on it or do a care plan under my name, so that’s an issue.”

(Focus Group Mentors; Angela: 20-26)

In order to achieve this important aspect of their daily clinical work all students require access to the electronically held patient record. Students are not permitted in any circumstance to access this record by utilising their mentors’ password so there was some expectation that students would sit alongside their mentors and review the patient record with them. However, this too caused difficulties as expressed by Beatrice;

“The idea is that you sit together isn’t it and you can do that. But again like you’ve just said, for them to evidence that they’ve put something on or done a care plan or part of their learning objectives it’s really difficult, because it’s seen as on my name as the staff writes.”

(Focus Group Mentors; Beatrice: 41-44)

It also appeared that there were time constraints identified with ‘sitting with Nellie’ and it was evident from the data that the individual accountability of the qualified
practitioner reached the fore as previously identified by Angela. Therefore differing ways were devised to enable the students to gain the necessary competence without accessing and actually making an entry into the electronically held record and certainly not by utilising their mentor’s password;

“What we do with our students is we’ll put it perhaps on a Word document first and then go through it and then think about it, which is all time-consuming, you don’t always have the opportunity to do that on a busy ward do you?”

(Focus Group Mentors; Beatrice: 77-79)

Cathie, another member of the mentor focus group session identified the following and articulated the importance of the clear partnership working required between the NHS Trusts and the Universities in order to enhance the overall student clinical experience as a whole;

“It’s trying to think about maybe looking at things from a different angle and actually placements working closely with university to enable, for when a student is coming onto placement, that there is some process that they can be quickly set up with their own password, log-in, etc., and then they can be up and running from the get-go.”

(Focus Group Mentors; Cathie: 87-90)

However, Cathie, like Beatrice, also considered that there was a time constraint and that it was at times not practical to sit with the students for any designated period of time. Although there was recognition that paper copies were held on the ward, there was still a recognition that much of the necessary written work was undertaken electronically. Cathie continued that;

“We use the computer obviously a lot of the shared drive that practitioners and students need to be able to access, to bring up, things like clinic letters etc., risk assessments that have been saved onto the shared drive. We do still have paper copies so we do have the paper files really. But there is a lot of work that is done via the computer and like you said we would have to think about ways around that, about sitting down like you said with the student, but that encroaches onto your time and it’s not always practical, it’s not always going to happen.”

(Focus Group Mentors; Cathie: 131-137)
It was noted however that there are still limited numbers of computers for all to use in the clinical areas and there is a presumption that although it is understood that the students are there to learn, there are just not enough available computers to go round;

“I think the limited amount of computers as well. You get a doctor on one and a staff nurse on another and admin on another one and the student wants to go on another one. There just isn’t that facility for them although they have to learn it’s difficult really. They go on and they want to look at their emails and there’s nothing wrong with that because it’s usually university based I would like to think, or some research, they want to get some research, but if you’ve not got that facility for them to be able to have that.”

(Focus Group Mentors; Cathie: 140-146)

So, in much of what was said by the mentor sample there was an acknowledgement that in many ways student nurse were being both situationally and hierarchically ‘locked out’ and not allowed to feel part of the ward team’;

“You are asking a student to feel part of a team and then you are asking them to go off and they’ve got learning objectives to complete and be assessed on but they’ve not got the full tools to be able to do it. It doesn’t seem fair really does it?”

(Focus Group Mentors; Beatrice: 241-243)

“No it’s not fair really is it.”

(Focus Group Mentors; Angela: 246)

This notion of ‘fairness’ was discussed within the mentor focus group when it was identified that two students both within the same year of study had unfortunately experienced very different processes during their time on a particular placement. One had been able to secure access to the electronic patient record, the other not, despite all her valiant attempts to liaise with the Trust IT Department. One of the mentors interviewed had taken time to reflect on this and voiced the following;

“We’ve had two students on the same placement, same year, same intake and everything and one’s been able to access and one hasn’t. We’ve recently just had it.
One student said she’s had a great experience and the other one said she hated every day of it. When we discussed it with her she just hasn’t learned anything other than—well she has, she’s learned about patients and how the ward runs and stuff, but she’s kept herself out of the office because no matter how many times she tried to ring up to sort it out it just wasn’t happening. The manager phoned up and her mentor had phoned up IT but it still didn’t get anywhere..............she felt pretty let down that her friend had successfully completed lots of different things and she hadn’t had that experience of doing that, which isn’t fair is it.”

(Angela; 266-276)

Peter, who holds a senior position in educational developments within the National Health Service (NHS) attempted to explain about the difficulties in generally allowing some students’ access to ICT in the clinical areas. He identified a very hierarchical approach which could be found to constrain ability and a stance which appears not to have been questioned within the NHS. Peter considered that nurses, are as he stated, by nature, compliant;

“The system, because of overly sensitive ICT protocols, means a very hierarchical approach which obviously then constrains ability and because some situations which might not be covered by a protocol will require a change that has to be formalised in quite a significant way, the case made and then you know, very significant liberations about what might then or could not happen, and then it gets to the point where it’s easier not to do it which is what perhaps those students have indicated in that way, and absolutely. So in a system that constrains that ability, they are in a system that does not reflect either the potential and or external reality of what this could and should look like. Then obviously we have a very compliant attitude that means that we work within that as opposed to against it.”

(Peter (45 years of age): 51-60)

This notion of compliance linked with the concept of ‘being situationally locked-out’ was evidenced in the data from a much broader perspective than just that of ICT use in practice settings. Students identified other instances where they had not been able to access Trust resources through not having their own password. This included for example, gaining admittance to the changing rooms but as previously highlighted, they had never asked why. It became a regular part of their working day;
Jane:

“I don’t get a swipe because I’m a student. I don’t get a swipe into the changing rooms because I’m a student…….. You have to knock.”

Lyndsey:

“Right so because you are a student you have to knock, but what happens if there is nobody in there? Do you have to go and get somebody?”

Jane:

“You have to stand there and say – I’m sorry I’m late I was 20 minutes instead of 15 I’ve been stood outside the door…….. You can walk round but I don’t like walking round in my normal clothes really, I always feel like I’m going to get shouted at. Sometimes the very nice ladies in recovery will let you nip through……and having to explain as well I think – sorry I’m a student and I don’t have a pass that swipes etc.”

(Focus Group 3; Jane (31 years of age): 922-945)

Stephanie went on to describe feelings of isolation and embarrassment;

“I was isolated outside the changing rooms a lot of the time (laughing)…… I had to knock on the door and wait for someone to answer or just grab another member of staff to let me in….I felt a bit embarrassed right at the beginning, like the first week I was stood outside waiting, but I got used to it, it never bothered me towards the end……they (the staff) just used to laugh and say – I’ll let you in.”

(Stephanie (26 years of age): 853-912)

To a lesser extent the notion of being situationally locked out was further compounded by the perceived experiences of the students in the School of Health itself, where it was voiced that in the long-term support for ICT usage and skill development was varied;

Some identified feelings of frustration;

“Yes we managed it with a bit of messing about. We didn’t get shown how to do it though. No you just got told like – oh by the way it’s not this way you’re using this programme and you just click on this and that’s it. I found that quite frustrating. I had to get someone to help me with that because I didn’t have a clue.”

(Focus Group 3: Kelly (33 years of age): 222)
“……we sat in a room and did some computer stuff”. I literally just struggled as best I could.”

(Debbie (27 years of age): 68)

“In our first year we had a few lessons on the computer but that’s all we’ve had. We have a booklet that was given to us in our first year on how to work the computer system and how to find references and where to find them and that’s the only thing that we ever had from uni”.

(Stephanie (26 years of age): 115, 121)

In addition the level and accessibility of support that student nurses recognised they could access was identified as an important mediating factor in how they dealt with inconsistent usage and ICT guidance. Evidence from the data suggested that some mature students felt more comfortable asking their friends/relatives for help than they did asking their lecturers. Stephanie shared a house with her twin sister and a friend, and considered it to be less embarrassing asking them for help than asking the lecturers;

“I was more comfortable talking to my own friends and my sister if I had a problem rather than the lecturers themselves. I would do it there and then by the time I got home I’d be like’- oh how do you access such a thing- and I’d just got it there on hand at home. ………..I am a lot closer to those two so it’s just easier to talk to them and ask them where you are going wrong, because I only get embarrassed in front of teachers about asking them and telling them that.”

(Stephanie (26 years of age): 205 – 208, 215 -217)

Seeking ICT support from outside of the university was a recurrent theme discussed by the students, and appeared to be driven by feelings of humiliation and embarrassment felt within class; however the seeking of this support was not without its pitfalls as described by Susan;

“So then you go home and I have to wait till Simon (her husband) or Brian (her son) come in and Brian will say – Mum I’ve told you once, I’ve told you. Yes but they said this. But they only mean this. You don’t even understand the terminology. They lose patience you see and then you just get all worked up. What I’ve found difficult as well is if Simon and Brian are trying to tell me something, it’s like we said at dinner, they come out with computer speak and I get mad at them and we end up falling out. I’ll say-what do you mean, what are you talking about? I find it really frustrating and I feel stupid to be honest, I do, I feel stupid because I don’t know how to do it. That’s a
4.1.2.4 Summary

In this section of the chapter I have documented my development of the three main themes elicited from my analysis of the participant accounts relating to research question 2. These three themes have been framed within the overall concept ‘of being locked out’. This concept as identified within the data suggests that generation, emotion and situation/hierarchy are all important themes which act as barriers to the ways in which mature, female student nurses engage with ICT and beyond, with situation and hierarchy being of particular importance within the clinical arena. These issues are interconnected in places with the significance of this being developed further in the discussion chapter of this thesis.

The evidence demonstrates that with regard to the notion of a ‘generation gap’ some of the students viewed themselves as being ‘older’ and therefore less able than their younger counterparts. This subsequently led to the emotional feelings of inadequacy, lack of capability and fear, which further hampered their overall ability to engage with the technology. From a situational and hierarchical perspective the concept of ‘being locked out’ was demonstrated more broadly through the lack of provision of personal passwords in order to access not only electronic patient records but also other more basic, yet important, resources within the NHS Trusts like the changing rooms. Identified within the focus group data this at times led to feelings of isolation, a sense of being ‘only the student’ and therefore not a real part of the ward team. Brenda concludes;

“….. it makes you not value yourself as much I suppose because they don’t. Although I’ve always had good feedback from the placements and they’ve said I’ve
worked well and things. In a way it makes you take a back seat sometimes depending, not on every placement but sometimes it can make you take a back seat. Because you think – oh I don’t want to get in the way and I’m not allowed to do that. If you were allowed to get on more you would probably appear a bit more forthcoming in everything.”

(Brenda (52 years of age): 695-701)

For the final part of this chapter it is now my intention to present the emergent themes from the findings evidenced from research question 3.

4.1.3 Research Question 3: What actions do mature, female nursing students consider may be taken to improve their knowledge and subsequent use of ICT in both their academic studies and clinical placement work?

In relation to this research question key findings from the six focus group sessions and the five individual interviews will be presented. Two main themes were determined and subsequently reinforced and repeated throughout the data. These themes were generated because it was recognised within the interview transcripts that mature, female student nurses had considered the varying ways in which individuals learn their ICT skills and with regard to access to electronic patient data within clinical practice the participants in this study wanted to become ‘logged in’ rather than feeling consistently logged out of ICT usage altogether.

The two themes were subsequently identified as;

- Ways of learning
- ‘On becoming logged in’
4.1.3.1 Ways of Learning

Students identified different types of activity which could improve their knowledge, understanding and subsequent use of ICT in their academic work. However, the main focus for many appeared to be in the ways that they individually learnt that focused strongly on applied, practical and kinesthetic types of learning. The use of more formal didactic lectures to provide ICT instruction was found by Rosemary and Susan to be less than helpful;

“I think they should be able to set up some small practical lessons.”
(Focus Group 4; Susan (48 years of age): 763)

“Yes weekly, that would run concurrent for a few weeks.”
(Focus Group 4; Rosemary (50 years of age): 766)

“Yes not just a one-off and talking to three hundred people about the same thing. I think if somebody really wanted to learn how to use it properly they would do it, even if they had to come in during their own time. Because if they had a session on a Saturday I would be quite happy to drive over from …… on a Saturday to come and do a two hour class of practical hand-on if they had a class with five screens, five students, and a lecturer there or somebody from our team. That’s how I learn by hands-on, not being told all these points, I need to be able to do it.”
(Focus Group 4; Susan (48 years of age): 769-775)

“Do it yes.”
(Focus Group 4; Rosemary (50 years of age): 778)

“Once I’ve done it and got it, I’ve got it and that’s it.”
(Focus Group 4; Susan (48 years of age): 781)

The practical nature of ICT instruction was confirmed and consequently highlighted as a subject that the students thought might be best taught outside of a traditional classroom style environment. Olivia and Penny found this type of environment to be quite intimidating;

“Don’t do it in a classroom because you feel intimidated.”
(Focus Group 2; Penny (28 years of age): 1202)

“Very much so.”
(Focus Group 2; Olivia (34 years of age): 1205)
The general view was that all ICT should be delivered in computer laboratories, to small groups, where the emphasis was on individual competence, a more 'open and individual student focused session';

“If they do small group work maybe have the small group work for the computers in a computer skills lab and have it more student focused. Have it like an open session but like have a session where – right I’d like to learn how to do this, everyone learns how to do that. I’d like to learn how to do this, everyone learns how to do that within that session and if they’re confident doing that then they can be practicing what they already know but make it more student focused rather than just – we think you need to know this so we’ll tell you.”

(Focus Group 1; Linda (45yrs of age): 1031-1037)

Peter’s account appeared to resonate with the students’ view. Through his educational development work around eLearning in the NHS he maintained that Higher Education Institutes (HEI’s) with their access to computer laboratories provided an environment where the ICT skills of the students could be nurtured and autonomy encouraged from the beginning of the course. However, he did reflect that HEI’s still had some way to go in order to get this completely right;

“I think you know we know HEIs, those labs really aren’t they, where you can set and engineer the conditions whereby self-autonomy can be encouraged, know-how ability to look for, ability to quickly evaluate things can be directly included and nurtured there, and there is something about the power of that being even more visible and communicative to learners on that programme. Through universities that cutting edge use being there right from day one of a programme...... I’m not hearing anything back that is suggesting to me that the HEI sector has got this boxed off in a way. I think there are glimmers of hope and some good application but largely speaking we are all still on a curve. But I am absolutely certain that it’s a place where if we can get those innovative approaches we will have a better chance of growing that with the learners than just expecting them to find it for themselves without that support.”

(Peter (45years of age): 420-434)

Moreover, it was also noted from the focus group data that student attendance at all ICT instruction was mandatory at the beginning of the course irrespective of previous individual ICT experience or background. Although the School of Health provided opportunity for students by means of various activities to develop ICT ability this left some students feeling less than secure and for others the activities were not
elaborate or detailed enough. This generated suggestions from some students that the initial basic mandatory instruction element for all students should be removed and that further ICT instruction should be provided and focused solely for those who really required it;

“I think you could cut out the mandatory copy and paste and how to open an Internet page for the whole groups, and put that forward as an add-on to either the students you have identified yourself after the first like submission of assignment. You can pick up the errors there and put them forward as a mandatory and offer it up within the first few weeks, first in their induction packs when they come into uni and why there are definitely things in there.”

(Focus Group 1; Linda (45yrs of age): 1023-1028)

Linked with the idea of a more individual student focused approach, there was a suggestion that perhaps the School could provide additional drop-in sessions for those who needed them;

“More drop-ins for IT and just, I wouldn’t say an extra module because that might be too much, but just the option of being able to do extra if you feel that it is needed because some people need more than others.”

Julia (28 years of age): 1014-1016

However, Rosemary considered that as most ICT instruction was delivered in the School of Health during the fourth or fifth week of the course, this was too late for some students to learn core ICT skills and develop confidence. She preferred the idea of all of the instruction being offered at the very beginning; a way of front loading ICT;

“Yes, not wait until the fourth or fifth week, because the people that aren’t used to working a laptop or a computer are at a disadvantage. I know it’s up to us to learn but if you’ve never needed to use one you don’t, but then when you come here and you realise then, because I didn’t realise the amount of work that would be (interrupted by Susan) on the computer... I assumed, wrongly, you shouldn’t assume I don’t suppose, but I assumed I was coming to university, we would go into lectures and I was looking forward to them. We’d have all these things given to us that we could read and go through and what have you..... And it’s totally not like that, you don’t get anything, it’s all on your laptops. So when they said that the blooming third day in..... I had to start – oh god, I’m not going to be able to do this course.”

(Focus Group 4; Rosemary (50years of age): 855-884)
Linked to ideas of ‘front loading’ other students believed that it would be beneficial for the School of Health to provide ICT introduction sessions prior to the start of the course and the necessity for these picked up during the admissions process. This featured more than once throughout the data and was generally regarded as beneficial from both the students and the lecturers. However, the notion of small group working was again indicated as a main teaching method for any programme;

“I think, and this is only my opinion, that you could be offered before you start the course, say you are starting in the September, like a little four-week introduction, like Word and things like that, like a little taster before you start. So that when you start you are not just like—what’s all this about, I’ve got to print this off tomorrow, I’ve got to do this tomorrow, I’ve got to upload this, do this, on the day you start because that’s how it is. But like a little four week or even a day instruction into Web CT……. With a small group so you can have a one to one because I felt that I needed a one to one, not one person with a lot of people because I just felt I was falling behind.”

(Focus Group 2; Norma (46 years of age): 1185-1190)

“But is there any mileage perhaps, we’ve talked in the past about taster days, what about a taster IT day using the university systems, so they are not as worried about applying for a module or a course that they are interested in……. Well you can just see a marketing thing there can’t you going on. Are you interested in studying at the university but worried about IT? Come to a taster day, or whatever, you can just see it, just to relieve or get rid of some of those barriers.”

(Focus Group Lecturers; Daisy: 929-948)

“I think it needs to be picked up at interview like ……said, and certainly in the first few weeks and then maybe if there is a scope to pinpoint the students after the first assignment. I know quite a few people that that’s when it hits and simple mistakes can be rectified then for the next one. Just even something simple. I think we had a few girls that didn’t double space, instead did 1.5 and the Ariel wasn’t quite right and it makes a difference on the overall presentation. Paragraphs, indents, how to present the work makes a difference; you get a few extra marks for it and it could be the difference between pass and fail and confidence, things like that.

(Focus Group 1; Linda (45 yrs of age): 1507 -1514)

In summary evidence from the data suggests that overall students consider that the teaching of ICT skills should be individually focused with sessions undertaken in computer laboratories rather than classrooms which students found to be intimidating. There was also suggestion that ICT instruction should either be delivered at the beginning of the pre-registration nursing programme or perhaps even earlier before the students have officially started the course. This may take the form of ‘taster’
sessions with candidates being identified during the interview phase of the admissions process.

4.1.3.2 ‘On becoming-logged in’

Evidence from the data clearly suggests that students were already contemplating the best ways in which to access ICT particularly with regard to their clinical practice. They wanted to ‘become logged-in’ instead of ‘being locked out’. Julia had already suggested to one ward manager that perhaps when students were on internship placements (the placement directly prior to qualification) that it might prove advantageous if there were assigned a temporary password in order to gain access to the electronic patient record. She stated that;

“Yes, but I think what would be better, and I’ve suggested this to my ward manager, is that when you are on an internship and you are intending to get a job in that ward you should be given a temporary password and a temporary PIN number to use so you are encouraged. Because when I qualify and I am working on that ward and if I’m a Band 5, I need to know how to do that and if there is an emergency situation and I’m not allowed to print labels off to send bloods, you know the blood gasses and things that have to go straight down to the path lab, and I’m having to faff around asking people to print labels off for me it’s not fair”…………… It just makes me feel a bit useless to be honest. You can get a sample of urine and it could be sat there for four hours because you have to rely on someone else. Yes you can handwrite it and I’ve had to do that, but it would be so easy if you could just go on and put your number in, print things and it’s done, it’s on. In my first year at ….. they showed me how to do it all but yet here I am in my third year and I’ve not been shown how to do it.”

(Julia (28 years old); 629-647)

There was an obvious anxiety about ICT use amongst those students who were coming up to professional qualification. They insisted that they had so much to worry about that perhaps if given a password to access ICT in the clinical area some of these worries might be dispelled;

“I think because I’m coming up to qualifying and there are so many things that you are worried about that you are going to have to do, or you think you won’t be able to do, that it would be nice probably if we could start to use the IT systems a bit more maybe just in our internship. Maybe get a password in our internship. So not all the way through but when you are coming up to qualifying you can start to get an idea of
how to use things and then it’s one less thing you have to worry about learning once you are qualified. Because, maybe it is maybe it isn’t, but I really feel like that one day I’ll walk onto the wards and put a uniform on and they’ll just expect me to know everything there is.”

(Focus Group 3; Kelly (33 years of age): 1111-1119)

This view was echoed by other students. It appeared from the data that there was a genuine fear that at the point of registration they really would not have an idea what to do with regard to accessing ICT systems in the clinical area as a qualified nurse;

“Blood dating and things like that on the computer. I’ve been shown it a couple of times but you are shown it and obviously you go back in uni and you come back out, I don’t know about anybody else but I always feel like it’s my very first placement everyone I start. So I think maybe to have a little bit more, even a day at that, just to give us a bit more of an idea about it, a bit more familiarity with it. I think it would take away a couple of things we wouldn’t be worrying about all that then as well.”

(Focus Group 3; Isabelle (27 years of age): 1127-1132)

Julia believed that by offering ICT instruction on each ward, perhaps delivered as part of an NHS Trust Induction Day, again during the internship placement, it might go some way in ensuring that students were better prepared for ICT usage moving them further towards the point of ‘becoming logged in’. She did however stress that perhaps this could be an optional exercise rather than a mandatory one;

“……I think if there were instructions on each ward but I think within your internship because it is twelve weeks, it is a long placement and there is time within those twelve weeks to do that. Because we have a trust induction day about medications and skills consolidation and stuff like that, documentation, so it could be within that, within one of those. It could be optional to go, you don’t have to go.”

(Julia (28 years of age): 1024-1028)

4.2 Conclusion

In this chapter I have presented the findings of my study based around three research questions. Evidence from the data suggests that ICT usage both in university and clinical practice by mature, female student nurses is based upon previous experience and personal background. Students entered the pre-registration nursing course with
differing and diverse experiences of ICT use. There was no identifiable dominant factor and evidence of personal use appeared varied.

Those with least experience in many respects identified themselves as being what I have termed generationally and emotionally ‘locked out’. For these students there was a real fear in both the access and utilisation of ICT. It appeared that for the less experienced the School of Health, unwittingly, placed these students under a much greater pressure to succeed. The introduction of e-portfolios and assignment submission through ‘Turnitin’ although providing opportunity to develop their skills caused levels of stress which it is believed in some cases led to students withdrawing from their programme of study altogether.

The inherent technical language of ICT and the differing ways in which it was taught and support provided caused certain individuals to seek guidance from outside of the university. They experienced feelings of embarrassment and isolation within class which it appears made it extremely difficult for them to seek support from the lecturers or their younger peers. Similarly whilst on clinical placement, the data suggests that ICT usage was limited for most and there was an apparent lack of encouragement to access the electronic patient record from either their mentors or other members of the ward team. One might suggest that those less confident in ICT usage perhaps had certain professional fears assuaged as they did not appear to need to have use of ICT in clinical practice.

Paradoxically there were those mature, female students however, who did possess the skills required for ICT use but were not able to do so mainly because most of those interviewed had not been assigned an individual password. This often led to feelings of frustration as these students too were ‘being locked-out’, an issue which
became important in the last clinical placement prior to qualification. Here it was
deemed that instruction and use of the ICT systems would go some way to allay the
fears and anxieties felt at the point of becoming a professional, registered nurse.

It is now my intention in the following chapter to discuss the findings presented here
and present my interpretation of the same, drawing upon what is already known from
the literature but also to examine other literatures that might provide new insights in to
the experiences of a group of mature, female student nurses and their use of ICT
within one undergraduate pre-registration nursing programme.
Chapter 5: Discussion of Findings

5.1 Introduction

In the previous chapter I presented my findings based around the research aim and three research questions that formed the main focus of my work. This chapter focuses on making sense of the data documented in the previous chapter. In order to infer explanations about what the data suggests I will utilise the research literatures documented in chapter two of this thesis. In addition, however, much of the data generated through my research pointed to other important factors that appeared underdeveloped in key literatures on nurse education and ICT. What seemed particularly pertinent was ways of trying to make sense of how professional and personal identities and experiences associated with ICT coalesced in becoming a student nurse. In particular I noted that my data suggested the need for research literatures that broadened into arenas that focused on issues of community of practice, experiential learning and issues of hierarchical status. By exploring my empirical data through these various theoretical and explanatory lenses I will discuss how my study adds to knowledge to the field of nurse education and ICT.

The first key theme I identified concerned the personal background/previous experience and opportunities to develop ICT usage. This reflected the individual students' biographies, backgrounds, access and prior use of ICT within the home and/or workplace setting before commencing the pre-registration nursing course. Magg (2006) identified that the attitudes of student nurses to ICT use and their predispositions to technology can seriously affect the ways in which they engage with ICT in both educational and clinical settings. In my study this was exemplified by Susan who had never really used a computer in advance of her studies at the
university. Her inexperience resulted in the adoption of a negative attitude towards technology as a whole, and this created difficulties for her, not just in her nursing course, but also within her personal life. Such evidence is consistent with the findings of Steele et al (2005:573) who stated that “the inter-connections between educational, family and social spheres are integral to the experiences and outcomes of mature student participation in education.” The position adopted by Susan translated into her espousing a particular orientation about the use of ICT in the pre-registration nursing course. However, although she realised the importance of ICT use, she also recognised the challenge which this posed to her in her studies. She had subsequently attempted to turn the negative into a positive by embracing the opportunity to learn something new, again something that was highlighted in the Steele et al study (Steele et al., 2005).

In contrast there were those individuals in the study who had undertaken previous ICT instruction, such as the Computer Literacy and Information Technology programme (CLAiT), a non-benchmarked forerunner to the European Computer Driving Licence course (ECDL). This programme of study had proved beneficial for some particularly with regard to the development of one the most basic of ICT skills, mastery of the keyboard. However, others who had also successfully undertaken the CLAiT course still found ICT usage difficult. What this data suggests is a spread of ICT experience that reflects the fact that many of these mature, female students did not either access computers in the home, even though available, or did not personally own one until after the commencement of their university studies. Again this is broadly reflective of the students’ differing levels of confidence with regard to ICT ability at the commencement of their course and conflicting demands from family for computer use within the home. Many of these findings are synonymous with the study by Wishart and Ward (2002) that generated similar data. Their study concluded that
nursing students were more likely not to access computers and utilise ICT in the home even though it was recognised that increased and continued access outside of an institutional environment enhances levels of self-efficacy and self-belief (Martyr, 1998, Moule, 2003, Bandura, 1977, 1986). These traits were important in thinking about the differing attitudes that individuals in my study displayed towards the adoption of ICT and its subsequent use (Broos et al., 2006). They provide an understanding of how a combination of a lack of confidence and capability, are likely to influence both affective and behavioural approaches to ICT engagement. In other words individuals are more likely to seek out those ICT activities that promote enjoyment rather than feelings of anxiety (Compeau, Higgins and Huff, 1999) – an issue clearly evident in the data where some students were clearly selective in their use of ICT, enthusiastically using it for shopping, yet professing anxiety when applying it to their studies.

With regard to opportunities to develop ICT use, my study highlighted that although students were provided with a range of opportunities within the university by way of scheduled, compulsory, ICT learning events such opportunities still resulted in considerable disparity in the development of individual ICT skills. Boyle & Wambach (2001) argue that issues concerning low levels of computer confidence and self-efficacy are embedded in the overall fear of technological use, a barrier to be further discussed within this chapter.

A further key theme that arose through the data from student and mentor focus group interviews concerned the varied but limited access to ICT in clinical and placement settings. This is in line with research carried out by Moule et al. (2010) who looked at capturing student nurses’ experiences with regard to their use of e-learning in the clinical environment. Moule et al. (ibid) found that a lack of development in the
students’ e-learning capabilities was reflective of the continuing issues surrounding a lack of ICT access and skill development in the clinical setting. This further highlighted the dichotomy between that which is perceived to be an essential element of nurse education and that which the students actually experience whilst away from the university working in the clinical arena (Levett-Jones et al, 2009). This suggested that while some participants were afforded access to the NHS Trust intranet sites (Bond, 2006) students were continually not using ICT in a “structured and systematic way” (Willmer, 2007: 211) with regards to clinical practice. This was particularly the case for Linda who stated that “we are allowed on the intranet so we can use the intranet whenever we like, not password protected, to look at policies and procedures and look at the news from different areas. We are just not allowed to access patient files or any confidential things.” and Stephanie in chapter 4 also described a situation where although she worked with her mentor for at least three days per week and had attempted to observe the inputting of patient data, she had learnt very little.

In line with the findings of Bond (2009) my study highlighted that computer use within the clinical environment tends to focus around the more mundane aspects of the daily routine such as general administrative work and other routine tasks only. However, even at this level of ICT engagement in clinical settings participants in my study believed that they were not encouraged or supported to utilise ICT during clinical placements. Hence for those with lower levels of ICT ability and confidence workplace exclusion from ICT usage provided the ideal opportunity to avoid engagement with the technology all together. Conversely, for those participants who possessed a greater degree of ICT ability and self-efficacy this lack of engagement created anomalies and disappointment. With the benefits of ICT extolled by the programme there was Julia who talked of “feeling a bit useless to be honest” because she experienced feelings of constraint and inadequacy on placement. She was constrained by a particular community of practice (Lave and Wenger, 1991) that did
not appear to have ICT knowledge and application at the heart of that practice. This was particularly evident from the data that suggested that computers were not even being used for information retrieval – a central component of clinical practice that enables effective clinical care. This finding complements previous studies that demonstrated how qualified nursing staff had low levels of electronic information and literature retrieval skills particularly in the support of their clinical decision making (Morris-Docker et al, 2004 and Gosling et al, 2004).

In summary evidence from my research has demonstrated that ICT usage for student nurses is very much a personal issue located in biography, both personal and professional, particularly in terms of usage, access and individual spectrums of capability. In many respects this synthesised data is suggestive about how self-efficacy in ICT evolves from a mastery and capability perspective that relates to the application of those particular skills in various contexts. However, the reality is that those students who feel most confident with ICT usage do not really develop an efficacy with regard to its usage in clinical settings as there are few real opportunities to engage with ICT. This ultimately created frustrations for a number of student nurses in the study. For others however who are not so confident with ICT use there is a sense that clinical practice allows them to ‘hide’ behind this veneer as there is no formal requirement for them to demonstrate efficacy whilst undertaking clinical placement. ICT usage in clinical practice is portrayed by the university and the programme as being central to effectiveness and yet ICT is not always utilised across the board, an issue identified within the literature as not just being pertinent for students nurses but for all nurses more generally.

With regards to research question 2 three main important themes were identified from the data collected. These themes were;
• ‘generationally locked out’,
• ‘emotionally locked out’
• ‘situationally and hierarchically locked out’.

‘Being locked out’ is significant as it became an important focus for the development of this thesis. The term represents the exclusion, non-engagement and marginalisation of mature, female student nurses from ICT usage in both the university and clinical placement settings. It is synonymous with not being able to ‘get in’, of not having the appropriate metaphorical key to open the ICT door. In order to provide greater clarification, it is my intention to further expand this term through the following sections of this chapter.

A further key finding from my study was that the more mature participants in both the focus group and individual interviews talked of generational influences on their engagement with ICT, a concept determined by the fact that they felt excluded from ICT usage since they had not grown up with it. This was exemplified by Susan, who emphasised her frustration with ICT engagement. Work undertaken by Prensky (2001) provides some substantive appreciation as to why Susan might have experienced this frustration. Prensky identified that today’s students have lived through a radical, societal transformation, one which he referred to as a ‘singularity’. He defines ‘singularity’ as "an event which changes things so fundamentally that there is absolutely no going back.” (Prensky, 2001: 1). For him this singular, ‘generation changing’ event had been the rapid dissemination and adoption of computer use which had occurred towards the end of the last century. With regard to this ‘event’ he makes a distinction between those to whom the use of technologies is common place (Digital Natives) as opposed to those, who like the older participants in my study, were not born into a digital world (Digital Immigrants). Although it is denoted that ‘Digital Immigrants’ will endeavour to learn and adapt to new environments, Prensky
(2001) suggests, however, that these individuals will always have one foot located in the past – an idea that was demonstrated in my study where students expressed concerns about their technological abilities when formulating presentations through software packages such as PowerPoint™.

In his defence of the distinction between digital natives and digital immigrants, Prensky proffers an explanation;

“Digital natives are used to receiving information really fast. They like to parallel, process and multi-task. They prefer their graphics before their text rather than the opposite. They prefer random access (like hypertext). They function best when networked. They thrive on instant gratification and frequent rewards. They prefer games to “serious” work.” (Prensky 2001: 3)

Although his theories have been challenged over recent years and there is evidence to suggest that Prensky has begun to move away from the digital native/digital immigrant divide (McKenzie, 2007, VanSlyke, 2003 and Prensky, 2009) his view that younger generations of students are “all ‘native speakers’ of the digital language of computers, video games and the internet” still appear to have some applicability in relation to my study (Prensky, 2001:1). An important finding obtained from the focus group data illustrates Prensky's beliefs regarding the notion of ‘language’ and ICT usage. My participants considered that the language of ICT was jargon laden and for some, confusing. Although the use of widening participation policies had encouraged those over 26 years of age to apply and be successfully admitted to the pre-registration nursing course, for many the perceived inability to use ICT had eventually overwhelmed them and as a consequence they had withdrawn from their studies. “The stress of expecting to look stupid (and avoiding situations where it is most likely to occur) can lead……students to give up and decide against invoking effortful strategies.” (Garner & Alexander, 1989:153)
5.1.1 ‘Emotionally locked out’

Findings from the focus group interviews highlighted that the issue ‘of being emotionally locked-out’ from ICT usage was once again linked to individual student biography and self-efficacy. These two factors together were manifest in the emotive nature and the sense of anxiety that ICT usage triggered in some of the student participants in this study.

“Using a computer is not always a satisfying or joyful event and event….even worse; some people feel a strong aversion to working with computers or fear them. These people suffer in various degrees from what is called ‘computer anxiety’.” (Beckers and Schmidt 2003: 785)

The term computer anxiety has been generally defined as an emotional fear, apprehension and phobia felt by individuals towards interactions with computers or when they think about using computers (Herdman, 1983). It is considered that one of the most prevalent causes of computer avoidance in undergraduate students is the actual fear of using one (Harrington, McElroy and Morrow, 1990). This has been evidenced in my study by students who for example talked of being “absolutely terrified and scared” of computer use even though some had undertaken previous courses of study. There was evidence to suggest that students obviously had an expectation of the course which was defined by their natural desire to study and become a registered nurse. However, in reality there were other academic competing demands of the programme which included the use of ICT, creating for some in my study such as Jane a ‘reality shock’ (Kramer, 1974; Kevern and Webb, 2004). Kramer (1974) employed the term ‘reality shock’ in order to describe the real life experiences of student nurses in the United States of America (USA) when they moved from an educational environment into one of clinical practice. Kramer (1974) identified that the nurses discovered that there was a conflict between the cultural values as taught to them in an educational setting as compared to those which they experienced with regard to the delivery of nursing care. In the United Kingdom (UK) this has been
acknowledged within the nursing literatures as the ‘theory-practice’ gap, “the breach between education and reality” (Kevern and Webb, 2004:303). However, with regard to my study, this ‘reality shock’ for many students was related to how much of the course materials would be held electronically within a VLE creating some feelings of inadequacy

Analoui (1993) suggests that these feelings of inadequacy are often linked to past negative experiences. When these negative feelings then become transferred to a new learning situation the acquisition of new knowledge or new skills can then be seriously affected. In order to counter this negative effect Analoui (1993) further suggests that an attempt should be made to “undo” the previous learning by means of identification of the negative emotions and discussion of these in an open and transparent manner, which I consider may include the involvement and support of peers where applicable. Glaister (2005) found very similar findings in her study which explored issues concerning student nurses and their anxiety towards mathematics and computer use when dealing with medication dosage calculations. Previous negative learning experiences, particularly with regard to the study of mathematics, were clearly transferred to their studies on the pre-registration nursing course.

Previous research has demonstrated that the notion of computer anxiety has been found to be the most consistent correlate of computer experience (Wilfong, 2006, Brosnan, 1998 and Gos, 1996). Examples of prior computer experience may include the undertaking of a computer course e.g. CLAiT or ECDL, ownership of a computer either at home or work, computer games experience, internet activity or hands on computer experience (Chua, Chen and Wong 1999). From the data obtained through the student and lecturer focus groups in my study it was found that those participants with limited computer experience were in the main those who expressed the most fear and anxiety with regard to ICT usage. Evelyn, a lecturer within the School of
Health, considered that the anxiety provoked in these particular students became the main causal factor in their inability to learn. The fear of using computers was all-encompassing, becoming a barrier to effective learning. Although it is argued that there is no evidence to suggest a direct relationship between age and computer experience (Guo, Dobson and Petrina, 2008), my study has shown it was the more mature, female students in the sample who appeared to have less ICT experience and heightened levels of anxiety when exposed to ICT use in class. Resultant fear and the eventual avoidance of computer usage emotionally locked these students out from ICT usage particularly during the early stages of the pre-registration nursing course.

5.1.2 ‘Situationally and hierarchically locked out’.

This theme was derived from a synthesis of the data from the focus group and individual interviews that explored the specific experiences of the mature, female student nurses and their use of ICT in clinical practice. This study found there was limited access to ICT use in clinical practice. This did not just affect mature, female students, but appeared to also determine ICT usage for student nurses in general. Participants once again identified feelings of frustration. For those who considered themselves to be ICT literate, the opportunities to utilise ICT in the clinical areas was particularly limiting. Although they felt able to demonstrate their technological skills, they were unable to interact with the electronic patient information systems, thus initiating feelings of redundancy as they waited for qualified members of the nursing team to enter the data for them (Magg, 2006). This situation stemmed predominately from the fact that for the majority of student nurses in the sample an individual password was not provided whilst on placement in their designated NHS Trusts. These findings resonate with the work of Ward and Moule (2007) where it was also
found that in many instances student nurses were not provided with usernames and passwords to independently access the electronic patient record. Interestingly, only one of the students in my study had enquired as to why this was the case and issues concerning her professional identity had been brought to the fore. Student nurse status did not allow for personal access and issues concerning breaches in confidentiality were stated as the reason why and this practice had remained unchallenged.

Levett-Jones and Lathlean (2009; 343) cite the words of Florence Nightingale when in her historical writings she quoted that a ‘good nurse’ should have the qualities of restraint, discipline and obedience. Although arguably now a very archaic view of the nursing profession, there is evidence to suggest from the literatures, and indeed my own study, that some student nurses remain somewhat marginalised in what might be perceived as a subordinate role (Kelly, 1996; Levett-Jones and Lathlean 2009). Peter talked of overly sensitive NHS ICT protocols which actually constrain the ways in which student nurses access and utilise computers, in clinical practice. However, he also spoke of an environment of hierarchy, conformity and compliance where some practices/protocols remain unchallenged, as illustrated by the students in my study. It was easier to conform and accept the practice than challenge and speak out (Levett-Jones and Lathlean, 2009). This conformity had, for the students in this current study, engendered a position where they were deemed to be both situationally and hierarchically ‘locked-out’ of not only ICT usage but also other important aspects of their clinical practice, such as access to changing rooms. This too had remained unchallenged, with students just accepting this issue as a part of their daily working lives.

It is suggested that unchallenging behaviour on the part of student nurses may be closely linked to the development of their sense of belonging whilst undertaking
clinical placements. This concept has been identified as a crucial factor in the motivation of a student nurse’s willingness to learn (Levett-Jones and Lathlean, 2008). However, data from the focus group and individual interviews in my study demonstrated that at times students did not experience a sense of belonging when working as part of the clinical placement team. Insightfully, students described feelings of being undervalued and the lack of motivation which this created. Their desire to learn in clinical practice, would appear had been greatly diminished. They felt a lack of empowerment and wished to be more autonomous and self-directed in their learning. In addition the opportunity for student nurses to develop their independent learning skills is seen as an essential instrument in the way that they perceive the importance of lifelong learning and its role in the enablement of continuous professional development (Nolan and Nolan, 1997; Levett and Lathlean 2008). However, given that many of those interviewed for this study possessed a diminished degree of self-efficacy with computer use, the restricted access in clinical practice had compounded their marginalisation and disengagement from ICT activity altogether. There was a distinct impression that if those supervising them in clinical practice did not deem ICT instruction and usage as an important and integral part of their professional development and identity, then neither did the students, a factor which enabled some in my sample to ‘hide behind’ their perceived inadequacy which in turn eventually created further barriers to ICT use.

The undertaking of clinical placements can prove problematic for student nurses as they may often feel marginalised, alienated, disconnected and undervalued (Berry, 2011). The development of a professional identity can be adversely affected by negative clinical experiences and relationships as “they can create feelings of inadequacy and incompetence” (Johnson, Cowin, Wilson and Young, 2012:562). Coupled with current advances in technology and the importance of ICT use in clinical practice has meant that all nurses have been required to modify their roles with
regard to patients, clients and other healthcare professionals. The use of the mentor role for example in the instruction, supervision and support of student nurses in clinical practice during these changing and challenging times remains pivotal to their education and subsequent professional development.

Levett-Jones and Lathlean (2008) recognise the importance of mentor support for students from both an academic and clinical perspective, particularly with regard to the development of professional identity and reduction of stress. Student-centred learning which takes place in environments which are both supportive and caring can go some way towards the nurturing of positive professional socialisation (Prato, Bankert, Grust and Joseph, 2011). Wenger’s development of his ideas around communities of practice (CoPs) (Wenger, 1998) appears to provide a useful cognitive model of situational learning which relates to much of my data. CoPs are considered to be a type of learning community in which individuals are motivated to join in order to gain a sense of belonging and professional identity (Li, Grimshaw, Nielson, Judd, Coyte and Graham, 2009). Field further (2004:562) suggests that “a growing body of educational thought has emphasised the socially and culturally situated culture of knowledge and particularly the role that activity and experience play in learning practical skills.” CoPs can provide a framework which enables the construction of collaborative learning.

“They are situational, rooted in practice and allow for the mixing of novices with experts, academics with practitioners and mentors with the mentored” (Andrew, Ferguson, Wilkie, Corcoran and Simpson, 2009).

These communities are based on collaboration amongst peers, all of whom are deemed to hold common interests and purpose, based on an acquisition of knowledge rather than solely that of a task (Wenger, 1998). CoPs are important within the realms of nurse education as the concepts of belonging, participation and
collaboration are fundamental to their development and sustainability (Andrew, Tolson and Ferguson, 2008). However, Berry (2011) argues that one of the main reasons for students’ experiences of disconnectedness, centres on the dissonance between nursing education and nursing practice at a systematic level. Berry (2011:1) continues that;

“Creating learning communities where students are integrated into the learning fabric of the clinical setting necessitates a reconceptualisation of the relationship between nursing service and education. This reconceptualisation envisions the creation of environments where mutual learning and growth are the key goals for both students and clinicians. Such mutually beneficial, capacity building relationships between education and practice will ultimately improve the quality of patient care.”

CoPs it is believed can minimize the effects of alienation and marginalisation experienced by student nurses in clinical practice. However, data from my study has shown that although some support was proffered during clinical placement there were still many areas where students appeared to feel peripheral. Paradoxically, it would appear that the use of hierarchical policies and protocols actually locked many students into an environment over which they had little or no control. – locked out of their aspirational communities of practice.

In summary, the three identified themes for Research Question 2 all have central to their core the concept of ‘being locked out’. Such a concept has provided important insights into the individual barriers which appear to prevent mature, female student nurses from accessing and utilising ICT both in the university and the clinical arena. Generational ‘lock-out’ occurred when the more mature students in the study compared their own ICT abilities with those of the younger participants in the mature, student sample. The notion of a ‘generation gap’ did not only act as a psychological barrier to their learning, but conversely also proved to be a barrier to the learning of their younger peers. All reported degrees of frustration, with the more mature students articulating feelings of inadequacy, intimidation, embarrassment and fear.
The nature of emotional ‘lock –out’ was again more significantly linked to individual student biographies and self-efficacy. The generated data has demonstrated that it was the more, mature students who experienced the greater degree of computer anxiety which consequently acted as a barrier to their ICT usage altogether. These engendered feelings had proved to be overwhelming for some which had caused the withdrawal of these students from the pre-registration nursing programme altogether. Others however, had viewed the important significance of ICT usage to their role as student nurses and had therefore made a strong commitment to develop and further enhance their skills with regard to the same.

Situational and hierarchical ‘lock-out’ concerned all student nurses in general and not just those mature, female students who acted as the participants in this study. Notions of hierarchy, conformity and compliance particularly when applied to NHS policies were identified as potential barriers to the ways in which student nurses could access and utilise ICT particularly in the clinical areas. This concept of situational and hierarchical ‘lock-out’ was found not to be just isolated to ICT usage but more generally in the development of the students’ professional identity. Students were often not provided with the means to access facilities for undertaking many nursing activities which exacerbated feelings of isolation and embarrassment. The students’ perceptions of lack of ‘belongingness’ to a CoP over which they had no perceived control not only ‘lock them out’ of this community but instead ‘locked them in’ to a culture of isolation and disempowerment.

The data from my study raises some questions as to the value of the idea of a CoP when it pertains to student nurses' ICT clinical work. Lave and Wenger (1991) and more latterly Wenger (1998) who developed theories concerning CoPs, suggest that the master/apprentice relationship where individuals start at the periphery of a practice and then with time move to the centre of the community, ultimately becoming...
a skilled practitioner and perhaps a master themselves did not as suggested by my study, have the power. Students remained clearly at the periphery of the CoP, a factor which ultimately appears to offer some challenge to Lave and Wenger’s work on the master/apprentice relationship with regard to student nurses and the perceived CoPs in which they work. Certain additional factors will need to be part of this apprenticeship process in order for a CoP to form and for it to be beneficial to the student nurses. We cannot expect a CoP to form unless the conditions are right for this to happen. From an educational perspective although my study suggests that there still appears to be a clear dissonance between theory and practice, it does however provide an opportunity to investigate further why this dissonance continues to exist and the measures that can be taken by HEI’s to rectify this position and furthermore enhance the students’ experience during their clinical placement work.

Synthesis of the data generated from both the focus group and individual interviews for Research Question 3 provided two key themes which were identified as;

1. Ways of Learning
2. ‘On becoming logged in’

These themes were significant to this study as they provided valuable insight into the preferred ways of learning. Furthermore there was an acknowledgement of the methods which my sample considered would allow them to become ‘logged-in’ rather than be continually ‘locked-out’ of ICT usage, particularly whilst undertaking clinical placement.
Data from the student focus group interviews emphasised the concern of some students that there was an expectation on the part of the university that all students should be ICT literate at the commencement of the course. This finding echoes the work of Wilkinson, Roberts and While (2013) where it was stated that there is an assumption and expectation that all student nurses will be ICT literate at the point of admission to the course, and will then further enhance these skills in order to promote the necessary attributes that all up and coming nurses need to acquire to work within any given healthcare service of the future. Although both the QAA Benchmark Statement for Nursing (2001) and the NMC Standards for Pre-registration Nursing Education (2010) make clear reference as to the importance of ICT usage within healthcare and more specifically nursing, to date, there is still a lack of clear competency based statements providing direction as to what student nurses should have achieved at the point of qualification. This situation makes it increasingly difficult for those within nurse education to successfully embed pertinent ICT knowledge and skills into pre-registration curricula in order that ICT confidence and competence is ensured (Bond, 2009; 2010, Wilkinson, While and Roberts, 2009). It is argued that there needs to be national, professional body consensus as to what constitutes ICT competency (Conrick, Hovenga, Cook, Laracuente and Morgan, 2004). However, De Gagne, Bisanar, Makowski and Neumann (2012) focus attention on the continued disagreement between nurse educators as to what constitutes ICT competency, some believing that competency is based on computer skills alone, while others maintaining competency relates to the wider issue of health informatics and associated information literacy skills.

Closely linked to the attainment of ICT competency, were issues concerning the differing ways in which mature students learn. This was emphasised in my study where students talked of their preferred ways of learning with regard to ICT instruction. With regards to preferred ways of learning Hughes and Quinn (2013:12)
acknowledge that, “adult learners in nursing...differ widely from one another and in their personal characteristics”. They further continue that although these students exhibit differing attributes such as age, gender and psychological traits, the literatures indicate that they all have one thing in common; all are voluntary participants as demonstrated by the mature, female students in this study. However, although for them nursing was a chosen vocation and all had therefore voluntarily applied to undertake the course; they brought with them varying experiences of previous learning and preferred learning styles.

When synthesising the data from this study it was evident that the participants felt that their individual learning needs were not being met. In order to explore some of the reasons why this might have been the case I was inspired by the work of Knowles (1968) which focused on a proposed theory of adult learning (andragogy). Andragogy means “the art and science of helping adults learn” and is concerned with the humanistic basis for adult learning theory (Hughes and Quinn, 2013). For Knowles this theory centred on a set of clear characteristics which distinguished the mature adult learner from that of a child (Clapper, 2010). The identified characteristics included 1) self-directedness, 2) accumulated reservoir of experience that becomes a resource for learning, 3) readiness to learn and growing orientation to the developmental tasks of the learner’s social roles, 4) application of knowledge that is increasingly tied to application and problem centeredness, 5) internal motivation to learn and 6) the need to know why something should be learned (Knowles, 1984:12). Although Knowles came to acknowledge that the described characteristics are not just based on assumptions about andragogy but are “situation specific and not unique to adults”, (Clapper, 2010:e8), his theory of adult learning and notions of internal motivation can be identified within the data generated for this study.
In chapter 4 of this work the individuals that I interviewed suggested a number of issues to do with factors identified by Knowles which related specifically to problems concerning anxiety, threat and support. For example, Norma considered that in order to combat the fear and intimidation concerned with using a computer that it would prove beneficial if the School of Health were to run a four week induction programme prior to the start of the course for those who required it based on assessment made during the admissions and interview process. Additionally, Julia talked of wanting “extra ICT drop-in sessions based on individual need”, which she considered should be self-directed and follow an individual learning plan/contract. In support of Julia’s proposal, Rolfe (1996) suggests that individual learning contracts if developed mutually between the teacher and the student can potentially bridge the theory practice - gap and assist in knowledge transfer between education and clinical practice. This further supports Knowles’s theory that adults learn best when not under threat or performing in anxiety provoking situations. Opportunities where mature students are able to access a support network which includes one to one study especially for ICT instruction may ultimately enhance performance and thus improve self-efficacy and self-autonomy.

These concerns however, present challenges for nurse educators, managers and policy makers alike as it is evident that there are both educational and operational issues within clinical practice that relate to the status as students and their emergent professional identity. Johnson et al (2012:565) argue that the emergence of a professional identity is “a key issue in the transition from student to practicing nurse” and that students should feel both comfortable and confident in themselves at the point of graduation. However, my study has shown that students did not feel comfortable or competent with regard to ICT usage at the point of graduation and the dissonance between expectation and experience seriously affected their self-confidence overall.
In summary it is evident that mature, female student nurses enter the pre-registration nursing course with differing ways of learning which predisposes their individual preferences with regard to ICT instruction. However, there remains a degree of dissonance as to the exact nature of ICT literacy within health and nursing and this continues to be reflected in a lack of consistency in ICT instruction across current national pre-registration nursing curricula.

5.2 Conclusion

In this chapter I have discussed the findings of this study structured around the three individual research questions but will now endeavor to ‘make sense’ of those three questions synthesised into a coherent whole. The mature, female student nurses who participated in this study entered the pre-registration nursing course with differing and particular biographies, a factor already clearly highlighted in the literatures. However, following synthesis of the data in my study, it is particular types of literatures which seem to resonate most strongly.

This study has investigated how ICT is thought about, developed and enacted by mature, female student nurses as part of their professional lives. The three research questions have enabled me to make sense of this with regard to the level of ICT usage and how sustained or constrained this might be. Interestingly, the powerful domains of clinical practice that are seen by students as central to the pre-registration nursing course quite clearly communicate both symbolically and in true material ways what can and cannot be undertaken whilst practicing as a student nurse.

However, with regards to the ICT perspective and the consequent interconnected issues determined from my study particularly concerning the important aspects of
capability and skills development, in terms of the importance within nurse education, it appears that it provides a nuanced set of experiences. From the evidence collected, the use of ICT in the clinical arena appears to be a negligible activity for many mature, female student nurses. For example, theories concerning communities of practice suggest an important sense in which individuals socially learn and develop their thinking (Lave and Wenger, 1991). However, evidence from my study seems to suggest forms of marginalisation, and a sustaining of the peripheral. In addition the importance of ICT usage appears to be an inconsistent message communicated and enacted from within both university and clinical settings. So for those mature, female student nurses whose individual biographical experiences accentuate a negative attitude to ICT usage, where their notions of self-efficacy and mastery are underdeveloped, where there exists a set of practices that generates a theory–practice gap, this given the greater importance afforded to their burgeoning professional identity and achievement of clinical competence all culminate in a continued underdevelopment of ICT usage. These students view the development of ICT usage as of little importance.

However, how this interconnectedness plays out in the biographical lives of these students is different because for those who had limited ICT usage prior to the start of the course, who lacked confidence and self-efficacy and who viewed ICT as peripheral to their lives because they were ‘generationally locked-out’ actually reinforces those issues. From an emerging professional identity perspective one might argue that these students may attempt to limit ICT in their professional lives and perhaps as the evidence suggests there may be clinical opportunities to do so. In contrast, for those students who are more ICT literate and who do not feel ‘generationally or emotionally locked –out but are ‘situationally locked out’ then there is a clear sense in the data of frustrations in certain aspects of their pre-registration education. Ironically this may not be in terms of the Higher Education experience but
interestingly at the core of clinical practice where notions of professional identity
development is most acute. This is where such students might want to make use of
ICT to not only engage with the administrative aspects of patient care but also the
problem solving and evidence based aspects of their practice. They have been
provided with the theory but have not been provided with the opportunity to practice.
Such students witness not just registered nurses but other members of the healthcare
team utilising informatics in practice with which they are prevented from engaging in,
generating what I have termed being, 'situationally locked-out'.

Finally, data generated from this study has highlighted the fact that the use of ICT in
clinical practice is a lens through which it is possible to think more fully about the
nature of the placement, the student nurse and the extent to which all student nurses
are able to engage central in the data that being ICT 'lock-out' is also perhaps
symptomatic of more general notions of 'lock-out' particularly during clinical
placement.
Chapter 6: Conclusions and Implications

In this closing chapter I will in the first instance summarise and reiterate some of the conclusions from the discussion chapter and develop some tentative implications for policy and practice. I will also reflect on my own personal ‘research journey’ and both the significance and consequence of this. I will also acknowledge the limitations of this study and make suggestions for future research.

6.1 Final Conclusions

This study has suggested that mature female nurses can be influenced in a number of ways in terms of their ICT usage. Although biographical factors were seen to be important, the centrality of being ‘locked out’ of ICT usage during clinical practice appeared particularly powerful. Evidence here suggested that many of the students in the sample encountered a strongly peripheral experience whilst on practice that was illuminated by not only a lack of ICT usage but also apparent in other aspects of their clinical work.

Although this has something to do with individual biographies, a more important perspective focuses around issues of power and status which appear to be important factors when making sense of student nurses use of ICT and its centrality in becoming a professional nurse. Although it is apparent that biographical factors act as a barrier to ICT learning, the status of ICT usage within practice and what student nurses are able to access is perhaps most central and says something about the peripheral nature of the students’ experiences. Rather than moving more centre fold as communities of practice theory suggests, there is evidence of student nurses remaining peripheral, with ICT being one of the most explicit aspects of this.
Additionally, some of the access issues appear to reflect broader questions concerning student nurses ‘lock out’ and therefore their legitimate, peripheral participation within a designated community of clinical practice. The distinctive element of my study goes beyond the writings of Bond (2004, 2009) and Moule (2003, 2010) in that it not only addresses cognitive and psychological issues but also examines the interrelationship between social dynamics of power and status and individual biographies that create either opportunities for or constraint in the lives of mature, female student nurses. Interpretation of these psychosocial factors seem to impact on the agency of mature, female student nurses and their experience of ICT usage not only in their university studies but also on clinical placement. The development of an analytical typology (as outlined below) of ICT learning for mature, female student nurses attempts to reflect the nuances and complexities of these psychosocial dynamics in a way that other research in the field has perhaps failed to explore.

6.2. An analytical typology

The data and explanations documented within this thesis point to a whole set of interconnected experiences in the way individual mature, female student nurses engage with ICT in their pre-registration programme. Although there are ‘horizontal’ themes that I have explored through the data and literature what also strongly emanates from a vertical case analysis is the way that specific factors coalesce for nurses in the way that they develop their ICT capabilities. What this therefore suggests is that there might be a need to capture analytically this coalescing of factors in order to provide some clarity to the variety of experiences. In so doing, however, I recognise that this is a heuristic, a way of simplifying aspects of individualised reality in order to provide coherence of explanation. I am also
conscious of the possibilities of essentialising the experiences of mature, female, student nurses which again I would wish to avoid. However, in documenting a typology of ICT usage by student nurses there is an opportunity of developing a more sophisticated and yet exploratory way of dealing with the complexity of experience;

**Typology 1 - ICT Challenged**, this typology is suggestive of the data as evidenced by Harriet and Jane. Their previous experience of ICT usage is only related to those activities which are concerned with internet shopping and playing online games. The typology is suggestive of mature, female student nurses who although do not possess the skills and experience with regard to ICT usage, are those who display a degree of motivation and a willingness to learn.

- **Typology 2 - ICT Averse**: this typology emanates from the data and is suggestive of those mature, female student nurses who require structured support and in-depth ICT skills development. They may have very limited ICT experience and are those who expressed feelings of fear and reluctance to engage with ICT usage. Instruction might be developed through certain principles of andragogy and be perhaps undertaken in a supportive environment, based on an individual learning contract where the benefits of ICT usage within nurse education and clinical practice are espoused. This typology is perhaps best illustrated by the stories of Brenda and Susan in this study.

- **Typology 3 - ICT Proficient**: concerns those mature, female students who utilise ICT confidently on a daily basis both within their academic studies and at home but who become frustrated and marginalised particularly due to the access restraints placed upon them in clinical practice. These students are the
ones who may pose a challenge to what might be considered conventional levels of ICT instruction as they may become bored and disengaged.

I consider that with further development the underpinning principles of this typology will enable nurse educators like myself to consider the most appropriate ways to deliver ICT instruction particularly to those individual mature, female student nurses who appear to be more ICT averse. Additionally, the three aspects of the typology may contribute to future pre-registration nursing curricula design within the university where I am employed and potentially beyond, when aspects of ICT instruction are being considered based on the complexities of individual biographies and experience.

6.3 Implications for Policy and Practice

The key research findings, discussion and subsequent explanations associated with those findings are suggestive of a number of ideas that those developing both healthcare policy and practice might wish to take into account.

6.3.1 ICT in Nursing Education

1. Based on the generic issues as identified within the data, irrespective of the typology of learning the NMC might consider providing clearer ICT competency statements for inclusion in all undergraduate nursing curricula.

2. All candidates may perhaps be practically assessed for individual ICT competence prior to the commencement of the pre-registration nursing course in order to determine individual learning need and provide guidance as to possible pre-course instruction.
3. Based on differing biographical data and typically for those candidates falling into the identified typologies 1 and 2, mature, female undergraduate nurses might be offered ICT instruction based on individual learning need in an attempt to address their skill deficit and resultant aversions to ICT usage all together.

4. There is evidence within the data to suggest that ICT instruction might be better delivered in small groups, in computer laboratories and continued throughout the three year programme to ensure that all graduate nurses are cognisant of the relationship between ICT competency and improved patient outcome/care.

6.3.2 ICT in Nursing Practice

1. Given some of the challenges expressed by the sample in this study, the provision of user IDs and passwords for the enablement of ICT access could possibly become an organisational priority at the commencement of the students’ course and NHS Trust induction programmes which provide guidance as to ICT usage.

2. Data from the study, and in particular the mentor focus group, suggest the importance of facilitating the access and use of ICT by all clinical staff including mentors and senior managers;

3. Policy development concerning ICT usage in nurse education might address issues of ‘hierarchical lock-out’ for all undergraduate nursing students.

6.4 Further Research

This was a small scale piece of work that only examined one context over a limited period of time. Although it highlighted the complexities of the issues which seemed to
surround mature, female student nurses and their use of ICT, I feel it may now be pertinent to carry out a more in-depth longitudinal study to investigate further the individual emerging typologies of mature, female student nurses and how these impact on ICT use in undergraduate pre-registration nursing programmes.

6.5 The challenges of undertaking the study

This work was undertaken using a single case study approach and is therefore by its very nature limited with regard to the generalisation of the findings. The participant sample was small and the generated data evidenced only the participants' experiences of ICT usage which may not in itself always provide a complete picture of the topic under investigation. I was also an ‘insider’ researcher which meant that I had to be extremely mindful of the power that this might have exerted over my sample, particularly during the data collection process.

Additionally, in engaging with the research for this study, one of the ongoing issues that was of paramount importance to the way that I thought about and examined the data in light of both theories and explanations was the whole process of being reflexive as a researcher. When I was thinking about issues of reflexivity I was minded by others who had written about it such as Creswell (2003) where he considers that the nature of reflexivity on the part of the qualitative researcher allows for the systematic reflection on where he or she is positioned within the inquiry and how issues concerning own biography impact on the study itself. “This introspection and acknowledgement of biases, values and interests (or reflexivity) typifies qualitative research. The personal-self becomes inseparable from the researcher-self.” (Creswell, 2003:182). One of the outcomes of the completion of this thesis for myself was about the journey, the opportunity to delve into aspects of my own professional practice but in a way that allowed me to stand outside and examine my
work as a researcher but then to position that work to enable the reader to engage in that journey with me. Based on professional reflection one of my key concerns about the challenges of embedding ICT usage into nurse education was the notion of trying to develop a research framework which would really allow me to explore my professional concerns from a properly systematic, researcher, in-depth, qualitative way.

The undertaking of this study has been just the beginning. In the very first months of my EdD studies I was not sure what would be expected of me, this stemmed from my overall lack of knowledge with regard to the research process. However, by the undertaking of ‘small steps’ I eventually began to feel more confident and eventually reached the point where I was able to begin to interview the student nurses who participated in this work. The more I listened to, recorded and transcribed their stories, the more determined I became to complete my ‘research journey’ despite suffering some personal setbacks along the way.

I believe that the completion of a reflective journal, which enabled me to record my thoughts and observations whilst remaining fresh in my mind and my continuing studies at Manchester have enabled me to further enhance and develop my own identity within the research process. It is from this perspective that the content of this thesis has been developed and presented. I still remain completely aware that as an enduring part of my ‘doctoral journey’ I need to examine further theoretical and philosophical paradigms utilised within educational / nursing research and at the same time continue to consider my own ontological journey with regard to how I perceive the nature of ‘reality’ and the differing ways in which it can be revealed. However, I do now consider that I am far better prepared to undertake new research challenges in the future.
Bibliography


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http://www.innovateonline.info/index.php?view=article&id=705


Appendices
Appendix 1: Participant Information Sheet

‘ON BEING LOCKED OUT’. THE LIVED EXPERIENCE OF MATURE, FEMALE STUDENT NURSES AND THEIR USE OF INFORMATION, COMMUNICATION, TECHNOLOGY (ICT) IN ONE UNDERGRADUATE PRE-REGISTRATION NURSING PROGRAMME.

Invitation paragraph

You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information and discuss it with others if you wish. Ask if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

What is the purpose of the study?

The aim of this study is to explore the experiences of mature, female student nurses and their use of computer technology within the Pre-Registration Curriculum.

Why have I been chosen?

You have been chosen because you are currently a student of nursing at the University of Central Lancashire, and your views on this matter are highly valued. I wish to know about your experience of using computer technology within your studies.

Do I 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 return an informed consent form. You are free to withdraw from the project at any time without giving a reason.

What will I be asked to do?

Your participation in the study would involve attending a focus group or being interviewed in-depth. The focus group will meet on one occasion and last from between one to two hours, and be facilitated by the investigator. The interview will last no longer than one hour, and be conducted by the investigator. These would be arranged at a time convenient for you. You will be asked to discuss your experience and views. This conversation will be digitally recorded. Once the focus group/interview has been completed it will be transcribed and the data will be coded, exploring common themes. Your experience will also be contrasted with the experiences of other student nurses taking part in the study.

What are the possible benefits of taking part?

Your contribution to the study will provide information enabling us to further consider and develop the nursing curriculum with regard to your use of computers within the programme. Your participation is altruistic but you will have the satisfaction of knowing that the results of the study will provide new information that may be of benefit to the student nursing community as a whole.

Will my taking part in this study be kept confidential?

If you consent to take part in the research all the information that is collected about you will be anonymised and kept strictly confidential. The supervisor will be the only other person who has access to the focus group and interview data. Data stored will be maintained on password protected computers used only by the researcher and supervisor, in locked filing cabinets, in a secure place. A copy of the transcript for each focus group/interview will be archived at the University of Central Lancashire. During the writing up of the study some quotations may be used in the results section that you may recognise but these will not under normal circumstances be attributable to you.
The digital recordings of the focus groups/ interviews will be kept for 6 months and then deleted. The transcript of the focus groups/interviews will be kept for 5 years and then destroyed.

**What will happen to the results of the study?**

This study is being undertaken as part of a Doctorate programme in education at the University of Manchester. In addition results may also be published in relevant journals and/or presented at conferences. You will not be identified in any report or publication.

**Who is organising the research?**

The investigator in this project is a doctorate student at the University of Manchester and the proposal for this research has been reviewed by this University’s Research Panel and the University of Central Lancashire’s Faculty of Health Ethics Committee.

**Who can I contact for further information?**

If you would like to discuss any further information you can contact the investigator or supervising researcher

**Supervisor:** Dr Carlo Raffo  carlo.raffo@manchester.ac.uk  
**Investigator:** Lyndsey McPhail  lmcphail@uclan.ac.uk

Thank you very much for considering taking part in this study.
Appendix 2: Participant Consent Form

Consent Form
‘ON BEING LOCKED OUT’. THE LIVED EXPERIENCE OF MATURE, FEMALE STUDENT NURSES AND THEIR USE OF INFORMATION, COMMUNICATION, TECHNOLOGY (ICT) IN ONE UNDERGRADUATE PRE-REGISTRATION NURSING PROGRAMME.

Name of Researcher: Lyndsey McPhail

Please indicate your agreement by initialing each box

1 I confirm that I have read and understood the information sheet for this study and have had the opportunity to ask questions and get further information

2 I understand that my participation in this study is voluntary and that I am free to withdraw at any time, without giving any reason.

3 I give permission for my interview to be audio-taped and transcribed by the investigator

4 I agree to take part in the study.

5 I agree to keep confidential any information that is provided by other participants at the focus group

6 I am happy to be approached for further consent if there is a wish to use quotes from me in publications which may identify me.

Name of Participant………………………………………………………………………………
Signature…………………………………………………………………………………………
Date……………………………………………………………………………………………

Name of Researcher………………………………………………………………………………
Signature…………………………………………………………………………………………
Date……………………………………………………………………………………………

Please complete 2 copies of this form. Keep 1 for your own records and return the other to:
Lyndsey McPhail
Principal Lecturer
School of Health
Brook Building
University of Central Lancashire
Preston, PR1 2HE
Appendix 3: Ethical Approval

23 November 2009

Lyndsey McPhail
School of Nursing & Caring Sciences
University of Central Lancashire

Dear Lyndsey

Re: Faculty of Health & Social Care Ethics Committee (FHEC)
Application - (Proposal No. 382)

The FHEC has granted approval of your proposal application ‘An Exploration of the Lived Experience of Mature, Female Student Nurses and Their Use of Computer Technology in the Pre-Registration Curriculum’ on the basis described in its ‘Notes for Applicants’.

We shall e-mail you a copy of the end-of-project report form to complete within a month of the anticipated date of project completion you specified on your application form. This should be completed, within 3 months, to complete the ethics governance procedures or, alternatively, an amended end-of-project date forwarded to Research Office.

Yours sincerely

Peter Robinson
Deputy Vice-Chair

Faculty of Health Ethics Committee
Appendix 4: NHS Ethical Consideration

Your query was reviewed by our Queries Line Advisers.

I wouldn’t think NHS REC review is necessary, as these primarily are students.

I hope this helps.

Regards

Streamline your research application process with IRAS (Integrated Research Application System). To view IRAS and for further information visit www.myresearchproject.org.uk

Queries Line
National Research Ethics Service
National Patient Safety Agency
4-8 Maple Steet
London
W1T 5HD

Website: www.nres.npsa.nhs.uk
Email: queries@nres.npsa.nhs.uk

Ref: 04/02

Help save paper - do you need to print this email?
This e-mail (and any files transmitted with it) is intended for the recipient only. It may contain confidential information and may be protected by law as a legally privileged document and copyright work; its content should be not disclosed, forwarded or copied. If you are not the intended recipient, any reading, printing, storage, disclosure, copying or any other action taken in respect of this e-mail is prohibited and may be unlawful. If you are not the intended recipient, please notify the sender immediately by using the reply function and then permanently delete what you have received

From: Lyndsey Margaret Mcpail [mailto:LMcphail@uclan.ac.uk]
Sent: 28 November 2008 10:25
To: NRES Queries Line
Subject: Ethical consideration

To whom it may concern,
I was wondering if there might be anyone who an advise re ethical clearance/protocol for the following:
I am a lecturer in the School of Nursing and Caring Sciences at the University of Central Lancashire and am undertaking a Doctorate in Education at the University of Manchester. My proposed research study is to explore the 'lived' experience of mature, female student nurses and their use of computer technology within the pre registration nursing curriculum. I have been asked by the Research Panel in Manchester if this proposal will need ethical clearance
from yourselves as pre-registration student nurses study under a partnership agreement and in conjunction with in the NHS. This research is educational and will not therefore take place in clinical practice and does not involve patients nor their data. An outline of my proposal is attached.

I look forward to hearing from you at your earliest possible convenience,

Kind regards,

Lyndsey McPhail.

Lyndsey McPhail
Principal Lecturer
Dept of Nursing
Brook Building
University of Central Lancashire
Preston.
PR1 2HE.

01772 895553
Appendix 5: Research Journal Extracts

Two extracts from my research journal are as follows:

I visited Accident and Emergency today with the Practice Educator Facilitator (PEF). A new electronic patient data recording system has just been installed and we were both keen to see how this was working. I had my EdD head on, we had talked about my study many times but today all I really wanted to know was if the student nurses were being given access. We spoke to the Charge Nurse, The PEF asked about the new system, how was it working, any improvements etc.? Charge Nurse was really positive, yes, thinks it will be beneficial just need to get used to the IT aspect. I really wanted to know about the student nurses so I asked (be positive I thought), I presume they have access too? I had so hoped for a different answer but just the same as I heard in other areas ……."oh no because they are not given a password!" WHY? Answer…Trust policy…………What do we need to do to change this???!!!! I came away really disheartened. The PEF explained that there was a confidentiality issue but I cannot see why. We are all bound by a professional Code of Conduct………………Need to readdress this at some point really soon………………

Today Dermatology…. There are a couple of mature female student nurses working here so once again accompanied the PEF as educational audit due. Planned visit. Really busy clinic today……. Both of the student nurses were on duty which was really great…able to initially observe and then as part of the audit speak to both of them. I had observed one of the students sitting with a patient taking a verbal follow up nursing assessment. However, I knew that this had to be electronically recorded. I waited……the student had to ask the Staff Nurse to logon and enter the data. But really interestingly here, the students did not want access to the electronic record. Both expressed anxiety about computer use and were quite content in the fact that they did not have individual passwords providing access to patient data. “We’re really scared of doing something wrong ‘breaking’ the system and losing all of the patients’ notes.” Both were not confident with ICT use at all! I am now beginning to think that if this issue is not addressed more widely, students like the ones that I have spoken to today will never engage with ICT use and what about their continued access to evidence based practice??? Must think about this more fully…what can we as a School do to help these mature, female student nurses feel more confident about using computers? Mental note….Might as well add me to this list???
Appendix 6: Schedule of Interview Questions based on aspects determined from the literatures

The interviews were conducted in a semi-structured format and hence the following questions were indicative only. It was anticipated that emerging themes from initial focus group interviews would inform the basis of those conducted later with individual participants.

1. How often are you using a computer at home or elsewhere?
2. What are your experiences with working with computers/ICT?
3. How are you finding your work with computers whilst studying in the Faculty of Health?
4. What issues do you think might hinder your use of computers/ICT?
5. What parts of your timetabled studies do you consider may have helped you with the use of computers/ICT?
6. What do you think that we could do as a School to improve your overall experience of ICT usage?
Appendix 7: Example of initial thematic analysis (for all three research questions) of a Focus Group Transcript following the process as defined by Braun and Clarke (2006).
Lyndsey McPhail – Focus Group – Students (8.4.11) ; (Focus Group 3)

Duration – 75.0 recorded minutes

Lyndsey
Firstly could each one of you just tell me exactly what clinical area you are working in at the moment? So we will start with Student One. What clinical area are you working in?

Georgina
I am currently working in neurosurgery.

Harriet
I am working in neurosurgery as well.

Isabelle
I am working in the cancer unit.

Jane
I am working in theatres.

Kelly
I am working in critical care.

Lyndsey
Ok now obviously these are, well not all of them but particularly some of them quite high tech areas. How has the University helped you?

Kelly
In which way?

Lyndsey
In being able to utilise ICT, like using computers has there been anything in your studies that has assisted you or were you very at ease with how to use them when you started your pre-registration nursing course?

Harriet
I always knew how to use computers but I wouldn’t say I have been taught anything in my first year on IT or how to use them. It’s only at the end of my first year and up to now we haven’t had anything here.

Other students
No – nothing.

Jane (I think)
We had a module in our first year. I think it was the first module wasn’t it?

Georgina
I didn’t find it very useful though because I didn’t think it taught me anything I didn’t already know about computers.

Lyndsey
So were you quite happy to use them before you came into the university?

Harriet
Yes I can’t remember not using computers. They’ve always been around.

Lyndsey
Jane (I think) – sounds slightly older than the others.

Jane
I found some of it useful. I mean we did have a computer at home and apart from playing games that was it for my knowledge of computers. I’ve learned a little bit through an Open University course this year before because everything had to be submitted online. We did learn something, we learned more about e-learning on there.

Georgina
We learned about using on-line databases. That was quite useful because although I had used them nobody had taught me how to use them properly. Because I went to university before I was quite familiar with things like word processing and statistics things and e-learning as well because I did a similar thing at my university. But even though we had used these on-line databases nobody ever really told us how to use them properly to get the best results from them.

Jane – (I think)
Yes that was useful.

Lyndsey
What about the rest of you?

Isabelle
I too had the module in first year which I did find useful but it just seemed to have picked up as I’ve gone along.

Kelly
There were parts of it that were useful.

Lyndsey
Right what bits do you think were useful?

Kelly
The databases and stuff based around e-learning as well.

Lyndsey
Right how to access the on-line resources for your modules and the databases for searching for your assignments?

Kelly
Yes
Lyndsay
Have you two not had this module?
Students (2 voices together)
No

Lyndsay
Anything introduced at the very beginning for your programme?

Georgina
We might have had a lecture on learning like how to set up our e-portfolio or just accessing the library, the on-line library, but other than that no. We've had quite a bit of a nightmare really because with the more mature students who obviously haven't used computers in a long time you would overhear them saying - oh I don't know how to do this or e-learning or how to get to do this. So it obviously wasn't in detail enough for some people because they still hadn't got their heads round it any way from what you hear.

Lyndsay
Right, did you find that difficult for yourselves having perhaps the more mature - were they predominantly female students?

Students
Several speaking at once but all seem to say - Yes

Lyndsay
Ok so what sorts of things were they saying that you heard them say?

Harriet - (I think)
Just the general things like -

Jane
Difficulty in finding stuff isn't it like -

Harriet
Yes just finding information about the module or the timetable or -

Isabelle
Yes where to find it.

Harriet
You know things like when you've used computers you do find easy, but if you haven't you wouldn't know where to begin to look. I don't think on e-learning if you don't have any idea -

Lyndsay
Did they ever ask for any help from like the more - experienced?

Harriet
I think the lecturers got bombarded with emails more than anything.
Jane
We had one at home but no I didn't really use computers that much to be honest until
I started at the university and then obviously I had moved out then and had to get my own
computer and started using it. So it's been quite useful and I've gone along
really. But as well, I think, because we had an assignment that had to be submitted by
email, I found that quite frustrating. I had to get someone to help me with that
because I didn't have a clue but I did finish. I've got it there.

Lyndsey
Was that submitting your assignments through Turnitin?

Jane
Yes. It was more or less in chorus.

Lyndsey
Did you two manage it ok?

Kim
Yes we managed it with a bit of reassuming about
We didn't get shown how to do it though,
No you just go online and it's not this way you're using this
programme and you just click on this and it's that. But you know you are handing it
in that day and you are dead anxious anyway because you want to get it in on time
and you start doing it and it's not working or the font changes or it's a nightmare.

Jane
So it's still frustrating even though you are actually ICT literate or want of a better
word.

Kim
Students - (both)

Lyndsey
So there are some systems that we can certainly look at would you agree?
Are all your assignments now, do you submit them through Turnitin? Are you
expected to submit them electronically?

Isabella
No it was just one wasn't it.

Georgia - (I think)
I mean if we had been shown how to do it maybe it wouldn't have been so stressful.

Lyndsey
So it was stressful, it made you feel very anxious?
Another Student voice

Yes

Lindsay

And do you use it quite comfortably? You are quite ok with going in there and using it?

Jane

I get a bit silly sometimes. I struggle on how to get to the next slide every time, I can never remember. I don’t know why I can’t remember but every time I have the same problem. I get there in the end but usually with a bit of help from my kids. — Help

Kelly

Powerpoint wasn’t something I’d really used before I came here because I just used to do my overheads on like these old transparency things and just write them. But I think I’m getting the hang of it now.

Lindsay

So that’s better?

Lynda

Yes (laughing - someone makes a joke somewhere but cannot hear it) (11:22)

Lindsay

Ok so when you take all of that obviously all of you now have some skills, some perhaps more developed than others, how do you take that and utilise that in your daily clinical work? How are you expected to use ICT on the ward for example?

Lynda

You all come from very different clinical areas so you have noticed a difference in where you work as to how you are expected to use it or how would you describe what’s expected of you?

Jane

I’ve hardly used it very much actually on placements simply because I don’t tend to have had a password. Daf [sic]/N. acc [sic]

Lynda

Or so you need a password to be able to get in?

Lynda

Students

Yes

Lindsay

Do your mentors encourage you?

Lynda

[Blank space]

Students

No

Jane

I’ve been shown but I haven’t done it myself. — Experience

Lindsay

What about the rest of you?

Georgia – (I think)

Because they are generally in a rush to check the board if print the bloods off or get the labels they’d just rather go up and do it themselves than find the five minutes to sit you down and show you how to do it so that you can do it next time. It’s a thing that they’ve just done over the three months I have been on the ward. They just do it.

Lindsay

They don’t ask you if you want to do it through.

Georgia

Yes

Lindsay

Do the qualified staff just do it?

Georgia

You’ve said about bloods and labels, what other things have you seen them using the computers for?

Isabelle – (I think)

Doing bandages and stuff like that.

Lindsay

Right, you are not involved in that?

Students

No

Lindsay

So how do you document your patient care?

Students

On the Kardex

Lindsay

You write it on the Kardex?

Lindsay

So you are not expected to electronically make your own observations?

Students

No

Georgia – (I think)

No, the Kardex and the files
Jane
I think in theatres everything goes onto the computer. Everything is documented onto the computer so all cross-haases can be closed and all the information. They're used a lot in theatre. I've been shown, they have shown me what they do but as I say, I haven't got a pass.

Lyndsay
You haven't got a password?

Jane
No, so I don't actually put the information in. N, access? Locked out!

Lyndsey
Ok, so you are not routinely given a password so you can access things electronically?

Students
No

Lyndsey
Do they access things like X-rays? Have you seen them using them for that?

Georgina
I have on previous wards, I've seen them.

Lyndsey
And where are you working now did you say?

Georgina
I'm on neurosurgery.

Lyndsey
You're on neurosurgery, so that's quite high tech isn't it?

Georgina
Yes

Lyndsey
So X-rays you might have seen, bloods, handover. What do they do at handover?

Georgina
How is that electronically done, what do they do?

Harriet
Data, a bit like at work don't they, like a chart for each patient underneath each other and the name and allergies and then like just basically what they are waiting for and what they have been like. You get most of the details through the Cardiac like verbally at the handover and then the main important bits on the handover sheet and then you just do on what you think as well.

Lyndsey
So are these handover sheets printed off?

Students 1 & 2
Yes

Lyndsey
And are you expected - no you don't put your own comments if it's printed off.

Harriet
Yes they are just printed off in bulk for when you all come in. Sometimes you get the odd one. You could access it on the last ward there, you could go on and you could print the handover sheets off if there weren't enough.

Lyndsey
So then you can't get in to use the Trust Intranet or the Internet?

Georgina
Yes you can use the Internet I'm sure.

Lyndsey
I think there is a ward password to enable that.

Students
You there is a ward password to get on to the computers. (All speaking at once but seem to be in agreement - (1,4,4))

Jane
I think there is a ward password to enable that.

Lyndsey
It's just that you need one other if you are doing bloods and things like that.

Lyndsey
So it's just more of an individual password to get in to access individual patient information but more generally there is a ward password?

Students
Yes

Lyndsey
And do you use it? Do you use the computers on the wards in like a more generic way?

Georgina – (I think)
Sometimes but it depends where you are. I've been on some wards where I've not been allowed to know the password and I want to go on the computer I have got to get someone to log in for me. But then I have been on other wards where they have told me the password and it's like... yes if you want to go in and find policies and if you want to go in and find out about somebody that you have seen and you want to get some information, that's fine, just go for it.

Lyndsey
Ok, if when they are looking at your clinical assessment documents there are obviously learning outcomes there that you have to achieve, with your mentors are you encouraged to go and look for information? Are you encouraged to go and...
Lyndsey

Do you use your Athens password a lot at the university?

Students

Yes

Lyndsey

And do you actually go on – you said you were taught how to use the databases – do you really utilise them with regards to what you need for your individual assignments or module assessments?

Students

Yes

Kelly (I think)

I couldn’t do my assessments without accessing them. Really because in the library a lot of the books that are about specific things seem to be quite old and outside the five-year limit that are allowed. They have all the sort of A & E textbooks and core textbooks that are a bit more up to date but if you want to find out about something specific, you really need to go journals. It’s much easier to find them on line than it is to go looking for a paper copy.

Lyndsey

Do you use the e-books as well?

Kelly

Sometimes, I used to use them more but I find them a bit annoying. They take forever to load. I don’t really like going to the library. I prefer to stay at home and read on my computer at home and I get different and can be bothered to wait for them.

Lyndsey

Right, what about the rest of you. Do you work in the library at all? Do you go up onto that third floor and use the computers up there?

Students

No

Once or twice

Kelly

Don’t actually, I’ve just asked questions really when I’ve been unsure.

Lyndsey

And they sort of give you a verbal response rather than encouraging you to go and actually look on the internet or look through the electronic journals?

Isabelle

Yes
Students

No

Kelly – (I think)

I think like what we were saying, I think quite a lot of the books there are quite out of date and I think you can access everything that you could there at home anyway so I find it less distracting to do it at home.

Lynsey

So actually being able to use your Athens password and access these electronic resources is actually very beneficial to you?

Students

Yes

Lynsey

Does it take some of the stress out of doing your assignments do you think if you can sit at home quietly and get on with it?

Students

Yes

Lynsey

Do you have to share your computers at home with anybody?

Students

No

Student

Georgina!

Lynsey

No it’s yours! So you do have individual use you can actually sit down and get on and do it. Do you think there is anything else that actually enhances the way that you actually utilise, particularly your computers, and any electronic resources? Is there anything that makes you think – oh yes I can do this or is it now just such a part of your everyday life?

Georgina

Yes I think it is.

Lynsey

It’s almost a way of life really. You need to go on every couple of days, you need to check your emails and you need to check e-learning. I find as I sit there then I start to fiddle and learn a little bit more that way. 

Lynsey

When you say you start to fiddle, what do you do when you fiddle? (Considerable laughter)

Jane

I press buttons but I don’t know what’s going to happen. I press buttons and I’ll click on links. I made my e-learning page pink. (Laughter) I don’t know how I did it but I did it. Since I realised there is a button that I can undo everything.

Lynsey

That’s made a difference?

Jane

Yes I feel a lot safer now.

Lynsey

So before you realised that you could undo what you had done was there always an anxiety?

Jane

Yes I was scared of doing it wrong. I’d press confirm or send or whatever and then I’d think – did I read it properly, was I supposed to do that? But now I know there is an undo button it’s great.

Lynsey

You don’t mind what you press?

Jane

Just press for different writing, different writing styles, it’s just all sorts really isn’t it. I just like to press buttons. I think that’s what it is, and see what happens, but you learn some things not to touch again. I turned my computer off and I was a full day without realising that I couldn’t get it back and I’d pressed the moon button on my keyboard and it had sent it to bed or something so I couldn’t speak. (Laughter)

Lynsey

The moon button?

Jane

It looked like a half moon to me and it put it to sleep and for a day I thought I’d broken my computer. (- Consternation/laugh)

Lynsey

Oh it sent the computer to bed did it? (More laughter)

Jane

I shut the office door and I didn’t dare tell anybody and then I told my son and he was laughing, he said – you’ve just put it to sleep mum. I thought I’d broken it.

Lynsey

Right, and have you learned a lot from your children?

Jane

Yes they are a good help. I do rely on them a lot.
Lyndsay

Have any of the rest of you got children?

Students

No

Lyndsay

So you don’t have anybody, you have to learn yourself don’t you?

Students

Yes

Lyndsay

Ok so what do you think is it, you said about pressing buttons, is there something about being able to press buttons on a computer? Does it make you think – oh this is really good, I can do this, or do you use it more practically?

Jane

It gives me a kick, but maybe it’s because I’m older, I don’t know.

Lyndsay

Does it give you a kick because you are slightly older too?

Isabelle — (I think)

Yes I must admit I’ve got quicker on typing whereas I was a nervous before I started the course, I was so slow, but yes I’ve got much better.

Lyndsay

Have you ever got anybody else to type your assignments for you, to word process your assignment for you?

Isabelle

No

Jane

Yes

Lyndsay

Go on who was that?

Jane

My son because I was kind of late, I read it out and he typed it for me, just the once!

(Laughter)

Lyndsay

Because sometimes I think that’s very easy to do isn’t it, if you are not sure yourself

and there’s somebody else there. So it really is, isn’t it, I think it’s about having that anxiety taken away particularly if you are not sure. Did you all feel like that? Did the rest of you feel like that when you started using computers? Did you feel that there was an anxiety there even though you are slightly younger?
Students
Yes
Yes because it would be so much easier if you could just rent the label off because obviously you've got the sample or whatever and then you're having to, like you say, pull them away just to print a label off when you could quite easily do that if you had the password.

Isabelle – (I think)

Yes because you just want to get it done. You are admitting someone who needs to feel that you've ticked all the boxes and you're ready for your mentor to go. Is it all done? But you're trying to get the labels printed off and everyone's busy. I'll do it in a minute. Half an hour goes by. I'll do it in a minute. You don't want to leave your desk unless it's been labelled up and put in the box to be taken away but sometimes you have to do that because you keep getting put off and you can't do anything about it. So that can be annoying sometimes.

Dean

I don't know. What about theatres? You're in theatres, do you see them accessing?

Lyndsay

Like I said they're happy to show me everything they are doing. I don't have a password so I can't access it but I'll be able to pass on information to them for them to put in. I don't know, there aren't any more students in the theatre I'm in.

Lyndsay

I see so you've got nobody to actually work with?

Jane

Yes

Lyndsay

Do you think that makes a difference? Do you think that if you are actually working with other student nurses rather than perhaps being the only student?

Jane

I think it can. If there are 6 students on the ward and sometimes only two of the mentors in that can sometimes affect, they can't teach everybody everything all at the same time.

Lyndsay

Is there a presumption that once you qualify then you will automatically be able to access all of these because you'll have your own password?

Lyndsay

I think you get training on it. I think, I hope so! (Laughter)

Jane

This is what I've heard anyway, but I don't really know.

Lyndsay

So nobody has actually ever said – don't worry if you are not doing it now because once you actually qualify and you come back here, treat it as an internship module if you come back here. We'll show you exactly what to do? Would it help if they'd show you exactly what to do before you qualify?
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Students (2 or 3 voices)

Yes

Lyndsay

Do the rest of you think so?

Jane

I think there's going to be so many pressures on what we qualify anyway that any little thing that would make it a little bit easier would be very helpful.

I don't see how they can. It would be quite difficult to carry it all out to pay everybody passwords for each different area unless there's a generic student password you kept for three years.

Lyndsay

Do you know why you don't get your own password? Have anybody ever asked, have any of you ever asked?

Students

No — new changes.

Jane

I don't get a swipe because I'm a student. I don't get a swipe into the changing rooms because I'm a student.

Student

You have to knock.

Lyndsay

So do you have to use an electronic card to get into the changing room?

Jane

Yes and to get your instruments.

Lyndsay

Right so because you are a student you have to knock, but what happens if there is a problem with that? Do you have to go and get everybody?

Jane

You have to stand there and say — I'm sorry. I'm late. I was 20 minutes instead of 15.

I've been stood outside the door.

Jane

You can walk round but I don't like walking round in my normal clothes really. I always feel like I'm going to be shouted at. Sometimes the very nice ladies in recovery will let you in through.

Lyndsay

So very much of what you do within the clinical environment is underpinned by electronic means isn't it even to get into the changing room?
Jane

I think it would make sense if you could finish if you started a job, you would go and you would take a seminar or something and you could finish, you could see it all through. Whereas you are going so far and then you've got to step and that can be frustrating because I don't think it's easier the more information you have. I can understand maybe as well why we can't have all the information.

Lynsey

Why do you think you can't have all the information? What do you think might be the reason?

Jane

Maybe because we are always moving on somewhere else. I don't know.

Lynsey

Have you got any ideas to add?

Jane

No audible response from students.

Lynsey

You've never thought about asking?

Jane

No, because we are students, that's what I was told, that I'm a student.

Lynsey

So this whole notion that because you are a student there are so many things you can't do because you are a student. So that really does affect your identity doesn't it? Does it make you feel - well I'm a student or doesn't it bother you?

Harriet

Yes sometimes just 'the student', I think sometimes as well if I'm being announced oh this is the student. And - or the student and - or student can you come here.

Jane

I've got to say it gets on my nerves sometimes.

Lynsey

Ok alright then.

Jane

Sorry!

Lynsey

No, no that's fine. It's really interesting, that's great. Is there anything else that the rest of you maybe have some thoughts about this whole role of ICT and electronic means and how it affects not only yourselves but also your practice?

No audible response from students.
Students all giggle and chuckle very briefly about DVD x.

Lyndsey

Lyndsey

It just really interests me because it's one thing I'm not very good at either. Ok thank you. Are there any other questions? Is there anything else you would like to add to our discussion? Any areas we might not have covered that you think are pertinent to the way that you use ICT for studies and on the wards?

Students

No - don't think so.

Lyndsey

Ok thank you.

END OF INTERVIEW
Appendix 8: Example of Initial Coding Exercise

'On being Locked Out'

Internal Factors
- Personal 'Lock out'
  - Emotion
  - Phobia
  - Fear
  - Family disputes
- Self Efficacy/Mastery
- Generation/Age
- ICT Language
- Culture

External Factors
- Situationally locked Out
- Passwords
- Communities of Practice
- Hierarchy/Power/Privilege

On becoming logged in'

Insideness
- Belonging
- Professional Identity
- Being part of the team